

How To Establish And Operate An Environmental Enforcement Program

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EXECUTIVE SUMMARY

A. Background

In recent years there has been an increased awareness with regard to illegal dumping and the impact it is having upon both rural and urban areas in the State of Texas. As a result, local governments across the State of Texas, as well as throughout the United States have begun to take action to combat illegal dumping.¹ During the past few years the Texas Natural Resource Conservation Commission (TNRCC), in conjunction with the 24 Councils of Governments (COGs) in Texas, have encouraged the development of environmental enforcement programs to combat illegal dumping within the cities and counties of Texas. Grant funds have been made available to cities and counties to hire and train environmental enforcement officers. The job of these environmental enforcement officers is to educate the citizens of their community about illegal dumping, as well as to catch and prosecute those people that are illegally dumping solid waste.²

Reed-Stowe & Co., Inc. and West Environmental Consulting (the “authors”) were initially retained in April 1997 by the Houston-Galveston Area Council (H-GAC) to assist in conducting a pilot study to determine the impact of illegal dumping within Montgomery and Wharton Counties. The project team determined the severity of illegal dumping within these two counties, as well as the annual costs being incurred by both of these counties in dealing with illegal dumping. The project team also developed a series of recommendations to reduce the amount of illegal dumping within these counties.

Based on the favorable comments received with regard to the initial study, Reed-Stowe & Co., Inc. and West Environmental Consulting were retained by the H-GAC in July 1998 to develop this manual.³ **The purpose of this manual is to provide local governments in the H-GAC region, as well as throughout the State of Texas, with a tool that can be used in establishing and managing effective environmental enforcement programs.**

This manual was funded through a solid waste management grant from the Texas Natural Resource Conservation Commission, and is consistent with the Houston-Galveston Area Council’s goal of reducing the level of illegal dumping within the region, while enforcing the current state laws that address illegal dumping.⁴

¹ For purposes of this manual “local governments” is defined as cities, counties, water districts, solid waste districts, etc. that have some type of structured program in place to combat illegal dumping. During the course of the survey (see Appendix C) the authors found that city and county governments were overwhelmingly the “local” governmental bodies responsible for dealing with illegal dumping. However, the authors also found solid waste districts, water districts and non-profit entities that were responsible for combating illegal dumping in their particular region.

² To date, individuals in Texas have been arrested and prosecuted for the dumping of such items as: residential waste, construction and demolition debris (C&D), roofing shingles, tires, white goods, furniture, and hazardous wastes.

³ There was a strong desire by the TNRCC, H-GAC, as well as other COGs and local governments to have an environmental enforcement manual developed for local governments in Texas.

⁴ *Resource Responsibility, Solid Waste Management Plan for the H-GAC Region, 1992-2012*, February 1994, p.61. *1996 Update*, November 1996, p.18.

B. Benefits For Local Governments That Use The Manual

In addition to the obvious benefits of having a community that is cleaner and safer for all residents, there are additional reasons why a local government will benefit from using this manual to develop an environmental enforcement program. They are as follows:

- The city or county will be able to better understand the magnitude of illegal dumping within its community.⁵ As a result, the local government will become more aware of the time, resources, and money which are currently being expended by the city or county in combating illegal dumping, but which until now have been “hidden” within various departmental budgets (enforcement costs, prosecution costs, cleanup costs, etc.).
- The local government will have a program that provides a structured and organized manner in which to address illegal dumping. This will result in a more coordinated effort amongst the various city and/or county departments that are involved in the local government’s environmental enforcement program. It will also provide a centralized location where citizens can call and report illegal dumping activities.
- A structured program will allow the local government to monitor the results of its environmental enforcement program to assist in measuring its success. Items that can be monitored would include: number of arrests, number of convictions, number of illegal dumpsites cleaned-up, amount of fines collected, “avoided” cleanup costs as a savings to the city, etc.
- Finally, an environmental enforcement program which is coordinated with the community’s other solid waste programs (solid waste collection services, recycling, yard waste collection, household hazardous waste collection, etc.) will assist in decreasing the amount of illegal dumping within that community.⁶

C. Manual Format

The manual is structured in such a manner as to provide a separate section for each of the six key elements associated with an effective environmental enforcement program. The elements are identified as follows:

- I. Political Buy-In/Planning
- II. Management Structure
- III. Education
- IV. Enforcement and Prosecution
- V. Cleanup

⁵ The term “city,” “municipality,” “county,” or “local government” will be used interchangeably throughout the text of this manual. However, the authors would emphasize that this manual will prove beneficial to all governmental agencies and non-profit organizations (Keep America Beautiful, etc.) that desire to establish an environmental enforcement program.

⁶ By educating residents that illegal dumping is wrong, and at the same time educating them as to how to properly dispose of their waste, using the community’s existing solid waste programs, the community will realize a decrease in illegal dumping. The importance of integrating a community’s environmental enforcement program with the community’s other solid waste programs cannot be over-emphasized.

VI. Program Management

Each of these elements will be described in detail in the following pages of this manual. The manual will discuss how to address each of these elements so local governments can have effective and successful environmental enforcement programs. **To have an effective environmental enforcement program, each of these six elements must be successfully addressed.**

Every local government is different, therefore the above elements should be addressed in a manner that meets the unique needs of each particular community. For instance, an environmental enforcement program will most likely have a different focus if it is being implemented for a city vs. a county, or a rural area vs. an urban area. However, the ultimate goal for each community should be the same: coordinating these six elements to stop illegal dumping in the community. The authors emphasize that there is not just “one way” to operate an environmental enforcement program. Based on each local government’s particular situation/needs, different solutions for addressing each of the six elements may be appropriate for different communities. For instance, not all local governments will use the same approach in educating its citizens.

The authors understand that some people reading this manual will already have in place environmental enforcement programs. For those individuals, the authors would encourage them to review the manual merely to make sure that they are thoroughly addressing each of the six elements listed above. To the extent that modifications to their program are required, the manual may be used to assist in providing insight with regard to the development of potential ideas/solutions.

Finally, the authors would mention that while this manual is being developed for H-GAC and the local governments within H-GAC’s planning region, the findings and recommendations within this manual are applicable to all local governments in Texas, as well as in the United States.

D. Acknowledgements

The authors appreciate the time and effort expended by the individuals from the cities, counties and various governmental agencies that visited with us during the development of this manual. Their input was instrumental in shaping the final product. The individuals who assisted in providing input are listed in the Appendices of this manual.⁷ In addition, the authors would like to thank the following individuals who assisted the authors in conducting a “peer review” of the draft environmental enforcement manual. These individuals are listed below.

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E. Comments Concerning The Manual

We are confident that this manual will be of benefit to local governments throughout the State of Texas in reducing the amount of waste that is illegally dumped in our state. The authors welcome and encourage any comments or suggestions with regard to the manual. If you have any questions or comments please contact:

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I. POLITICAL BUY-IN / PLANNING

A. Political Buy-In

In order to develop an effective environmental enforcement program, it is essential that the local politicians (city council members, county commissioners, etc.) and senior level management (city manager, county judge, etc.) within the local government be 100% committed to the program. It is also important that the citizens and the local government's employees understand that the elected officials and senior management are 100% behind the program. Support for the program, by the elected officials and senior management, must be shown in the following manner:

- political support and backing must be provided for the local government staff who are implementing the program;
- sufficient monetary funding must be made available for the program;
- sufficient personnel must be made available in order to effectively implement and operate the program; and
- adequate equipment must be provided for the program.

Often it is the local government's staff and/or citizens groups that must convince the elected officials and/or senior level management that there is a need for an environmental enforcement program. Convincing the elected officials and senior management that limited resources should be expended to establish a new government program can sometimes be a daunting task. However, there are a number of ways in which staff and/or citizens groups can educate their elected officials and senior level management with regard to the need for an environmental enforcement program. Examples include:

- **Photographs** - Photographs can be taken of some of the illegal dumpsites within the city or county. These photographs should show the types of waste that are being illegally dumped, as well as the magnitude (i.e. size) of the illegal dumpsites. Photographs are a very effective tool for raising an elected official's awareness, and gaining their political support to develop an environmental enforcement program.⁸
- **Maps** - Maps are another tool to use in gaining the necessary political support for an environmental enforcement program. City staff can put a map of the city on posterboard and then insert pins at each location of an illegal dumpsite within the city limits. This method has proven especially effective when a number of illegal dumpsites are located near a city council member or county commissioner's home or office. Often the elected official may not even be aware that an illegal dumpsite is nearby.
- **Tours of illegal dumpsites** - Some local governments in the United States have educated their elected officials, with regard to the severity of illegal dumping, by providing a bus tour for elected officials (including the media) to tour some of the illegal dumpsites located throughout the community. It is not uncommon for the elected officials to be unaware of the illegal dumpsites since they are usually located at the dead-end of city or county roads,

⁸ Some rural counties have used "fly-overs" with a local law enforcement helicopter to identify and photograph illegal dumpsites. These photographs can then be shown to elected officials to emphasize the need for an environmental enforcement program.

located on seldom used roads, or located out of view from the road on either public or private property. A tour of these problem sites can be very effective in capturing the magnitude of the problem which local officials must address.

- **Explanation of health and safety issues** - Often the elected officials and citizens of a community will not realize the health and safety risks associated with illegal dumping. Listed below are some of the risks that elected officials should be made aware of:
 - drinking water quality issues related to non-point source pollution, especially in areas with private wells;
 - flooding caused by debris/wastes that clog storm water management systems, drainage ditches and waterways;
 - habitat/breeding grounds for disease-carrying vectors (e.g. rodents and insects);
 - direct contact exposure to sharp objects, medical wastes, caustic substances and fire (especially a risk for children playing in the area);
 - indirect exposure to toxic chemicals and possible hazardous wastes; and
 - inhaling pollutants carried by smoke from dump fires.⁹

When elected officials are educated with regard to these health and safety issues, they can become some of the strongest proponents for the creation of an environmental enforcement program.

- **Explanation of costs** - It is important to explain to the political officials that it is very costly to cleanup illegal dumpsites, not to mention the health and safety threats to the local government's employees who cleanup these sites. It has been documented in various individual cases that it costs two to three times more to cleanup illegal dumpsites as opposed to the cost of disposing of solid waste properly.¹⁰

While the buy-in by elected officials and senior management is essential to the development of a successful environmental enforcement program, the success of the program is still not guaranteed once their buy-in is obtained. It is critical that all city and/or county staff involved in dealing with illegal dumping are committed to the program as well. If there is a breakdown at any level, by the employees charged with implementing the program, the success of the program is jeopardized. For instance, if a city expends the funds to hire an environmental enforcement officer and provides him with the necessary equipment, but the county attorney does not follow through on the prosecution of people charged with illegal dumping, the success of the program is threatened. **For an environmental enforcement program to be effective, it is essential that elected officials commit their support to the program, and that individuals involved in implementing and operating the program diligently follow through on their duties and responsibilities with regard to the program.**

⁹ *Illegal Dumping Assessment of Impacts on County Governments in the Texas-Mexico Border Region*, TNRCC (AS-138), July 1997, p.10.

¹⁰ The City of Houston spends over \$5 million, annually, to cleanup illegal dumpsites.

B. Planning

Once the necessary “buy-in” has occurred from the elected officials and senior management of the local government, the next step is for the local government to begin planning how it will structure its environmental enforcement program. Listed below are the five key elements that must be addressed during the planning stage:

1. Determine the proper management structure.
2. Determine the process for educating all parties (citizens, police, prosecutors, judges, etc.).
3. Determine how to enforce and prosecute illegal dumping crimes.
4. Determine how to clean up illegal dumpsites.
5. Determine how to best handle on-going program planning and management.

These five elements were mentioned in the Executive Summary (along with the Political Buy-In/Planning element). Each of the remaining five elements will be discussed in its own separate section of the manual. By reviewing each of these elements within this manual, the reader will be able to begin to formulate ideas as to the best manner in which to address these elements as part of a plan for their local government’s environmental enforcement program.

As mentioned earlier, it is important for the city or county to remember that there is no standard “cookie cutter” approach to developing and operating an environmental enforcement program. Just because two neighboring cities may have different approaches to an environmental enforcement program, does not mean that one city’s approach to operating its program is “right” and the other city’s is “wrong.” Rather, the bottom line is to determine whether both of the programs are effective in eliminating and discouraging illegal dumping within their community. If the answer is “yes” then both communities should continue to operate their program in their current format.

An environmental enforcement program that is properly implemented should be coordinated with the community’s existing solid waste services. By implementing an environmental enforcement program, in coordination with the provision of cost-effective alternatives for disposal of solid waste and recyclables, the community will realize a decrease in illegal dumping. It has been documented in numerous studies that much illegal dumping results from individuals who want to “do the right thing,” but do not have access to affordable and convenient solid waste disposal alternatives, or are not aware of how to properly dispose of their solid waste. By educating citizens about why illegal dumping is wrong (it is a crime!), and then explaining how to properly dispose of solid waste, the community’s illegal dumping problems will begin to decrease.

C. Synopsis

- Political support is necessary to ensure sufficient personnel, equipment, and monetary funds are made available to the program.
 - Elected officials and senior level management may be persuaded to support environmental enforcement programs:
-

- through the use of photos, maps, and tours of existing illegal dumpsites in the area.
 - when informed about the health and safety risks associated with illegal dumping.
 - when made aware of cleanup costs, which are 2-3 times more than legal disposal.
- Planning must address five key elements: management structure, education, enforcement and prosecution, cleanup, and program maintenance.
 - Effective enforcement programs must be coordinated with existing solid waste services and understood as part of a comprehensive program.

II. MANAGEMENT STRUCTURE

One of the key tasks facing local officials once they have decided to establish an environmental enforcement program is the selection of the most effective management structure. This section of the manual will discuss several of the options available to local governments when deciding upon the type of management structure to put in place and will provide a description of the key job positions that will need to be created in the newly formed environmental enforcement program. A listing of the various responsibilities associated with each of these key jobs is also provided.

A. Management Structure

The local government will be provided with a wide range of options to select from when deciding upon a type of management structure. During the development of this manual the authors surveyed (via phone and/or in person) the management of approximately 45 different environmental enforcement programs. While there was a wide variety of management structures utilized, the authors were able to identify several that were more widely used. Listed below are the management structures most frequently encountered. “Management structure”¹¹ is defined as the department within the city or county government responsible for overseeing and managing the environmental enforcement program. The management structures are as follows:

1. Code Enforcement and Compliance Department

There were a number of cities surveyed that had their environmental enforcement program managed/coordinated by individuals within the Code Enforcement and Compliance Department. For example, the City of San Antonio, Texas assigned police officers to this department and the City of Chattanooga, Tennessee used code enforcement officers to monitor illegal dumping. A potential drawback to utilizing code enforcement officers is their inability to carry a firearm, as well as to make arrests, or to generally enforce the state criminal law. The advantages are their likelihood to be more familiar with environmental law than other city or council personnel.

2. Sanitation Department

Another option is to have the environmental enforcement program managed by the sanitation department. In Texas, this would most likely be within a municipal government, since the vast majority of solid waste services provided by the public sector are provided by municipal governments versus county governments. For other states, such as Florida, these services are provided at the county level. The advantages to having the program managed from within the sanitation department is that it is easier to coordinate the cleanup of illegal dumpsites and other environmental enforcement activities with the sanitation crews which are housed within this department. Potential disadvantages are that unless the sanitation department makes

¹¹ In describing management structures, the authors have listed the department within the city or county government that is responsible for managing the environmental enforcement program. While an environmental enforcement program will require the provision of numerous services from various departments within the city or county government (health, law enforcement, prosecution, courts, public works, etc.), there is typically one department which is charged with administering, coordinating and managing the program.

environmental enforcement a priority, this program can potentially receive less attention than other solid waste services, which are perceived as the sanitation department's primary tasks (solid waste collection, disposal, recycling, etc.). In addition, the program may become perceived as more of a cleanup program than a prevention program.

3. Public Works Department

Some cities have located the environmental enforcement program within the public works department. The City of Houston, Texas has established their very successful environmental enforcement program within the public works department. Houston has formed a joint environmental enforcement program consisting of code enforcement inspectors, environmental quality specialists, and police officers located within the Neighborhood Protection Division of the Public Works Department. This program is fortunate in that a local county prosecutor is dedicated to dealing solely with environmental cases, so the officers are assured that their case will receive a high priority.

The potential advantages of locating program management within a public works department are similar to those listed for sanitation departments since personnel may already be familiar with local dumping issues and involved in roadway cleanups. However, unless illegal dumping is made a departmental priority, it may be put on the back burners as more established programs compete for limited resources.

4. Health Department

Some county governments have elected to have their environmental enforcement program located within the county health department. Clark County, Nevada, which encompasses the City of Las Vegas, manages the local environmental enforcement program. Code enforcement officers are used to respond to and investigate illegal dumping activities within the county.

Potential advantages of this structure are that health department personnel are generally familiar with environmental laws and the importance of identifying and punishing violators. The department may also have an established relationship with local law enforcement to assist in handling potentially dangerous investigations or criminal offenses. A disadvantage is that code enforcement may continue to get priority treatment in the department. In at least one case reviewed for this manual, an environmental enforcement officer working in another department was assigned to assist in code enforcement activities which were seen as a higher priority than his illegal dumping work.

5. Sheriff's Department

Some county governments have decided that the environmental enforcement programs are most effective when managed in the sheriff's department. For instance, Wharton County, Texas has its program managed by a deputy assigned to deal with illegal dumping in Wharton County.

Potential advantages of this arrangement are that sheriff's deputies are trained and experienced in investigations and are licensed peace officers, which relieves the need to seek law enforcement support from other departments. Using law enforcement officers can also lend a certain amount of credibility to the program, and is therefore more likely to have an

impact on the offenders and the community. In addition, while law enforcement personnel may not be familiar with specialized environmental criminal law, regular training workshops are sponsored by the TNRCC and, in some cases, by the local COG. A potential disadvantage is that sheriff's deputies may not be comfortable with the emphasis on public education and communication involved in environmental enforcement duties. However, this disadvantage can be easily avoided by selecting the "right" peace officer to work in environmental enforcement. This individual would enjoy public speaking and be comfortable giving presentations in the community.

6. County Commissioner's Office

In at least one very successful program, the environmental enforcement management is located in a county precinct. The Commissioner of Harris County, Texas Precinct Three created an Environmental Enforcement Division within his precinct with officers who are commissioned out of a centrally located constable's precinct. Enforcement officers serve the entire county. Potential advantages of this structure are that personnel are licensed peace officers and the program budget is controlled and protected by the Commissioner. Potential disadvantages include the strain placed on one precinct's budget for a countywide program and the tendency to serve the parent precinct more than others.

7. County Prosecutor's Office

Fannin County, Texas has established its environmental enforcement program such that it is managed from within the county prosecutor's office. This approach has ensured that in Fannin County the prosecution of environmental crimes will be vigorously pursued by the county prosecutor. However, this management structure still does not guarantee that environmental criminals will be successfully prosecuted. For instance, if the enforcement officer is not vigorously pursuing the apprehension of these criminals, and the judge is not passing down "stiff" sentences, illegal dumping will continue to be a problem in the county.

8. Solid Waste District (or Authority)

Some states have created solid waste districts or authorities, which are responsible for the management of all solid waste collection within that district or authority. Some of these districts have implemented environmental enforcement programs as well. Four counties in Ohio formed a solid waste district to combat illegal dumping. Each of the four counties assigned a deputy for 20 hours per week (.5 FTE) to combat illegal dumping. (This example is described in greater detail in Appendix C.)

Solid waste authorities have the advantage of being solely focused on solid waste issues. In addition, their geographic boundaries can be drawn to meet regional illegal dumping needs. However, disadvantages include the fact that authorities may not have the taxing or revenue gathering capability to sufficiently finance illegal dumping prevention along with solid waste programs.

9. Coordinated Effort by Multiple Governmental Agencies

In other parts of the country, some local governmental agencies have teamed up to develop a comprehensive countywide environmental enforcement program. This will often include coordination between the city and county governments within a particular region. In other

cases, multiple counties have teamed their efforts in combating illegal dumping. For instance, four counties in Texas (Johnson, Hood, Erath, and Somervall) coordinate to battle illegal dumpers regionally. While this program is fairly new and does not have much to report in the way of results, this is one way in which smaller counties with limited resources can develop an environment enforcement program.

Programs 1 through 3 are typically associated with municipal governments; programs 4 through 7 are typically associated with county governments; program 8 represents a management structure that is used by a governmental agency, other than a city or county. Program 9 typically represents some combination of cities and/or counties joining together to establish an enforcement program.

More important than “where” the environmental enforcement program is located within the city or county government, is the importance of maintaining effective communications between the various departments within the local government that are involved in the battle against illegal dumping. Most governmental services are typically provided by the resources located within one department (police, sanitation, fire, etc.). However, because multiple departments are typically involved in the establishment of an environmental enforcement program (prosecutors, police, sanitation, public works, etc.), the local government must maintain clear and effective communications between the multiple departments involved in the environmental enforcement program. All must clearly understand the program goals and their role in achieving success.

The prosecutor (city attorney, county attorney, and/or district attorney), enforcement (police, sheriff, and/or constable), cleanup (public works or sanitation department), education, and administration functions must maintain clear lines of communications so each department understands its duties and responsibilities. By providing clear communications the local government will increase its chances of maintaining an effective environmental enforcement program.

To read about actual cities and counties that have already implemented some of the management structures mentioned above, please refer to Appendix C.

Factors to consider when deciding on a management structure

This listing is not meant to imply that these are the only management structures that may be used in establishing an environmental enforcement program. Rather, these are the programs that reappeared with some regularity during the survey. It is important to emphasize that there is no “right” or “wrong” management structure when it comes to creating an environmental enforcement program. Each government will need to look at local factors when determining what management structure is appropriate for their community. Some of the factors, which will affect the type of management structure ultimately selected, include the following:

- Type of government body (city, county, solid waste district, water authority, non-profit organization – Keep Texas Beautiful, etc.).
- Ability for local government to draft ordinances.
- Decision to use licensed peace officers vs. code enforcement officers.
- Whether solid waste collection services are provided by the local government versus being contracted out to a private operator.
- Local government’s level of financial commitment to the program.
- Any “politics” involved in establishing the proposed structure.

B. Job Descriptions

When creating a management structure, the local government will need to consider the types of new job positions, which must be created. The positions listed below are designed to encompass the assignments and duties involved with operating an environmental enforcement program. The positions are as follows:

- **Administrator**

Duties will include, but will not be limited, to the following:

- Establish a budget for the environmental enforcement program and ensure continued funding for the program;
- Coordinate the education of the general public, law enforcement officers, prosecutors, and judges;
- Coordinate the environmental enforcement program with existing solid waste programs in the local government's region;
- Develop and update a database which tracks the operational performance of the program (number of calls from citizens, number of arrests, number of convictions, number of illegal dumpsites cleaned up, etc.); and
- Coordinate other administrative duties as required.

The administrator may also be an environmental enforcement officer who is assigned heavy administrative duties.

- **Environmental Enforcement Officer**

- Educate the public with regard to illegal dumping
 - presentations at schools
 - presentations to civic associations (Lions, etc.)
 - presentations to neighborhood associations
 - presentations at county fairs, community events, etc.
 - other opportunities;
- Educate other law enforcement officers with regard to illegal dumping – what to look for, and who to report it to;
- Respond to illegal dumping complaints (those received from citizens as well as other local law enforcement or agency officials);
- Investigate illegal dumping crime scenes (search for clues, obtain evidence, etc.);
- Patrol areas known for illegal dumping activities;
- Testify in court;
- Conduct surveillance of suspected criminal activity;
- Obtain and serve subpoenas;
- Make arrests;
- Interview suspects;
- Remain knowledgeable on all applicable environmental laws in Texas; and
- Complete activity reports for the TNRCC.

In addition to the positions listed above, a number of existing employee positions will need to coordinate their current activities with the additional responsibilities arising from their involvement in the environmental enforcement program. Based on the magnitude of their involvement, the time commitments may be such that the local government will have to hire additional staff. The current positions are as follows:

- **Prosecutor**

This person will be responsible for overseeing the prosecution of environmental enforcement cases, which are identified by the environmental enforcement officer. The prosecutor will also be essential in helping to educate the judges as to the existing environmental laws within the State of Texas. The importance of having a prosecutor willing to pursue environmental crimes cannot be emphasized enough. If the local government does not have a prosecutor willing to pursue these cases the problem of illegal dumping will never be resolved within the region.

- **Judge**

This person will be responsible for enforcing the environmental laws of the State of Texas and ensuring that appropriate fines and jail time are distributed to those guilty of committing illegal dumping crimes.

The importance of educating judges with regard to illegal dumping cannot be underestimated. In recent years a municipal judge in Dallas dismissed hundreds of dumping-related citations because he said they should have been filed in state court.¹²

- **Cleanup Crews**

These crews will be responsible for cleaning up the illegal dumpsites and posting signs to discourage further illegal dumping. Most likely, these crews are already cleaning up illegal dumpsites within the city or county. However, in addition to cleaning up these sites, they need to begin documenting the number of sites cleaned up monthly, the types of waste at each site, and the estimated cubic yards or weight (actual if weighed).

C. Synopsis

- Management structures vary widely: from city to county to interagency and from civilian to law enforcement control.
- Common features include: involvement of peace officers, involvement of other governmental agencies, involvement of the courts, and the need for good communications among all those involved.
- Factors influencing the choice of management structure include: type of governmental entity, available solid waste services and providers, level of budgetary support for the program, and ability to forge necessary interagency relationships.

¹² Dallas Morning News, Monday August 11, 1997, Appendix E, Article 1.

- New job positions created by illegal dumping programs are environmental enforcement officers and program administrators.
- Existing job positions that will be impacted or modified by the program include prosecutors, judges, and cleanup crews.

III. EDUCATION

A. Introduction

Education is a must for any successful environmental enforcement program. It promotes public awareness about illegal dumping, provides information about legal options for disposal and recycling, and encourages public cooperation in identifying illegal sites and prosecuting illegal dumpers. Education also helps build consensus among local decision-makers and courts about the importance and value of such programs. Without education, even good enforcement efforts may fail to achieve the public and political support necessary to stay funded and operational.

Education needs to begin early and continue for the life of the program. Even before environmental enforcement officers are hired it will be necessary to educate key decision-makers about the need to do so. The information and materials gathered for such presentations can be used again to announce the program to the public in the form of press releases or handouts. As the program matures, its daily activities should be used as public education opportunities—hiring the first (or second, or third) environmental enforcement officer, receiving grant funds, giving presentations at local schools or civic organizations, conducting a community cleanup day, or successfully prosecuting a case.

A common misconception is that public education has an endpoint. In fact, education should never stop. It functions to tell new residents, new community leaders, and successive classes of school children about the program while reinforcing the message for those who are already familiar with it. Although it is best to begin an education program early and to make use of it often, it is never too late to start.

The value of public education is well known to those who are most familiar with environmental enforcement issues. The Texas Natural Resource Conservation Commission identified increasing public awareness as one of the primary approaches needed to solve illegal dumping problems. When Keep America Beautiful convened a nationwide anti-dumping discussion group in 1993, the participants concluded that “the main causes of dumping were lack of convenient legal alternatives, lack of public awareness of the issue, lack of judicial understanding of environmental laws and, consequently, low fines.”¹³

What follows is a general guide to developing a public education plan which will support an environmental enforcement program. Local needs and circumstances will affect the scale and scope of the education plan, however, all general topics below should be considered.

B. Budget

Adequate funding for education is often overlooked in environmental enforcement budgets.¹⁴ While officers and equipment demand the lion’s share of the budget, some funds should be allocated specifically for education. As a rule of thumb, the public education budget can be

¹³ *A Public Communication Plan for Decreasing the Municipal Cost to Battle Short Dumping in Philadelphia*, 1995, by Mark Vigiano, executive director, PhilaPride, a Keep America Beautiful affiliate.

¹⁴ *A Review of Illegal Dumping in Montgomery and Wharton Counties* in Schedule 1 indicated that neither county had expended any funds on public education though both employed environmental enforcement officers. Both programs were also experiencing challenges to continued support.

pegged at five to ten percent of the overall enforcement budget. The higher end might include start-up years, production of slide shows or videos, initial design and development of printed materials. For example, the 1997 Anti-Dumping Project budget for Franklin County, Ohio totaled \$382,476, of which \$37,500 was for public education. Items included in the Franklin County education budget were the Nail-a-Dumper hotline, public awareness materials such as bus cards and posters, and workshops for enforcement personnel. In general, the early years of the enforcement program need a larger educational budget than later years, but every year needs some funding for education.

A sample education budget is included in Appendix A. It was developed by the authors for an environmental enforcement program with one enforcement officer and may be considered a “base case” (or minimum) budget.

Funding for education is available through grants from COGs or from private sources. Pass-through grants from the TNRCC can be applied for at local COGs and are available for both enforcement activities and public education. In addition, non-profit organizations, such as Keep Texas Beautiful affiliates, working in cooperation with local governments, may be eligible to receive grants for education from private industry or public utilities.¹⁵

C. Personnel

Environmental enforcement officers are the program’s chief educational personnel. Officers should plan to spend time in the community making presentations to adults and school children as well as to local officials and fellow officers. Community outreach by enforcement officers will continue to be important throughout the life of the program. For this reason, it is highly advisable to consider communications and interpersonal skills when selecting environmental enforcement personnel.¹⁶

The percentage of time allocated by officers to education will vary with the age and size of the program. In general, the early stages of the program require the most educational support. At first, enforcement officers may spend as much time in the community talking about illegal dumping as they do in the field investigating it.¹⁷ Educational activities account for 20-25% of the overall man-hours in established programs and as much as 50% in newer ones.¹⁸

As more officers are added to the program, educational duties can be shared. Division of educational responsibilities should acknowledge individual skills. For example, some officers are more comfortable giving public presentations or working with children than others.

Among the community outreach and public education tasks to be performed are:

¹⁵ For example, Philapride, Philadelphia’s Keep America Beautiful affiliate, is responsible for public education programs to prevent illegal dumping locally. It receives grant support from utility companies that have traditionally been the victims of dumping in their easements.

¹⁶ Some type of presentation skills course for the enforcement officers could be very beneficial and should be considered when establishing the education budget.

¹⁷ It is estimated that during the first year of Harris County Precinct Three’s Environmental Enforcement Division, officers spent 50% of their time on community outreach and public education.

¹⁸ Based on information from Harris County Precinct Three’s program. (An environmental enforcement program that has been very successful.)

- Writing and distributing press releases
- Taking publicity photographs
- Coordinating the production of printed materials (posters, brochures, fliers, etc.)
- Establishing and responding to calls from the public hotline
- Responding to non-hotline public calls
- Scheduling and delivering public presentations
- Producing support materials for presentations
- Coordinating and promoting cleanup days

Tasks not performed by environmental enforcement officers should be assigned whenever possible to personnel with the appropriate skills or be contracted out to professionals or experienced students. For example, press releases and photographs can be assigned to the city or county's public information staff or those already working with the local media. Alternatively, local college students majoring in journalism or communications can provide public education services at reasonable rates. Often high school journalism classes or yearbook staffs also have talented students who can be contacted through their faculty advisors.

Local non-profit organizations can be a source of individuals with experience at managing special events like cleanup days. Many cities have established relationships or contracts with non-profit environmental groups to help with public education of their recycling, anti-littering, or illegal dumping programs.¹⁹

D. Audiences

Designing and implementing an effective community outreach and public education program for illegal dumping prevention is like conducting a marketing campaign to introduce and promote a consumer product or service.²⁰ The first thing to do is to identify the audience. Then, a message can be tailored to fit that audience.

For example, an electric car might be marketed to drivers as the perfect commuter vehicle, to investors as the wave of the future, to environmentalists as the next step in non-polluting transportation. In the end it's the same car, just different audiences.

Audiences targeted for environmental education messages should include:

- elected officials and staff
- law enforcement officers
- code enforcement officers and health department inspectors
- prosecutors and judges
- general public

¹⁹ Examples in the Houston region include the City of Pearland and Keep Pearland Beautiful (a Keep Texas Beautiful affiliate) which provides recycling and environmental education services; and The Woodlands which partners with the citizen environmental group The Woodlands G.R.E.E.N. to provide public education at community events. Other examples from communities interviewed for this manual include, Philadelphia and Philapride (a Keep America Beautiful affiliate) and the Oregon Department of Environmental Quality and the volunteer action group Oregon SOLV (Stop Oregon Litter and Vandalism), both of which provide support for illegal dumping programs.

²⁰ *Illegal Dumping Prevention Guidebook*, U.S. EPA Region 5, March 1998, p.21.

- environmentally conscious groups (such as Keep Texas Beautiful)
- local media
- illegal dumpers
- local businesses

Time and consideration should be given to each audience and their particular needs or interests. For example:

- **Elected officials and staff** are sensitive to how much taxpayer money is spent to clean up illegal dumping, how unattractive it makes the community, and are concerned with possible liability from failing to enforce applicable criminal laws.
- **Law enforcement officers** respond to the fact that illegal dumping is a crime and is often committed by those with criminal records.²¹
- **Code enforcement and health department personnel** are often asked to cooperate in illegal dumping prevention efforts and should be approached as partners. They are often very familiar with the health and safety regulations of the State.
- **Prosecutors** may be willing to prosecute but unfamiliar with environmental law and may need copies of legal pleadings. Samples are available from several sources.²²
- **Judges** may need to be educated about the seriousness of environmental crimes, the importance of jail time and/or fines to deter violators, and to the fact that environmental criminal laws are the “white collar” crime statutes in Texas.²³
- Members of the **general public** respond to clear, direct messages that make them aware of the problem and enlist their support in identifying illegal dumpers.
- **Environmentally conscious groups** will typically be very vocal supporters for the environmental enforcement program and can be used to assist in educating the general public.
- **Local media** need handy reference materials and general background information which includes contact names and phone numbers and dates of upcoming events.
- **Illegal dumpers** are by now almost always aware that their actions are unlawful, so messages should reinforce the fact that illegal dumping is a crime. Often illegal dumping is an economic choice, however, and violators must be convinced that prosecution is likely and that fines will be greater than the benefits associated with illegally dumping.

²¹ Review of illegal dumping cases by the City of Houston’s Rat on a Rat program indicate that illegal dumpers often have criminal records involving other serious offenses.

²² Criminal and civil pleadings are included in Appendix 6 of the H-GAC report *A Review of Illegal Dumping in Wharton and Montgomery Counties* and are included in H-GAC and other TNRCC-sponsored environmental enforcement training workshops.

²³ In Philadelphia, judges were sent copies of the city’s economic impact study which highlighted the fact that without prosecution and stiff fines, “dumping becomes a game” and dumpers view small fines as simply the cost of doing business while the taxpayers pick up the tab for cleaning up the mess, according to the executive director of PhilaPride.

- **Local businesses** will support anti-dumping enforcement that prevents criminal competitors from illegally cutting their costs.

Other audiences not listed above might include the local business or religious leadership and other community decision-makers. The more key people who can be won over to the merits of the environmental enforcement effort, the better. Every program encounters challenges, but the more friends it has, the more likely the program is to overcome them. The opposite is also true. If key support is not in place, the program may not survive its challenges.

E. Messages

Once the audiences have been identified, the next step is to choose a “clear and simple message to which the target audience can relate.”²⁴ Consider the particular needs and interests of each target audience. Involving members of the target audience in the development of educational materials can help ensure that the message is effective.²⁵ Ways to include members of the target audience might include informal meetings with representatives of the target group. Meetings can be structured like focus groups in which audience members are asked for their opinions about planned educational efforts. Or, they can be asked to respond to questions, such as what they know about illegal dumping, why they think it is important or unimportant, and what arguments or methods they think might work best to reach their colleagues.

The following are some suggested messages for the audiences identified above:

Since local officials are concerned about tax dollars, letting them know how much money is being spent to clean up after illegal dumping may help persuade them to allocate funds for prevention. Such an approach has been used in Chicago, Philadelphia, Houston, and Corpus Christi among others.²⁶ For example, Houston’s Rat on a Rat brochure reads:

“Nearly \$5 million of your city tax dollars are spent to clean up illegal dumping each year. And we’re not talking about your average litterbug. About 160,514 cubic yards of trash are hauled away annually. That’s enough trash to fill 96 football fields, lying side by side.”

Illegal dumping is not just expensive, it’s ugly. In Chicago, which also spends millions each year on illegal dumping, officials recognize that dumping “negatively impacts the community, taxpayers and legitimate businesses” who not only pay for the clean up but are also victimized by the “unhealthy and unattractive neighborhoods” dumping creates.²⁷ So, an appropriate message for government officials might be **“Illegal dumping costs you”** or **“Keep our city/county clean.”**

²⁴ *Illegal Dumping Prevention Guidebook*, U.S. EPA Region 5, March 1998, p. 21.

²⁵ *Ibid.*

²⁶ Chicago estimates that cleaning up illegal dumping costs the city about \$11.5 million per year. An economic impact study in Philadelphia in 1995 concluded that direct costs associated with illegal dumping were more than \$5 million annually and indirect costs added millions more. Corpus Christi estimates its costs at \$130,000 per year. An H-GAC review found that Montgomery County was spending nearly \$500,000 and Wharton County more than \$150,000 in 1997.

²⁷ City of Chicago, Department of Environment Illegal Dumping Program.

Law enforcement officers, prosecutors, and judges are all concerned with preventing and punishing illegal activity. An appropriate message for them might emphasize the criminality of illegal dumping and the necessity to punish the culprits. For example, **“Illegal dumping is a crime”** or **“Let criminals clean up their own mess”** or **“Environmental crime hurts everybody.”**

Code enforcement officers and health department investigators are generally more familiar with the extent and severity of illegal dumping than other audiences. They can be invaluable allies in the environmental enforcement program. Messages that emphasize cooperation or the similarity of goals are appropriate. For example, **“Let’s work together to stop illegal dumping”**²⁸ or **“We’re united against environmental crime”** or **“Illegal dumping is a threat to public health and safety”**.²⁹

Messages to the general public should be kept simple and direct. Examples of effective messages used by successful programs are:

- Keep Pearland Beautiful³⁰
- Stop Trashing Our Precinct (S.T.O.P.)³¹
- Illegal dumping is a crime³²
- STOP illegal dumping³³
- Stop Oregon Litter and Vandalism (SOLV)³⁴
- Only YOU can stop illegal dumping³⁵
- Stop Dumping. It’s a Crime!³⁶

Local media are interested in a good story with a local angle. Contacts with the media should emphasize why preventing illegal dumping is important for the city/county involved. Economic impact data based on local budgets, photos of local dump sites, and statements from key supporters among local officials or decision makers are good supporting material. Messages for local media might be: **“Illegal dumping is a problem in our community”** or **“We’re cleaning up our community.”**

Illegal dumpers are reached indirectly through messages aimed at the general public, but can be further targeted via businesses, which may unwittingly provide services to illegal dumpers.

²⁸ Used in TNRCC brochure, which can be imprinted for local use. Sample included in this manual.

²⁹ Used in Cameron County, Texas public information brochures. Sample included in this manual.

³⁰ Keep America Beautiful (KAB) has a long-standing involvement in local efforts to reduce litter and improve waste handling practices. Keep Pearland Beautiful is a local affiliate. Information about KAB’s programs and sample educational materials are available online at www.kab.org.

³¹ Harris County Precinct Three. The S.T.O.P. brochure was developed in cooperation with local elementary school children and is included in this manual.

³² Palm Beach County Florida uses this message on posters, brochures, and huge placards posted on the sides of their transfer trailer rigs. North Central Texas Council of Government also uses this message with a raccoon’s bandit mask and the longer message “Stop Illegal Dumping in Its Tracks”. Sample included in this manual.

³³ City of Chicago.

³⁴ Program name of the non-profit conservation organization that sponsors statewide clean-ups and neighborhood enhancement projects in Oregon. Like S.T.O.P., the acronym SOLV is both relevant and memorable.

³⁵ This Snohomish County, Washington message is included on all materials including public utility inserts.

³⁶ Used by PhilaPride and printed inside an octagon to resemble a stop sign.

These include building contractors, truck rental agencies, lumberyards, and automotive shops.³⁷ Presentations to trade organizations accompanied with information about the anti-dumping laws and associated punishments and fines are also good preventive education. The City of Houston's Neighborhood Environmental Education Training (NEET) program hosts a well-attended evening seminar for the trade association of the automotive recycling industry.³⁸ Messages to dumpers usually emphasize enforcement and punishment: "**Illegal dumping is a crime**" or "**Dumpers are aggressively prosecuted.**"³⁹

In conclusion, different messages are used for different audiences but the program's most familiar, overarching messages will be those targeted at the general public. Public messages should be included on all educational materials. Other messages may be used for presentations or for targeted mailings to special audiences whose support is being sought. However, since all audiences are also members of the general public they will benefit from any public education efforts as well. Most messages listed above are compatible and can be used in combination.

In general, messages to the general public should address three basic facts:

- what illegal dumping is and how it is punished
- what legal disposal and recycling opportunities exist locally
- how to report incidents of illegal dumping

Every target audience should be made familiar with the overall program goals and background information on illegal dumping. Basic background might include: *what* illegal dumping is, *why* it should be prevented, *how* prevalent it is locally, *what* are the costs associated with it⁴⁰, *what* are the laws and penalties involved, and how the audience can help. All audiences should also be informed about legal disposal options and recycling opportunities in the area. Effective educational brochures include all of this information in an abbreviated form.

F. Methods

As many methods as possible should be used to promote the environmental enforcement program. Using a wide variety of methods increases the likelihood that a wide audience will hear the message. Successful programs combine the use of print and electronic media, educational materials, and personal contacts. More than one method is usually employed at the same time. For example, an enforcement officer may give a presentation to a neighborhood watch group, distribute an informational brochure at the gathering, and arrange for photos of the presentation to be sent to the local newspapers.

³⁷ Palm Beach County Florida prints posters that warn against illegal dumping and posts them in county permitting and building offices, and local vehicle rental agencies and tire dealerships. The county also prints fact sheets about illegal dumping targeted at builders and contractors. See Appendix A.

³⁸ The event is promoted as an information session on how to avoid getting on the wrong side of the environmental laws and includes presentations by city, county and state officials.

³⁹ City of Chicago enforcement brochure.

⁴⁰ If economic data is not readily available locally, refer to the financial impact studies mentioned in this manual: the H-GAC report *A Review of Illegal Dumping in Montgomery and Wharton Counties*, March 1998; *Illegal Dumping: Assessment of Impacts on County Governments in the Texas-Mexico Border Region*, July 1997, TNRCC Waste Planning and Assessment Division; and *Survey of Costs Associated with Illegal Dumping in Philadelphia*, June 1995.

Following are ways to use the various methods.

1. Print and electronic media contacts should receive news releases and photographs, which alert them to environmental enforcement activities. Visiting with local editors, reporters, and station managers can help build understanding and support for the program. Include community newsletters, local magazines, and high school newspapers on the list of media contacts.

Although newspapers are more likely to cover local issues than radio or television stations, radio talk shows and local cable stations are good targets for media coverage. Chattanooga, Tennessee has had very good response from radio talk shows in getting out the word about illegal dumping.

Media packets should be developed that include a short history of the program. A sample history developed by Harris County Precinct Three is included in Appendix A.

In addition, provide a list of the program's key contact people with titles, phone numbers, and e-mail, if applicable. Photos are also welcome and should be as active as possible. For example, include an enforcement officer examining materials from an illegal dumpsite instead of a shot of the dumpsite alone.

Include a fact sheet on the locations, times of operations, materials accepted, and costs associated with legal disposal facilities, citizen drop-off centers, collection stations, and recycling sites.

Invite media contacts to participate in "ride alongs."⁴¹ Members of the press as well as local officials and other community leaders should be encouraged to spend the day with an environmental enforcement officer as he or she investigates complaints. Of course, dangerous situations should be avoided.

News releases are best written by appropriate information staff members or may be contracted out as described in the Personnel section above. It is advisable to plan for many news releases each year and more in the formative year to build public awareness about the program. Meet with the information staff and discuss possible story ideas for the upcoming year. Develop a calendar of events that warrant media attention. As cited earlier, these may include: hiring an environmental enforcement officer, receiving grant funds, or cleaning up a dumpsite. News releases should also feature recycling and legal disposal options. For example, a photo of a family recycling together or a story about the how many pounds of scrap metal or newspaper are salvaged from the citizen drop-off center.

2. Educational materials most commonly associated with successful programs include:

- Brochures
- Fliers
- Posters
- Bus cards
- Bumper stickers
- Street signs
- Utility bill inserts
- Business cards

⁴¹ Name used by PhilaPride in Philadelphia.

- Refrigerator magnets, pencils, rulers, T-shirts, etc.

There are costs associated with the production of educational materials and decisions must be made about how to spend limited education funds. When choosing among the available options, ask where will it be used, who is likely to see it, how many people might it reach, can it be used with more than one audience, how long will it last, how difficult is it to distribute?

Brochures are perhaps the most common educational tool of any program because they are the most adaptable to different audiences and situations. Several samples are included in this manual. In general, brochures should be attractive and informative. Photographs or line drawings are commonly used to provide visual appeal. Desktop publishing programs make designing brochures and other print material relatively inexpensive, however, professional artists or photographers are recommended to provide the kind of high quality images the public has come to expect.⁴²

Fliers are less expensive to produce than brochures and may be the first educational piece developed in the educational program. Fliers can be reproduced on a copier machine rather than printed. However, they are usually less attractive and do not last as long since they are more easily torn and wrinkled. They are perhaps best suited to one-time uses such as special events. Fliers may also be considered a transitional general information piece for use until a brochure is produced.

Posters, bus cards, bumper stickers, and street signs create high visibility for the program because they are displayed in public for extended periods of time. All benefit from bold designs with short, clear messages. Posters can be displayed in city or county offices, including libraries, and in local businesses, including those where illegal dumpers are likely to see them.⁴³ Bus cards are displayed inside (and sometimes outside) city buses or light rail.⁴⁴ In Palm Beach County, Florida, trailers used to haul waste from the local transfer station are outfitted with placards or posters that announce “Illegal dumping is a crime” in large, easy-to-read letters. Another successful program issues bumper stickers to all waste haulers in the county.⁴⁵ Similarly, fleet vehicles might be issued bumper stickers or placards. Many cities and counties post “No Dumping” signs along roadways. These signs can also be used to advertise the environmental enforcement message. For example in Florida, 500 highway signs were installed on state and local roadways that read:

Help Keep Palm Beach County Beautiful
ILLEGAL DUMPING
IS
UNLAWFUL
Up to \$5,000 fine & 5 years in Prison

⁴² Examples of TNRC's brochures are included in Appendix A. Local governments may order multiple copies of these brochures and print their local information directly on the brochures. English and Spanish versions are available.

⁴³ Palm Beach County Florida distributes posters to code enforcement, permitting and building offices as well as truck rental agencies and tire dealerships.

⁴⁴ Franklin County Ohio uses bus cards successfully in cooperation with the City of Columbus Transit Authority.

⁴⁵ Franklin County, Ohio.

Utility bill inserts provide a way to reach all area residents through direct mail. There is often an expense involved for inserting the material into the bill envelopes. However, if the utility company is producing its own insert, it may be willing to simply include information about the environmental enforcement program at no charge. Utility companies are often sensitive to illegal dumping issues and may be willing to cooperate on other educational efforts or provide funds for prevention messages since their easements are often the target of such dumping.⁴⁶

Promotional materials may be produced as give-aways for public presentations or at community special events. The items are imprinted with the program message and may also be used to commemorate community cleanup events. Common items include pencils, rulers, magnets, coasters, drink coozies. To recognize volunteer participation in cleanup days, the North Central Texas COG has produced t-shirts and coffee mugs carrying the “Stop Illegal Dumping” message.

3. Personal contacts are perhaps the most effective ways to promote environmental enforcement education. These include presentations to both children and adults at venues such as:

- Schools
- Scout meetings
- Public library programs ⁴⁷
- Junior and senior high school service clubs (Interact, Key Club, 4-H, etc.)
- Environmental organizations (adult and student)
- Community and civic associations
- Adult service organizations (Lions, Kiwanis, Rotary, etc.)
- Senior centers
- Chambers of Commerce
- Community special events days
- Neighborhood watch meetings

Presentations to children has been a mainstay of many environmental education programs. Children are open to new ideas and often eager to act constructively to improve their neighborhoods. Children can also help build family support for programs. Recycling programs around the country have benefited from children’s commitment to their goals.

When addressing children, it is important to keep the presentations relatively short, to keep the language direct and free of jargon, and to involve them in an activity, such as asking questions or singing a song. Like recycling, illegal dumping can be presented as part of the larger issues about proper handling of waste materials.

Lesson plans and children’s activities that address waste issues are available from Keep America Beautiful (KAB) and the TNRCC. (See Appendix A). In addition, KAB has curricula for use by teachers, which supports the overall goals of environmental enforcement programs. *Waste in Place* for grades K through 6 “introduces students to litter and integrated solid waste management” and *Waste: A Hidden Resource* for grades 7 through 12, provides “an overview of

⁴⁶ PhilaPride in Philadelphia and Oregon SOLV are both non-profits that receive support from utility companies to combat illegal dumping.

⁴⁷ Harris County Precinct Three environmental enforcement officers have successfully used Houston Public Library’s summer reading days to address school children. Many communities have special library programs that can be a venue for environmental enforcement education.

solid waste and hazardous waste.” Local school district administrators should be encouraged to approve the curricula for use in their schools and to send teachers to training sessions.

Visual aids and creative use of props can help capture and hold children’s attention. For example, the environmental enforcement officer in Pearland, Texas designed a “recycled robot” called Mrs. D using a remote control car as the base, some plastic garbage cans for a body, a coffee can for a head, and a mop for hair. She has proved to be a hit with elementary school children. Music can also make presentations more interesting. Both Harris County and Pearland use songs in their presentations to children.

Fliers and brochures developed for adults can be distributed to children for them to take home. Or, a special children’s brochure can be developed that is aimed at younger audiences.⁴⁸

Presentations to adults should also include distribution of informational brochures. Similarly, audio-visual materials are recommended for adult audiences. Slides or overhead projections or power point computer presentations are examples. A short slide show might include images of environmental officers on the job, dump sites, a court scene, and recycling or citizen collection stations.⁴⁹ Music can be added to the slide show to enhance its appeal. A tabletop display might be created using the same slide images or photographs. It could be displayed while a presentation was being conducted or used as a table prop at a community event. Slide shows, like videos; can be set up in a continuous loop to attract visitors to the table where an environmental enforcement officer can discuss the program one-on-one.

Some programs have produced videos.⁵⁰ Videos can be expensive undertakings and it is preferable to seek assistance from those with experience and expertise. Local cable stations may be able to assist, or experienced students from college communications or radio and television departments. Alternatively, still photographs can be used to create a short video with musical accompaniment for much less money. Considering the expense involved, a good slide show is probably the best audio-visual option for most programs

When scheduling public presentations, it is preferable to contact groups with regularly scheduled meetings or to participate in planned events rather than to hold a special meeting or create a special event. Service organizations, schools, civic associations, scout groups, etc., usually welcome outside speakers and can guarantee an audience turnout. Local newspapers often carry calendar sections, which list meeting times and contact phone numbers for community groups. A systematic effort should be made to call groups and to schedule presentations to both adult and child-based audiences.

G. Community Action

Community action involves the public directly in the environmental enforcement program. While many of the public appearances listed above might be considered community outreach efforts, their focus is primarily educational. For the purposes of this manual, the author highlights two activities that require the public to do something: use a hotline to report illegal dumping and to

⁴⁸ See Harris County Precinct Three’s S.T.O.P. brochure in this manual.

⁴⁹ A slide show developed by third graders to promote the “Stop Trashing Our Precinct” program is used by Harris County Precinct Three officers in their schools presentations.

⁵⁰ Harris County Precinct Three and Franklin County Ohio.

participate in community cleanups. Both increase public awareness and understanding of the program through direct action.

Hotlines or tiplines are one of the most important parts of any environmental enforcement program. When program managers were queried for this manual, many said it was central to their program's success. In one case, the entire public education program is built around it.⁵¹ Hotlines enlist the public as partners in the fight against illegal dumping. Their effectiveness depends on the public's understanding what it is and how to use it. Promotional messages must be particularly memorable. Examples of effective messages are:

Nail a Dumper⁵²

Rat on a Rat⁵³

See This /Do This (Image of illegal dumping/Image of a telephone)⁵⁴

Along with the message, the phone number is also important. Some programs choose numbers which spell out words, such as Houston's Rat on a Rat program which uses 525-A-Rat or North Central Texas COG which uses 1-888-335-DUMP. Whatever the phone number is, it should be prominently displayed on all educational materials. On longer print pieces, like multi-fold brochures, it may be shown in more than one place. Franklin County Ohio's Nail-a-Dumper hotline appears on the cover, inside and back of their brochure.

Hotlines may be dedicated phone lines or may simply be the phone number of the environmental enforcement office with an answering machine or other answering service for after hours calls. In more sophisticated systems, the line can be set up to automatically page officers when calls come in.

To get the greatest benefit from the hotline, clear, simple instructions should be provided to the public about what type of information is most helpful. This information can also be included on the program's educational brochure. Chicago includes profiles of truck bodies on their brochures to assist the public in identifying the kind of vehicle used in the illegal dumping activity. Before setting up a hotline, call other programs and listen to their messages. Then develop a message that suits local needs.

Hotlines are often modeled on crime stopper programs which give rewards for successful prosecution of reported activities. Houston has given away \$16,000 in award money. Amounts are tied to the level of criminal misdemeanors prosecuted: \$50 (Class C), \$100 (Class B), and \$200 (Class A). Such awards encourage public reporting of illegal dumping and public willingness to give testimony to help convict dumpers.

Cleanup events usually involve large numbers of volunteers in litter pick-up or neighborhood cleanups. Some events are held in conjunction with national or state programs such as Texas Trash-Off, National Make a Difference Day, or Earth Day. The scope of these events varies widely. Perhaps the most ambitious is Oregon's SOLV It, a one-day annual event that has

⁵¹ Franklin County, Ohio.

⁵² Franklin County, Ohio.

⁵³ City of Houston.

⁵⁴ City of Chicago.

cleaned more than 4 million pounds of debris from illegal dumpsites and neighborhoods since 1990.⁵⁵

Picking up litter or cleaning up illegal dumpsites raises public awareness about the extent of the problem and improves the attractiveness of the community. On the other hand, in Philadelphia, a concerned citizens group organized an anti-dumping campaign to catch the dumpers and get the responsible parties to clean up the mess or pay for its clean up. They published a how-to manual entitled *Organizing Your Community Against Trash and Illegal Dumping*, which has many ideas that can be adapted to communities around the country.⁵⁶

Some cleanup programs are designed as preventive measures. Chattanooga provides “Sparkle wagons” to its residents twice a year upon request. The wagon is a 20-foot trailer, which is parked at the residence for 24 hours and can be loaded with residential trash and bulky items. The city then hauls the wagon away and disposes of the trash at no charge. Like many other communities, Chattanooga also sponsors an annual community wide clean up called Sparkle Day. Dumpsters are provided by the city and whole neighborhoods are cleaned up. These events have proved especially popular in low-income areas.

Cleanup events are good media opportunities. Lots of volunteers and lots of action is often attractive to television and radio stations as well as newspapers.

H. Evaluation

All public education programs should be evaluated regularly. At least once a year, consider whether educational goals are being met, materials are still up to date, resources could be allocated more effectively, and what new education ideas might be added.

In order to evaluate success it is helpful to set measurable goals. Examples of goals might be: increase media coverage by 50%, give monthly presentations to schools, visit with cooperating agencies weekly, schedule presentations to community groups quarterly. Then, at the end of the year see which goals were met and where improvement is needed.

Keep track of the number of presentations, meetings, and special events at which information about environmental enforcement was disseminated. Have the public information staff or others assigned as media liaisons provide copies of all press coverage on illegal dumping.

Check the validity of phone numbers and any data on printed materials to ensure it is accurate before you reprint materials. Stay in touch with other environmental enforcement programs to share educational ideas. Use target audiences again to provide feedback on educational efforts. Meet with members of the respective target groups and ask for input on improving the materials.

⁵⁵ Sponsored by Stop Oregon Litter and Vandalism (SOLV). There are differing opinions with regard to the “usefulness” of annual cleanups. While annual cleanups help make the community more attractive; they may also send the “wrong” message. Some individuals may not stop illegally dumping their waste since they know that someone else will eventually cleanup the site.

⁵⁶ See Appendix A for how to receive a copy.

I. Successful Educational Strategies From Case Studies

Successful programs have many things in common. Among them are enthusiastic, creative, and dedicated staff members and supportive leadership. Below are the strategies which characterize many of these programs and that may guide the development of others.

- **Use the environmental enforcement officer as an educator**

The environmental enforcement officer is the program's most valuable asset and the best person to "sell" the program. The role as chief educator needs to be as important as that of chief investigator.

Officers will be primarily responsible for public presentations and educational efforts directed at the various audiences outlined earlier in this section, such as judges, prosecutors, local government officials and other law enforcement officers. In addition, environmental education includes presentations to children, in school settings as well as in the community. Such wide ranging audiences pose challenges that can be met with honest effort and preparation. Communications skills are also tested when answering the public hotline, responding to newspaper reporters, and soliciting advice from colleagues in other environmental enforcement programs.

Given the level of public education and communications skills required by the job, such abilities should be considered when hiring an officer.

- **Recruit supporters at court**

Often the best way to reach target audiences is to use another member of the "group." Prosecutors, judges, and investigators attached to the prosecutors' offices are often more likely to listen to other legal professionals explain an issue than to those outside the court system. Many successful programs use this fact to their advantage.

For example, in Philadelphia, the district attorney was recruited as a spokesperson for the illegal dumping prevention program. She was selected because she was known as a tough prosecutor who was respected by her colleagues. In private meetings, the district attorney was given background information about illegal dumping and made familiar with the state's environmental laws. She was also presented with findings from the city's economic impact study, which suggested that the lack of prosecution was exacerbating the illegal dumping problem and was costing the city millions of dollars. She was convinced. She became an outspoken advocate for the program and helped educate other prosecutors and judges as to the program's merits.

Similarly, Houston's assistant district attorney, whose caseload is solely dedicated to prosecuting environmental crimes, was instrumental in educating judges about the importance of hearing illegal dumping cases and in imposing stiff penalties. He and the civil prosecutors from Harris County have also made themselves available as a resource to other prosecutors in the region who are interested in pursuing illegal dumping cases.⁵⁷

⁵⁷ See Appendix A for how to contact.

The importance of gaining support from prosecutors and judges cannot be overemphasized. In a survey of counties along the Texas-Mexico border, the TNRCC found that cooperation from area court systems was the third greatest need cited by illegal dumping prevention programs borderwide. More enforcement personnel and public education were listed as first and second, respectively.⁵⁸

- **Build interagency cooperation**

Cooperation with other law enforcement officers is very beneficial. Informed officers can effectively extend the eyes and ears of the environmental enforcement program and provide assistance in identifying and arresting dumpers.

Law enforcement officers are often unfamiliar with criminal environmental enforcement since it is rarely taught at police academies.⁵⁹ To encourage cooperation and understanding, environmental enforcement officers should plan to spend time educating their fellow peace officers. Harris County Precinct Three environmental enforcement officers used roll calls and special law enforcement training sessions to spread the word about illegal dumping. In addition, materials and information received at environmental enforcement workshops can be shared with other peace officers.

Environmental enforcement programs also benefit from the support of other agencies, such as code enforcement, health department, fire marshall, streets and sanitation, road and bridge, animal control, etc. Environmental enforcement officers who spend time educating other agency staff about illegal dumping help extend the effectiveness of their programs and build working partnerships that benefit all parties. Such educational efforts may be formal or informal, but at a minimum should provide background information about illegal dumping and how and when to contact the environmental enforcement officer.

- **Target adults and children with a wide variety of educational materials**

No successful program puts all its educational eggs in one basket. Effective education involves many different methods and many different venues. Audiences are reached at home, through their workplace, and through their after-hour activities – volunteer organizations, professional associations, churches.

Children are an important target audience. Again, they should be reached in school and through extracurricular activities like scouting or school clubs.

Good programs combine passive information sources with more active ones. Generally, all printed material is passive. Active information sharing takes place at public presentations, at booths set up during community events, or in the classroom.

Effective materials are kept up to date and periodically redesigned to keep them current and attractive.

⁵⁸ *Illegal Dumping: Assessment of Impacts on County Governments in the Texas-Mexico Border Region*, July 1997, TNRCC Waste Planning and Assessment Division, p. 56.

⁵⁹ Workbook for *Texas Criminal Environmental Law Enforcement: A Basic Course for Peace Officers* jointly offered by Texoma Council of Governments and University of North Texas Police Academy, funded by TNRCC.

J. Synopsis

- Education is critical to the success of environmental enforcement programs.
- A separate education budget should be considered part of the overall program costs.
- Environmental enforcement officers will function as the key educational personnel. As much as 50% of overall man hours will be spent on education in new programs and 20-25% in established programs.
- Other educational duties, such as writing press releases, scheduling public appearances, and planning special events may be handled by program administrators or other personnel with the necessary expertise.
- Multiple audiences should be targeted for education, including: elected officials, government staff, law enforcement officers, code enforcement officers and health department officials, prosecutors and judges, the local media, illegal dumpers, local businesses, and the general public. Educational messages should be developed that address the interests and needs of these various audiences.
- Messages should be clear and direct, such as “Stop Trashing Our Precinct” or “Illegal dumping is a crime.”
- A variety of methods should be used to get out the message including print and electronic media, and public presentations. Both adults and children should be addressed. Effective programs combine passive forms of education (brochures, fliers, posters) and more active forms (community meetings, booths at special events, presentations to school children).
- Hotlines are one of the most important public outreach tools. They increase public awareness about the program and provide valuable information about illegal dumping activity. Another method that directly involves the public is neighborhood cleanups.

IV. ENFORCEMENT AND PROSECUTION

The effective enforcement and prosecution of illegal dumpers under the state's illegal dumping laws is an essential component in making sure that a community's environmental enforcement program is a success. **If an environmental enforcement program does not have in place an effective process for enforcing the laws and prosecuting the illegal dumpers, the illegal dumpers will not change their behavior and the community will not see a reduction in illegal dumping.** These findings have been confirmed during conversations with a number of managers for environmental enforcement programs.

The reason for the less than desired success with the prosecution of these crimes is often due to a lack of communication with and education of the individuals who are involved in the enforcement and prosecution of these cases. Some of this confusion is due in part to the complexities of dealing with the environmental laws that address the illegal dumping crimes. In many cases, the prosecutors are familiar with the Texas penal code, but are not as well versed in Texas' environmental laws, which are not found in the penal code. This lack of familiarity with the law, as well as the perception by some prosecutors and judges that illegal dumping is not a "high priority" have been major factors in the lack of successful prosecutions of illegal dumpers in Texas, as well as nationally. Despite, these obstacles, environmental crimes are gaining increased attention at the local, state and federal levels. Increased funding is being provided at all levels of government as elected officials and policymakers begin to realize the severity of this crime.⁶⁰

The purpose of this section is to identify and discuss some of the enforcement and prosecution issues that can directly impact the overall success of a community's environmental enforcement program. This section will provide a series of recommendations with regard to each of these issues to assist local governmental officials in making sure their program's enforcement and prosecution of illegal dumpers is effective.

A. Environmental Enforcement Officers

The environmental enforcement officer is the front line of defense in combating illegal dumping. If the local government's program is going to be effective, in the battle against illegal dumping, it is essential that the enforcement officer position be staffed with the "right" individual and that he/she be "positioned" within the local government in such a way that his/her impact is maximized. Listed below are a number of issues with regard to the enforcement officer's position that local governments should be aware of in order to maximize his/her impact.

1. **Officer's Qualifications** - The environmental enforcement officer is often the primary, if not only person, the general public will come in contact with when dealing with illegal dumping. Therefore, it is important that he/she present a professional image with regard to his/her position as an environmental enforcement officer. The officer should have the following qualifications:
 - **Training.** The officer should have received sufficient training (at least 48 hours) so he/she is familiar with Texas' environmental laws. The officer should be able to explain these laws to the general public, people cited for illegal dumping, and if necessary,

⁶⁰ The Dallas Morning News, December 2, 1998, Appendix E, Article 2.

capable of “educating” the local prosecutor with regard to these laws. (Sources for training will be discussed later in this section.)

- **Good Educator/Good Communicator.** In addition, to being knowledgeable in environmental law, the officer must be able to communicate well with all groups of people. Since a significant amount of the officer’s time (20-50% of the officer’s time, depending on the maturity of the program) will be spent educating the general public he/she must be able to communicate with school age children, neighborhood associations, business groups, etc. The officer must also be able to deal with illegal dumpers, in a professional manner. Finally, if the officer needs to assist in “educating” the public prosecutor(s) with regard to environmental law, it is essential that the officer be a good communicator.
- **Good Investigator.** To be an effective environmental enforcement officer, he/she must have not only good “policing” skills (ability to issue citations, make arrests, impound vehicles, etc.), but the officer must also be an excellent investigator. The officer must be a good detective and able to investigate the various illegal dumping scenes searching for clues that will lead to the identification of the illegal dumper. Skills include the ability to conduct surveillance, as well as to interview witnesses and suspects.

By retaining an officer with these qualifications, the program has a much greater chance of being successful in arresting, prosecuting and convicting illegal dumpers.

2. **Licensed Peace Officer versus Code Enforcement Officer** – There has been some debate as to whether the environmental enforcement officer needs to be a licensed peace officer, or whether a code enforcement officer is sufficient.⁶¹ In reviewing various environmental enforcement programs the authors found both types. Some programs were staffed with code enforcement officers, some with licensed peace officers (police officers, sheriff’s deputies, and constables).

The use of a licensed peace officer is typically the preferred approach since the peace officer is able to carry a weapon and has the ability to make arrests. An additional advantage is that a police officer in uniform, carrying a weapon, lends credibility to the position and speaks to seriousness of the violation, and the importance of the program in general. In visiting with several cities that use code enforcement officers, they have arranged with their local police department to have peace officers made available to assist in arresting illegal dumpers. The concern with this type of arrangement is that the peace officers may or may not be available in a timely manner, thereby reducing the effectiveness of the code enforcement officer. The authors found that the City of San Antonio’s environmental enforcement program is staffed within the Code Compliance Department, however the environmental enforcement officers are licensed peace officers.

The authors would recommend that whenever possible, licensed peace officers be used as the environmental enforcement officers due to their ability to carry a gun and make arrests. If an environmental enforcement program cannot staff the enforcement officer’s position with a licensed peace officer, then it is recommended that the environmental enforcement program have a very clear policy with the local police department, sheriff’s department, or constable’s

⁶¹ A code enforcement officer is **not** a licensed peace officer and is therefore not able to carry a gun, nor can he arrest an illegal dumper. In some cases they may not be able to issue a citation.

office regarding back-up support and its ability to be provided in a timely manner to assist in the arrest of illegal dumpers.⁶²

3. **Part-time Versus Full-time Enforcement Officers** - Whenever possible, the authors would recommend that the environmental enforcement officer's position be a full-time position, rather than a part-time (half-time, quarter-time, etc.). The authors have found that when an environmental enforcement officer's time is split between environmental enforcement and code enforcement or some other duties, that the environmental enforcement program suffers. While some smaller counties might argue that the hiring of a full-time environmental enforcement officer is not economically feasible, and a part-time officer is the only viable method, the authors would strongly encourage the county to find a way in which to finance the full-time position. The benefits received from hiring a full-time versus part-time person will more than out-weigh the incremental expense associated with hiring a full-time person. Benefits received include: more time spent responding to illegal dumping reports, more time educating the public, more time in the field investigating illegal dumpsites, and more time conducting surveillance.
4. **Location of Environmental Enforcement Officer** - Another issue that must be resolved by the local community is where in the local government's organizational structure should the officer be staffed. As mentioned in Section II Management Structure, cities and counties have staffed these individuals within the code enforcement department, police department, health department, sheriff's department, etc. There is not a "right or wrong" answer with regard to the location of the environmental enforcement officer within the local government as long as illegal dumping is made a priority. The most important issue is that the environmental enforcement officer be staffed in a position that will allow him to maintain a close working relationship with the prosecutor (county attorney, district attorney, city attorney, etc.). As will be discussed in the following paragraphs, a key factor in maintaining an effective enforcement program is the ability of the enforcement officer and prosecutor to work together in bringing about the conviction of illegal dumpers.

B. Prosecutors

In the authors' meetings with both environmental officers and prosecutors the authors found that in those communities where there is a serious problem with illegal dumping, the prosecutors in those communities were usually unfamiliar with environmental law and with how to prosecute people who had been arrested for illegal dumping. One prosecutor said that she would like to prosecute these cases, but that she was unfamiliar with the law, and due to her backlog it made it nearly impossible for her to do the necessary legal research in order to prepare an illegal dumping case for trial. Environmental enforcement officers said they find it frustrating when they arrest someone for illegal dumping, and then have the case dismissed, due to the low priority given these types of cases, or because the prosecutor is unfamiliar with the law as it pertains to illegal dumping. Listed below are a number of recommendations, with regard to the role of the prosecutor, that the authors would offer to any city or county considering the establishment of an environmental enforcement program. Any prosecutor, especially those new to environmental law, is strongly urged to take advantage of the resources described below in items 1 through 3.

⁶² In cases where code enforcement officers are used, the authors would recommend that the officers acquire the ability to file criminal class A and B charges for illegal dumping with the county prosecutor.

1. **Sample Pleadings, etc.** - Harris County has a very active environmental enforcement program. During the development of this manual and during the course of our previous study for H-GAC, *A Review of Illegal Dumping in Montgomery and Wharton Counties*, the authors met with environmental officers in the Harris County Environmental Enforcement Division; staff from the Harris County Pollution Control Department; as well as with Ms. Cathy Sisk, Assistant County Attorney, Harris County; and Mr. Roger Haseman, Assistant District Attorney, Harris County. Both attorneys deal solely with the prosecution of environmental crimes. They both agreed that one of the biggest challenges for county prosecutors unfamiliar with environmental law was finding the time to do the legal research. They said if sample copies of pleadings, motions, etc., from prior environmental cases, were made available to the prosecutors, those documents would be of great benefit in helping them to prosecute environmental crimes. Copies of sample pleadings, etc., were made available as an Appendix in the report: *A Review of Illegal Dumping in Montgomery and Wharton Counties*.⁶³ Additional samples of filings, etc., are available through a number of environmental enforcement workshops that are coordinated through the TNRCC and various COGs in Texas. A listing of contacts for the workshops and source documents will be provided at the end of this section.

2. **Environmental Law Training Sessions** – As mentioned in the previous paragraph, it is essential that H-GAC, the TNRCC and other local agencies continue to fund and promote environmental law training sessions. These sessions provide a valuable tool for training the environmental enforcement officers as well as the prosecutors. Five years ago, a prosecutor would have had a difficult time finding an environmental law training session. However, due to the increased awareness with regard to environmental crimes, there are a number of agencies that are now sponsoring environmental law training sessions. A listing of these sessions and their sponsors is provided at the end of this section. The project team would recommend that H-GAC, TNRCC and other COGs continue to offer training sessions for prosecutors (city attorneys, county attorneys, district attorneys, etc.) that would provide them with an understanding as to how to prosecute illegal dumping cases, as well as other environmental crimes. These sessions also explain why there is a need for enforcement of these laws. In many cases, the legal staff and judiciary are not familiar with the laws, and are not familiar with why enforcement is important. In addition, prior cases (filings, etc.) can be provided to the attendees so they will have a series of environmental cases for future reference.

3. **Prosecutors Knowledgeable in Environmental Law to serve as References** - Both Ms. Sisk and Mr. Haseman have an extensive background of experience in prosecuting environmental crimes. Both have offered to help answer any questions that prosecutors new to environmental law may have with regard to the prosecution of environmental cases. Their phone numbers are:

- Ms. Cathy Sisk, Assistant County Attorney, Harris County (713) 755-8282
- Mr. Roger Haseman, Assistant District Attorney, Harris County (713) 755-7889

They are an excellent resource and one that any prosecutor new to environmental crime should use to assist them in strengthening their environmental law background.

⁶³ Copies of this report, and the sample pleadings, are available from H-GAC by contacting Ms. Cheryl Mergo at (713) 993-4520.

In addition, Mr. Michael Blinn of the TNRCC would also be helpful in answering questions concerning environmental law and the prosecution of environmental cases. His number is:

- Mr. Michael Blinn, Attorney, Special Investigations – Litigation Division, TNRCC (512) 239-4705

4. Prosecutor(s) Specialized in Environmental Law - Due to the fact that many prosecutors are not familiar with environmental law, the authors would propose that local governments consider having one prosecutor or a team of prosecutors (two or three) designated as the prosecutors responsible for handling environmental cases. Once they have received the proper training they will be capable of handling the environmental cases within their respective community. Depending on the number of cases, it may be determined that only one attorney needs to be trained in environmental law. The local government may also decide that having a team of attorneys familiar with environmental law is more time effective. For instance, in Palm Beach County, Florida Ms. Gwen Key, Assistant State Attorney specializes in environmental crimes, but also handles stock fraud, insurance fraud and travel agency fraud cases.⁶⁴ In California, rural counties are served by a “circuit prosecutor” to assist in prosecuting environmental crimes.⁶⁵

As noted in the Dallas Morning News Article, “Environmental crimes drawing increasing heat” environmental crimes are gaining increased attention, in Texas, as well as throughout the United States.⁶⁶ The article also notes the increased coordination between local, state and federal environmental officials in gathering the necessary evidence to arrest the illegal dumper. For an environmental enforcement program to be successful it is important that all individuals involved in the enforcement and prosecution of illegal dumpers be willing to work together on a joint effort for the “common cause” of arresting all illegal dumpers. That means that city, county, COG, county, state and federal officials must be willing to work together. There is no room for “political positioning,” “headline grabbing,” or “foot dragging.” If everyone does his/her job, everyone will be able to share in the credit – as well as a cleaner environment.⁶⁷

C. Judges/Courts

It is important that the judges hearing the environmental cases be educated as well. One prosecutor mentioned during his interview with the authors that he had to educate some of the judges he presents his environmental cases before, due to their unfamiliarity with environmental law. The prosecutor mentioned that when he brings an environmental case before one particular judge, who he helped “educate,” the judge is now familiar with environmental law and is known for being “tough” on those people guilty of environmental crimes. The importance of educating the judges cannot be underestimated. In recent years a municipal judge in Dallas wrongly dismissed hundreds of dumping-related citations because he said they should have been filed in state court.⁶⁸

⁶⁴ Appendix E, Article 3.

⁶⁵ CHMIA news, September 1998, Appendix E, Article 4.

⁶⁶ The Dallas Morning News, December 2, 1998, Appendix E, Article 2.

⁶⁷ The TNRCC enforcement staff, as well as the Texas Attorney General’s office, are available to assist on major illegal dumping cases. Especially in cases where there is an immediate threat to the environment or public health and safety.

⁶⁸ The Dallas Morning News, Monday August 11, 1997, Appendix E, Article 1.

Typically it is the prosecutor that must educate the judge, since he/she is the one bringing the cases before the judge. It appears that the most successful methods for educating a judge are by providing them with citations to the law and being available to answer their questions. The authors would propose that the judge also be provided with information about the environmental law training sessions described below and when they are being held so the judge can attend.

Judges may also respond to financial impact data on the costs of illegal dumping and the need to recoup some of the costs from violators.

While most environmental cases are heard in a typical “court” setting (i.e., before a judge or justice of the peace), some cities have established an administrative hearing process to hear only environmental cases. This has allowed those communities to speed up the legal process in pursuing these cases. Cities and counties that have this type of hearings process are listed in Appendix C. In addition, some cities have established “environmental courts” where the case is still heard by a judge, but a certain day is set aside to hear only environmental crimes. This guarantees that the environmental cases will not get pushed on the “back-burner” in favor of pursuing other criminal cases which are perceived as a “higher priority.”⁶⁹

Keep America Beautiful has materials to assist in the establishment of environmental courts, including brochures, a video, and information on their website at www.kab.org. Twenty-five American communities have established the environmental courts. Their dockets are reserved exclusively for violations of local health, safety, housing, building, fire, solid waste and litter ordinances. Many courts are patterned after the Memphis/Shelby County Division 14 Environmental Court.⁷⁰

D. Legal Issues/Training Resources

1. Legal Issues

In our interviews with environmental enforcement officers and prosecutors (county and district attorneys) the authors found that people cited for illegal dumping in Texas are typically prosecuted under the terms of either the Solid Waste Disposal Act (Chapter 361, Health and Safety Code and Chapter 7 Water Code) or the Texas Litter Abatement Act (Chapter 365, Health and Safety Code). In most cases, when an individual is caught illegally disposing of materials (e.g. dumping a quarter-ton load of construction debris in a deserted lot, or dumping an old sofa in a creek bed) the case is typically tried as a criminal offense where the fines are as follows:

Class C Misdemeanor - Solid waste or litter which weighs 15 pound or less.
Penalty: \$500 fine

Class B Misdemeanor - Solid waste or litter which weighs more than 15 pounds but less than 500 pounds.
Penalty: 180 days in jail and/or \$2,000 fine

⁶⁹ The City of Chattanooga, Tennessee operates a court where environmental cases are heard by a judge every Thursday afternoon.

⁷⁰ For more information, see Appendix F, A Brief History of Environmental Courts, KAB.

Class A Misdemeanor - Solid waste or litter that weighs more than 500 pounds, or has a volume of more than 100 cubic feet, or was disposed of for commercial purposes and weighs more than 5 pounds.

Penalty: 1 year in jail and/or \$4,000 fine

Repeat Offenders - On a subsequent conviction of the offense:

- the punishment is increased to the penalty of the next highest category; and
- the vehicle used by the violator may be forfeited.

(Source: Health and Safety Code Chapter 365.012)

For those cases where there is a large illegal dumpsite that is a chronic problem it may make sense to prosecute those cases in both a criminal and civil venue, since the civil fines can be substantially larger than those described above, and the prosecutor is able to obtain a court ordered injunction with regard to the illegal dumping activity. For example, the project team was told by a prosecutor that in a hypothetical case of a homebuilder that was hauling construction scrap to an illegal dumpsite, she would probably prosecute that case in a civil venue so she could obtain a court ordered injunction to close down the illegal dumpsite and then seek restitution from the homebuilder to assist in the monetary costs associated with cleaning up the illegal dumpsite. Staff at the Harris County Pollution Control Department said that corporations caught illegally dumping materials prefer to be prosecuted in a civil venue, even though the fines can be higher, in order to avoid a criminal record.

The authors would recommend that local governments prosecute the cases under whichever venue will be the more effective in acting as a deterrent to future illegal dumping by the individual or company charged. To the extent that these cases are publicized, the publicity will let other potential illegal dumpers know that the local government is serious about prosecuting offenders. In addition, it should be emphasized that both civil and criminal charges may be applied to the same act without “double jeopardy” being incurred.

2. Training Resources

The purpose of this manual is not to discuss all of the legal aspects, strategies, and venues available for prosecuting illegal dumpers. There is not enough time or space to do so. Rather, there are environmental law training sessions that span anywhere from one to three days which address in detail the pertinent law, legal strategies, etc. Sources of information regarding environmental law, and related environmental law training sessions are listed below. For those local communities establishing an environmental enforcement program, the authors recommend obtaining some of the materials listed below. The local government should also budget for key individuals within their local government’s enforcement program to attend an environmental law training session, similar to the ones listed below.

- The pamphlet, *Obtaining TNRCC Rules* (TNRCC publication GI-32), provides basic information about TNRCC regulations and tells how to order various regulatory documents. Contact: TNRCC Communications Division, (512) 239-0028.
- *Illegal Dumping: Victimized Texas* - This video documents basics that enforcement officials need to know. It explains elusive illegal dumping problems, probable locations, etc. The

video was funded in part by a TNRCC grant and produced by the Lower Colorado River Authority (800) 776-5272.⁷¹

- *Harris County Precinct 3 Environmental Enforcement* - This video describes the unique illegal dumping problems found in Harris County. It also explains the role of the environmental enforcement officer. This video was funded in part by the TNRCC and produced in conjunction with H-GAC. Contact: K&K Media, (713) 495-3691.
- *Leaving Nothing But Your Tracks* - This video describes some of the issues facing Fort Bend County with regard to illegal dumping. The video explains the process for handling the prosecution of someone arrested for illegal dumping (arrest, filing of charges, court hearing, sentencing, etc.). The video is targeted toward junior high school students and above, including adults. This video was funded in part by the TNRCC and produced in conjunction with H-GAC. Contact: Deputy Sheriff Jim Winton, Fort Bend County Sheriff's Department, (281) 341-4620.
- *Legal Aspects of Solid Waste Enforcement, Cameron County District Attorney's Office* – Partially funded by a grant from the TNRCC, this environmental law enforcement training course targets county judges and enforcement officers who work with solid waste and litter abatement cases. This course focuses on the major environmental protection statutes of solid waste enforcement. Contact: Cameron County District Attorney's Office, (956) 399-3679.
- *Environmental Court Video* – This video explains the role and structure of an environmental court and comes with a brochure on environmental court planning. It is prepared by Clean Tennessee (an affiliate of Keep America Beautiful). Contact: Keep America Beautiful, (203) 323-8987 ext. 9199.
- Video Training Library; Southern Environmental Enforcement Network (SEEN) – This video series is used extensively by environmental enforcement personnel. SEEN is a consortium of governmental agencies from 11 southern states. They have a newsletter, and many video resources. Contact: (205) 242-7369.
 - *Environmental Crimes Awareness for Law Enforcement* - This video is an introduction to environmental crimes and features several scenarios to illustrate the role of local law enforcement officers in the detection of environmental crimes.
 - *Awareness Level Training for Law Enforcement Officers* – This 20-minute video presents environmental crime awareness training to patrol officers.
- *Criminal Environmental Law Enforcement Training Conference, For Texas Peace Officers* – This is a comprehensive workshop that provides an introduction to environmental crime enforcement and the principles of environmental regulation and enforcement. The workshop reviews the differences between filing civil/administrative vs. criminal cases. The workshop also reviews how to investigate a crime scene, etc. This three-day workshop is conducted semi-annually, and sponsored by the TNRCC, SEEN, and the U.S. EPA. Contact: Barbara Foreman, TNRCC, (512) 239-3416.
- *Environmental Law Enforcement Training Conference* – This workshop was sponsored by the H-GAC, University of Houston, Harris County Precinct 3, the City of Houston, and the

⁷¹ This video is currently being updated and should be completed in the next two to three months.

TNRCC. It was developed to educate enforcement officers, prosecutors and judges about the criminal and civil enforcement of environmental laws, as well as the nature of environmental crimes. Contact: Cheryl Mergo, H-GAC, (713) 993-4520.

- *Texas Criminal Environmental Law Enforcement – A Basic Course for Peace Officers* - This workshop was designed to educate peace officers about environmental law and how to investigate environmental crimes. Contact: John Ockels, Texoma Council of Governments, (903) 893-2161.
- *Environmental Training Manual* – This manual assists in educating individuals in the Capital Area Planning Council of Governments’ (CAPCO) planning region on how to address environmental crimes in their community. Contact: Sarretta McCaslin, CAPCO, (512) 916-6185.
- *Applying Texas Criminal Environmental Laws – A Basic Course for Peace Officers* (and)
- *An Introduction to Texas Criminal Environmental Law* - These workshops were designed to educate peace officers about environmental law and how to investigate environmental crimes. Contact: Deep East Texas Council of Governments, (409) 384-5704.
- *Poster – Illegal Dumping in Texas* – CAPCO has developed a poster that can be placed in schools, as well as other public buildings, describing the health and safety hazards associated with illegal dumping, the penalties for illegal dumping, and other useful information concerning illegal dumping. Contact: Sarretta McCaslin, CAPCO, (512) 916-6185.
- *Brochure – Illegal Dumping in Texas* – CAPCO has developed a brochure that can be used to educate the general public concerning illegal dumping, and can be used in conjunction with the poster described above. Contact: Sarretta McCaslin, CAPCO, (512) 916-6185.

Training workshops like those listed above are scheduled periodically during the year. Readers are invited to contact their local COG or the TNRCC for upcoming workshops.

The above listing should not be considered to be a comprehensive listing of potential resources. In addition to the above references, the readers are referred to Appendix F for additional resources. Finally, the reader should consider contacting some of the programs interviewed by the authors as described in Appendix C.

E. Networking

It is important that all individuals involved with the enforcement and prosecution of illegal dumpers remain current with regard to the State of Texas’ environmental laws. Local environmental enforcement personnel should also network with other programs in order to learn about new strategies or approaches that have proven effective in battling illegal dumpers. Listed below are several groups with which it would be beneficial to contact.⁷² They are as follows:

1. **Southern Environmental Enforcement Network (SEEN)** - SEEN is a consortium of 11 governmental agencies in the southern states whose primary purpose is to assist local

⁷² For additional information (names, phone numbers, etc.) refer to Appendix F.

governments in the establishment of programs to help in the enforcement of environmental laws.

2. **Texas Environmental Law Enforcement Association (TELEA)** – TELEA is an association for individuals in Texas who are charged with enforcement of the state’s environmental laws (peace officers, code enforcement officers, public prosecutors, etc.).⁷³ Anyone actively involved in environmental enforcement in Texas is encouraged to consider joining this organization. In addition, it is an excellent networking tool. (Check the TELEA website at www.telea.org for membership information.)
3. **Local Councils of Governments** - Environmental enforcement personnel should keep in touch with their COG’s solid waste planner.
4. **Texas Natural Resource Conservation Commission** – Environmental enforcement personnel should also stay in touch with the appropriate TNRCC personnel in order to be kept abreast of any changes in the enforcement of the state’s environmental laws.
5. **Other Environmental Enforcement Programs** – Environmental enforcement personnel (enforcement officers, prosecutors, judges) should keep in touch with their counterparts at other “successful” environmental enforcement programs. This will allow the personnel to benefit from any lessons learned at more experienced programs.

F. Synopsis

- Enforcement and prosecution is an essential component of program success. Unless illegal dumpers face the real threat of being caught and punished, their behavior is unlikely to change.
- Environmental enforcement officers should be trained in environmental laws and have good communications and investigative skills. Full-time licensed peace officers are preferred.
- Lack of effective prosecution is often a consequence of prosecutors being unfamiliar with environmental law. Many resources are available to remedy the situation including sample pleadings, environmental law training sessions, and advice from experienced environmental prosecutors.
- Judges are often unaware of the important role courts play in deterring illegal dumping. Prosecutors who are familiar with environmental law may be useful in educating judges.
- Some communities establish environmental courts or designate certain prosecutors as specialists in environmental law to assist in the effective prosecution of illegal dumpers.
- Environmental cases may be tried in both criminal and civil courts.
- Extensive training materials are available including workshops, videos, and publications.

⁷³ TELEA has an associate membership for those individuals in the private sector that deal with environmental enforcement issues (private companies, consultants, lawyers, etc.).

- Effective programs involve active networking with other programs and pertinent professional organizations.

V. CLEANUP

One of the key steps in maintaining a successful environmental enforcement program is making sure that the local government has an effective policy with regard to the cleanup of illegal dumpsites. It is important that the sites be cleaned up in as timely a manner as possible since trash left onsite attracts additional illegal dumping.⁷⁴ The cost of cleaning up illegal dumpsites can be very expensive. In Dallas, an illegal landfill operation accepted waste from August 1994 to the fall of 1996. The site has now been closed; however, it is projected that it could cost \$20 million to clean up about 2 million tons of waste at the site.⁷⁵ While this may be a rather extreme example, it points out the importance of making sure that illegal dumpsites are not allowed to flourish in a community. A recent study by the TNRCC determined that along the Texas-Mexico border “the cost per ton to merely clean up sites averages approximately twice the amount per ton that it is estimated to provide collection services.”⁷⁶

The purpose of this section is to present environmental enforcement programs with a number of options to consider in establishing their policies with regard to the cleanup of illegal dumpsites. In visiting with environmental enforcement program managers, the authors found a number of different approaches used to handle cleanup. These various options will be discussed below. This section will also address how to keep these sites free of illegally dumped waste. Finally, this section will discuss some of the funding mechanisms available for financing cleanups and will provide some case studies concerning cleanup programs in other parts of the United States.

A. Cleanup Methods

1. Community Cleanups – Volunteers

One option that is often used when there is limited funding available to cleanup illegal dumpsites is the use of volunteers to do the actual cleanup. While this is a less costly method, it also requires a greater degree of preparation on the local government’s part with regard to planning the event (issuance of announcements, coordinating the volunteers, finding corporations to contribute tools and equipment, etc.).⁷⁷ It is important that the volunteers are educated with regard to the proper procedures for collecting solid waste. For instance, it is vital that it be explained to them that if they discover what looks like a potentially hazardous waste material (55 gallon drums, containers filled with liquids, etc.) that they not touch those items, but let a professional handle those materials.

Sources for volunteer labor can often be obtained from youth or civic organizations, as well as environmental groups located within the community. To the extent that senior citizens can be used, they have been found to be a great asset in combating illegal dumping. Equipment (bags,

⁷⁴ In the authors’ interviews with a number of environmental enforcement programs (Appendix C) the authors were informed that the personnel for these programs found that if illegal dumpsites were not cleaned up, they attracted additional illegally dumped materials.

⁷⁵ Waste News, November 3, 1998, Appendix E, Article 5.

⁷⁶ *Illegal Dumping Assessment of Impacts on County Governments in the Texas-Mexico Border Region*, TNRCC (AS-138), July 1997, p.47.

⁷⁷ Either the local government or a local community group/civic organization may coordinate the community cleanups. These types of cleanups have been successfully completed using both types of organizations to coordinate the cleanup.

rakes, gloves, shovels, etc.) can usually be borrowed from the local government or individuals can bring their own tools. Funding for the disposal of the waste materials collected can usually be obtained either from the local government or through corporate donations.⁷⁸ Often the local landfill or transfer station will provide a one-day exemption from tipping fees for all waste brought in during the “cleanup day” by the organization coordinating the cleanup.

The Texas Natural Resource Conservation Commission has developed a planning guide that can be used by communities that are organizing events to help in litter cleanup, pollution prevention and illegal dumpsite cleanups. Any local government or community group considering the cleanup of illegal dumpsites with volunteers should obtain a copy of this guide.⁷⁹

2. Local Government Crews Conduct Cleanups

The most common method of cleaning up illegal dumpsites is the use of a local government’s own personnel and equipment. Most cities and counties that operate environmental enforcement programs typically budget a certain amount of money for disposal costs associated with the cleanup of illegally dumped waste. If the environmental enforcement program is part of a county government, it is usually the county’s road crews that are responsible for cleaning up illegal dumpsites. The disadvantage of this form of cleanup is that it often receives a low priority because the road crew’s primary responsibility is to repair and maintain the county’s roads and bridges. This results in a low emphasis being placed on the cleanup of illegal dumpsites, which in the long-run may cost the county more money since illegal dumpsites that are not cleaned up will attract additional trash. Within city governments the individuals in the public works department or sanitation department are often used to perform the cleanup. In general, while city crews tend to place a greater emphasis on cleaning up illegal dumpsites, the city also runs the risk of having illegal dumpsites not cleaned up if those individuals are too busy with other responsibilities.

If the local government is going to have its own personnel cleaning up illegal dumpsites, it is imperative that the local government either dedicate crews to this sole responsibility, or at least designate individuals who are assigned on a part-time basis to cleaning up the illegal dumpsites. To have a truly successful environmental enforcement program, the local government must make the monetary commitment and assign personnel to the cleanup of illegal dumpsites. The cleanup of these sites needs to be a priority, rather than something to do when the city or county employees have “nothing else to do.”

Finally, it must be made clear from the start of the program that cleanup is not the responsibility of the environmental enforcement officer. In at least one case the authors reviewed, this lack of clarity led to misunderstandings and conflict between the officer and the cleanup crews.

3. Other Cleanup Options

A number of local governments have used other sources of labor to clean up their illegal dumpsites. Some cities and counties have used prison labor from the local city or county jail. These same entities have also used individuals who are required to complete a certain number of community service hours as part of their sentencing for DWI or other crimes. Some local

⁷⁸ The West Palm Beach Solid Waste Authority provides funds for civic organizations to assist in paying the tipping fee at the landfill. See Appendix F, Attachment 1.

⁷⁹ *Texas Environmental Event Planning Guide*, TNRCC (G1-157), September 1998.

governments require that people caught illegally dumping, in addition to paying a fine, must also serve a set number of hours (also called “community service”) cleaning up illegal dumpsites. In the environmental enforcement study completed by the authors for Montgomery and Wharton Counties, it was learned that several precincts in Montgomery County contracted with Tri-County Mental Health Mental Retardation Services (Tri-County MHMR) for litter collection.⁸⁰

B. Keeping Sites Clean

Once the sites are cleaned up it is important that the local government keep these sites free of illegally dumped materials. Obviously, for many of the rural counties it is rather difficult to accomplish this task because of the “limitless” number of places in the rural county where waste can be dumped illegally. However, there are certain actions that even rural counties can take in an effort to reduce the amount of illegal dumping and to keep chronic dumping sites clean. These actions are as follows:

1. **Posting of signs** - Perhaps one of the most cost-effective approaches is to post signs stating that “No Dumping Is Allowed.” The signs should also state the amount of the fine associated with illegal dumping, and if there is room, the sign should state where waste may be taken to be disposed of properly.
2. **Lighting** - For those areas that are chronically subject to late night dumping or “midnight dumping,” providing streetlights in these areas can greatly assist in reducing the amount of dumping. Lighting increases the chances of the illegal dumper being seen and his license plate number being obtained, or vehicle identified.⁸¹ This action to battle illegal dumping is most cost effective for cities versus counties due to the expenses associated with installing streetlights.
3. **Barriers** - Another option is for the local government to install barriers that prevent the illegal dumper from obtaining access to areas that have been convenient dumpsites. Examples of barriers would include highway dividers, fences, and landscaping. One county has even considered fencing off certain rural roads on which no one lives and which are currently only used to illegally dump waste.
4. **Education** - The importance of education in reducing illegal dumping has already been discussed in Section III Education. However, it is important to re-emphasize that by educating the general public as to the importance of reporting any observed illegal dumping activities the citizens can help in keeping chronic dumping sites clean. The use of senior citizens can be especially helpful since they tend to spend more time at or near their homes.
5. **Surveillance Cameras** – Some cities have placed video cameras that respond to motion at sites of chronic illegal dumping.⁸² Cameras must be well hidden and checked regularly. Another concept has been to provide residents with disposable cameras so they can be used to photograph illegal dumpers.

⁸⁰ During the study the authors also learned that Tri-County MHMR was no longer going to make its services available and therefore these county precincts had to find alternative methods to pick-up the litter in their precincts.

⁸¹ *Illegal Dumping Prevention Guidebook*, U.S. EPA Region 5, March 1998, p.17.

⁸² City of Corpus Christi and City of Chicago.

6. **Legal Action Against Property Owners** – Injunctions against property owners should be considered for those sites on private property that are chronic sites of illegal dumping. The financial rewards to a property owner for operating an illegal site may be such that a periodic fine is not enough to keep them from allowing illegal dumping to continue on their property. Therefore, injunctions may be necessary to ensure that not only is a fine imposed, but that the dumping activity is curtailed.
7. **Fine Illegal Dumpers** - One of the best ways to prevent future illegal dumping is to impose significant fines on those individuals caught illegally dumping. It has been confirmed by numerous cities and counties that once an environmental enforcement program gets the reputation for fining illegal dumpers (with significant fines, not \$50 or \$100), and/or confiscating their vehicles, illegal dumping activity will decrease.⁸³

If any waste is illegally dumped near areas where signs have been posted it is important that the waste be picked up as soon as it is identified. If the waste is left, it sends the message that people do not care about their community.⁸⁴

C. Funding Options

One of the biggest challenges to cleaning up illegal dumpsites is obtaining the necessary funds to finance the cleanup (labor, equipment, disposal costs, etc.). Listed below are some options that local governments may wish to consider pursuing. The authors would add that at this time, based on our interviews with environmental enforcement program managers, the primary source of funds for cleaning up illegal dumpsites will continue to be the local government's own financial resources. That means the funding will need to be typically provided either through the city or county's tax assessing powers, or utility fees.

1. **Local Funds** - The primary source of funds for cleaning up illegal dumpsites will continue to be from the local government's own coffers. However, in requesting these funds, the environmental enforcement program's manager should explain to the elected officials the benefits of cleaning up illegal dumpsites (health and safety considerations, reduction in criminal element, cleaner community, future savings by discouraging further dumping – which is expensive to cleanup, etc.).
2. **State Funds** - Some states provide financial assistance for the cleanup of illegal dumpsites. Arkansas and California provide funds to cleanup illegal dumpsites.⁸⁵ However, in Texas there are no funds that are currently available through the TNRCC or any other state agency to fund the cleanup of illegal dumpsites.
3. **Fine Proceeds** - Certain governmental jurisdictions will allow the use of money collected through fines to be used to fund the cleanup of illegal dumpsites. However, prior to assuming these proceeds are available to be used for cleanups, the local government should confirm the use of these proceeds with the local government's legal counsel.

⁸³ Illegal dumping will especially decrease if the first few convictions and fines are well publicized in the local newspaper.

⁸⁴ Austin American Statesman, July 31, 1997, Appendix E, Article 6.

⁸⁵ Limited Survey of State and Federal Environmental Agencies, Appendix D.

4. **Supplemental Environmental Projects (S.E.P.)** – These projects occur when funds are made available through the negotiation of an enforcement settlement between a defendant and the TNRCC. The funds can then be used to finance local environmental enforcement programs. While this program is not widely used by local governments in Texas, it is one that environmental enforcement programs should consider as a potential source of funds.
5. **Other** - Two sources of funds that people are oftentimes not aware of are Keep America Beautiful and private waste companies. Keep America Beautiful receives grant funds from various sources which are distributed to Keep America Beautiful affiliates to assist in funding public education, concerning illegal dumping. Private waste companies, through their landfill divisions, will oftentimes provide funds, typically to be used with regard to public education.

D. Case Studies

Listed below are several case studies of how communities have cleaned-up their illegal dumpsites.

Pennsylvania

Pennsylvania CleanWays is a nonprofit organization that helps communities clean up illegal dumpsites in rural areas. Prior to cleanup and as a condition to providing assistance, Pennsylvania CleanWays works with everyone involved to develop a plan to remove any materials dumped after the cleanup. The “subsequent dump” team is made up of residents, law enforcement officials, businesses, trash haulers, and landfill operators. Residents are taught what evidence to look for, who the responsible enforcement officials are, how to contact them, and how to remove trash if necessary. Residents bag and pile trash to make it easy for those who have agreed to haul it away. To date, the program has cleaned up over 40 rural sites and 500 truckloads of waste. Contact: Sue Wiseman, Pennsylvania CleanWays, (412) 836-4121.⁸⁶

Cook County, Illinois

The Department of Environmental Control, Sheriff’s Department, Highway Department, and Forest Preserve District partner with communities to cleanup and maintain problem dumpsites.⁸⁷ Labor is provided by the Sheriff’s work assistance program, and heavy equipment is provided by the Forest Preserve District. Waste is transported for proper disposal and sites are secured with concrete barriers by the Highway Department. Contact: Charles Lagges, Department of Environmental Control, (708) 865-6165.⁸⁸

Barberton, Ohio

The city health department presented certified cleanup orders to owners of an illegal dumpsite. The vacant 2-acre site, which was located in a heavily wooded area near a residence, contained 15 foot high piles of household waste and scrap tires. Several drums of hazardous waste were discovered during the cleanup. The city forced the owners to hire a contractor to clean up the site and authorized funding to cover about half the cost, in order to accelerate the cleanup. The entire cost of the cleanup, estimated at \$80,000, was recovered from the owners. Contact: Mike Meusel, Health Department, (330) 745-6067.⁸⁹

⁸⁶ *Illegal Dumping Prevention Guidebook*, U.S. EPA Region 5, March 1998, p.17.

⁸⁷ Problem dumpsites are defined as those locations where illegal dumping is a continual problem.

⁸⁸ Ibid.

⁸⁹ Ibid.

Oregon

Oregon's SOLV (Stop Oregon Litter and Vandalism) is a 30-year old non-profit organization that sponsors a statewide cleanup of illegal dumpsites and neighborhoods called SOLV IT. Since 1990, SOLV IT has removed 6.2 million pounds of solid waste, woody debris, and litter from Oregon counties using all volunteer labor. Contact: Jack McGowan, Executive Director, SOLV, 503-844-9571.

E. Synopsis

- Cleanup of existing illegal dumpsites is integral to enforcement programs.
- Options for cleanup include the use of volunteers, city or county crews, prisoner or community service labor and/or the use of S.E.P.s to offset the cost of cleanup crews and materials.
- Methods for keeping sites clean include signs, lighting, barriers, education, and surveillance.
- The primary source of funding for cleanups is local government. Limited funds are available through dumping fines.

VI. PROGRAM ADMINISTRATION

Once the environmental enforcement program is operational, there are four primary areas of responsibility that the manager of the environmental enforcement program (the “manager”) will need to address on an on-going basis, in order to ensure the program remains a continued success. **These four areas of responsibility must be addressed on an on-going basis.** The four primary areas of responsibility are as follows:

- A. Completion of general administrative duties and tasks
- B. Management of financial resources
- C. Monitoring of key operating activities
- D. Review of overall program effectiveness

In reading this section, the reader will notice that each of the areas of responsibility has a number of tasks listed beneath it. Based on the size of the environmental enforcement program, some of these tasks will need to be addressed on either a quarterly, monthly, or weekly basis.⁹⁰ The authors have listed what the authors perceive to be the primary tasks within each of these four areas of responsibility. As individual cities and counties establish their own environmental enforcement programs, they will most likely need to add additional tasks to this list.

A. Completion Of General Administrative Duties And Tasks

This area of responsibility describes the tasks which will need to be accomplished by the manager on an on-going basis to ensure the effectiveness of the environmental enforcement program. Most of these tasks entail making sure that all areas of the program (education, enforcement, prosecution, cleanup, etc.) are functioning smoothly and have not run into any “roadblocks” which would limit their effectiveness in accomplishing their various goals. As mentioned earlier, this is only a listing of the primary tasks, the reader will most likely need to add additional tasks to this list. The tasks are as follows:

- The manager will need to monitor the education program to ensure that all audiences are being educated, on a continual basis, about the adverse impact that illegal dumping has upon their community (health and safety issues, economic impact, crime, etc.). These audiences will include:
 - elected officials
 - law enforcement officers
 - code enforcement and health department personnel
 - prosecutors
 - judges
 - local environmental groups (Keep Texas Beautiful, etc.)
 - general public
 - local media
 - illegal dumpers

⁹⁰ For instance, the City of Houston’s enforcement program may review the number of illegal dumping complaints on a weekly basis, while an enforcement program for a small county in west Texas may only need to review the number of complaints on a monthly basis.

The importance of an effective education program cannot be over-emphasized. As mentioned in, Section III Education, the education program is on-going. An effective enforcement program will educate its citizens throughout the life of the program, not just in the “start-up” years. **An effective education program is one of the most important elements to the operation of a successful environmental enforcement program.**

- The manager must be sure that customer complaints are being received at the proper location within the local government and are then routed in a proper and timely manner to the enforcement officers. The manager must also make sure that environmental enforcement officers respond promptly to citizen complaints.
- The manager must ensure that the environmental enforcement program is coordinated with the city or county’s comprehensive solid waste management plan. **In order to have an effective environmental enforcement program; citizens must know how to properly dispose of their waste. If the general public knows how to properly dispose of their waste, illegal dumping will decrease.**
- The manager must schedule on-going visits (unstructured) as well as meetings (structured) with all individuals involved in the program to make sure that all departments within the city and/or county are working together effectively in the battle against illegal dumpers. For instance, if the environmental enforcement officer’s cases are not being prosecuted by the county attorney, the manager must determine why, and help the two parties arrive at a solution. Any “friction” between the various departments within the city and/or county governments can result in the enforcement program’s effectiveness being hampered.
- On an on-going basis, the manager should review the existing operational procedures of the program to see if the program’s procedures need to be modified, or “tweaked” in order to maintain the program’s effectiveness.
- One of the manager’s key responsibilities will be to act as a liaison between the various departments within the various city and/or county governments to make sure that the environmental enforcement program continues to be an effective tool in combating illegal dumping.
- The manager must remain current with regard to any changes, or proposed changes, in the local or state regulations which could affect the local government’s environmental enforcement program.

B. Management Of Financial Resources

- The manager will be responsible for creating an annual budget for the environmental enforcement program. This should include all budgeted costs associated with operating the program, both direct and indirect costs. This budget should include all of the costs to be incurred by the local government in operating the program (education, enforcement, prosecution, cleanup, etc.).

- At least once a year, the manager must determine the actual costs incurred with regard to the environmental enforcement program and compare the actual costs incurred with the budgeted costs that were projected at the beginning of the fiscal year. Depending on the size of the program, the authors would propose that the actual financials be updated quarterly, and possibly monthly. The more frequently the costs are updated, the sooner the manager will be able to identify any potential aberration in the costs of the program, and avoid any cost overruns, which could jeopardize the financial integrity of the program.

The authors would strongly encourage any local government that is considering establishing, or has already established an environmental enforcement program to use “full cost accounting” to determine the costs of operating the program. Appendix B provides an in-depth description of the full cost accounting methodology, showing how a local government may use the methodology to determine the annual costs of operating an environmental enforcement program.⁹¹ The appendix also provides a set of detailed forms that can be used to determine the actual cost of the local government’s environmental enforcement program, using the full cost accounting methodology. During our survey of environmental enforcement programs (Appendix C), the authors found that the vast majority of the program managers did not have a clear idea as to what their program cost was in total.⁹²

- Using the budgeted versus actual costs for the program (as calculated using full cost accounting – described in the previous two tasks), the manager should track the costs for each of the various “program categories” within the environmental enforcement program. A “program category” is defined as the following:
 - Education
 - Enforcement Officers
 - Prosecution/Courts
 - Cleanup
 - Administration
 - Other

Using these program categories, the manager can then determine whether there are any significant aberrations between what is budgeted for a particular program category versus the actual costs incurred. For instance, if the environmental enforcement officer’s “actual costs” versus “budgeted costs” are significantly higher during the first quarter of the fiscal year the manager can visit with the officers to find out why these costs have increased. It may be that the local government is seeing an increase in the number of illegal dumping complaints received, resulting in more illegal dumpsites to be investigated by the officers, which is resulting in overtime. By using full cost

⁹¹ The full cost accounting methodology described in Appendix B for determining the cost of operating an environmental enforcement program is consistent with the methodology developed by Reed-Stowe & Co. for the TNRCC in the *Municipal Solid Waste Services Full Cost Accounting Workbook*, TNRCC, (RG-127), April 1995. A copy of this workbook (or any other TNRCC documents mentioned in this manual) can be obtained by calling the TNRCC at (512) 239-0028.

⁹² The primary reason for not knowing the total program’s costs is that the programs typically use personnel and equipment from various departments within the city or county government and therefore the costs for these resources are “buried” within the budget for each department. Full cost accounting is a methodology to “unbury” those costs and determine the true cost of the environmental enforcement program.

accounting, these deviations in costs can be identified early on and addressed, thus avoiding a potentially significant budget shortfall.

- The manager should actively pursue any grant funds that may be available from the U.S. EPA, the TNRCC, the local COG, or any other governmental agency. These funds can be used to help in financing the environmental enforcement program. The local government may also partner with non-profit organizations to receive grant funds from private and foundation sources, especially for education programs. However, the manager, as well as the elected officials of the local government must realize that government and non-government grant funds are typically provided to help “start-up” an environmental enforcement program, or expand the services offered by the program, but should not be considered a financial tool that can be used to finance the program over the long-term.
- As mentioned in the previous task, grant funding can be a valuable tool when starting-up an environmental enforcement program. **However, grants are not to be used to finance these programs indefinitely. Eventually, the local government must make the financial commitment to finance the program because it believes the benefits of the program far out-weigh the costs of the program.** Options that the manager may wish to consider using in financing the environmental enforcement program are the following:
 - Ad valorem taxes
 - Solid waste user fees
 - Tipping fees
 - Grants (short-term only)
 - Fines⁹³
 - Supplemental Environmental Projects (S.E.P.)

C. Monitoring of Key Operating Activities

In order to ensure that the city’s program is effective, it is essential that the city track the necessary key operating data so the success of the program can be measured. Data should also be used in educational efforts as appropriate and to help target messages. Listed below are the tasks that need to be completed in order to monitor the operational performance of the program.⁹⁴

- The manager needs to begin developing a database of “key activities” which will allow him/her to measure the performance of the program. Data which should be tracked in this database includes, but is not limited to the following:
 - number of complaints received regarding illegal dumping

⁹³ Fines collected from illegal dumpers can be used to fund a portion of the program; however, these proceeds are typically insufficient to finance 100% of an effective environmental enforcement program. The authors would propose that the program be financed using some other tool, and any fines collected be used to upgrade capital equipment needs (trucks, cars, computers, cameras, etc.).

⁹⁴ In compiling this data the city should, at a minimum, collect as much data as is currently compiled using the TNRCC’s standardized forms.

- number of complaints received regarding littering⁹⁵
 - number of sites found by surveillance
 - number of warnings issued
 - number of citations issued
 - number of court cases tried and concluded
 - number of convictions
 - dollar amount of fines
 - number of dumpsites cleaned up through actions
 - cubic yards (or tons) removed through cleanup enforcement
 - number of training activities attended and conducted
 - number of community education activities attended and conducted
- The manager should construct a mapping system that will allow the local government to track the physical location of illegal dumpsites. Using a grid, the city or county could be divided into numbered sections. This method, used by Harris County Precinct Three, helps identify problem areas, and the section numbers can be included as part of the illegal dumping case number by the enforcement officers. Harris County case numbers include the precinct number, section number, and a “C” or “P” to designate whether the dumping is on county or private property. In addition, these dumpsites could be cataloged by type (e.g. residential, commercial, brush trimmings/yard waste, C&D, hazardous, etc.). To the extent repeat complaints arise about additional waste being dumped at a site already catalogued, this information should be noted. This will help identify the “chronic” dumpsites. Surveillance can be increased in the “chronic” areas, thus increasing the city or county’s chances of catching the illegal dumpers in the act.
 - If the local government has access to a GIS system, this system should be used to overlay the dumpsites identified on the mapping system (described in the previous task), where they can then show the proximity to water sources (lakes, streams, creeks, wells, etc.), schools (increased chance of injury to children playing in the area), etc.

The data captured in the local government’s database, and mapping system should be updated on either a weekly or monthly basis. This data should then be tabulated in a report that will allow the manager to track the key activities associated with the program.

Listed below are the summaries of two examples that show the importance of monitoring key activities, and how that data can then be used to capture illegal dumpers.⁹⁶

Detroit, Michigan

Illegal dumping data from police files and court records was evaluated. Arrest records revealed that 72% of the dumping arrests occurred between 5:00pm and midnight, 57% of the dumping arrests took place on Tuesdays and Wednesdays, 66% of the vehicles used were pickup trucks, and 90% of the offenders resided within the city. The data was used to make adjustments in surveillance schedules and tactics. Court records revealed that 62% of the offenders did not pay

⁹⁵ For purposes of this manual, litter is considered to be those small items (e.g. drink and food containers) which are frequently tossed from a vehicle and found along roadsides. Illegal dumping is defined as the disposal of larger items where oftentimes an individual stops his vehicle in a remote area to unload garbage bags, old furniture, appliances, construction debris, etc.

⁹⁶ *Illegal Dumping Prevention Guidebook*, U.S. EPA Region 5, (EPA905-B-97-001), March 1998, p.30.

finances imposed and were issued lien warrants. Contact: Gregory Moore, Environmental Affairs Department 313-237-3095.

East St. Louis, Illinois

New Spirit, a community organization, uses hand-drawn maps of individual neighborhoods to compile information on scrap tire piles, abandoned housing or vehicles, and buildings requiring demolition. Such areas tend to attract illegal dumping. Community members use the maps to obtain funding for demolition, coordinate cleanup and prevention efforts, and raise awareness among resident and government officials. Contact: New Spirit, (618) 874-0312.

D. Review Of Overall Program Effectiveness

On either a semi-annual or annual basis the manager should review the environmental enforcement program to determine whether the program is meeting its stated objective: the reduction of illegal dumping within the community. To assist in this review, the manager should review the tasks within each of the three primary areas of responsibility:

- A. completion of general administrative duties and tasks
- B. management of financial resources
- C. monitoring of key operating activities

The previous pages of this section have provided a detailed description of the key tasks within each of these primary areas of responsibility. By reviewing these tasks, the manager can begin to evaluate the performance of the program. In particular, Responsibility C: Monitoring of Key Operating Activities, will provide a wealth of data to help the manager in evaluating the performance of the program.⁹⁷

In addition, the TNRCC has identified what it considers to be seven (7) key components to a successful environmental enforcement program. They are as follows:

- 1. Active local government support
- 2. Resident participation
- 3. Waste collection, recycling, and disposal alternatives
- 4. Public education and community awareness
- 5. Enforcement and prosecution
- 6. Cleanup of existing dumpsites
- 7. Program planning and management

The authors agree with the TNRCC that these seven components are important and that effective environmental enforcement programs must adequately address all seven issues. The authors would further propose to the managers of all programs, that when they are reviewing their overall program's effectiveness that they review these seven components individually to ascertain how well it is being addressed.

⁹⁷ Therefore, it is critical that the manager take the time at the beginning of the program to put in place the necessary tools (computers, etc.) that will allow him/her to create the databases that will allow him/her to track the financial performance, as well as operational performance of the environmental enforcement program.

E. Synopsis

- Program administration must be addressed on an on-going basis. The four areas of major responsibility for managers are: administrative, financial, data monitoring, and evaluation.
- Administrative duties include oversight of the education program, the citizen complaint system, integration with other solid waste management programs, and general operational procedures. The administrator is also the liaison between the department and other agencies.
- Financial duties include preparation of the annual budget, tracking of actual versus budgeted expenses, and identifying available funding sources.
- Managers should develop and maintain a database of “key activities” which can be used to measure the effectiveness of the program. Such data should include the number of complaints received and cases prosecuted. Dump sites should also be mapped.
- Data should be used to help evaluate the overall program effectiveness.

APPENDIX A

Contents

Educational items herein include samples of:

1. Budgets
2. Brochures
3. Press Releases
4. Background Information for Press Packets
5. Fliers
6. Ads
7. References

SAMPLE BUDGET

The following budget was designed for a start-up education program for a rural county with a limited budget. It may be considered a minimal education budget.

ANNUAL EDUCATIONAL PROGRAM		
Brochure¹	Estimate includes writing, design, and printing of brochure. Quantity 10,000 in 2 colors on recycled paper. Design costs may be contained by using desktop publishing software.	\$1,500-\$2,000
Press Releases	Estimate based on 5 hours per press release at \$15/hour of direct salary and benefits charged to program, or for contracted services. Based on 12 press releases/year.	\$1,000
Fliers	Estimate is for copying costs of producing fliers for community events and general distribution to specialized audiences. Based on 2,000 copies.	\$100-\$150
Display	Estimate based on light-weight, velcro-type, three-panel tabletop display. (\$200) and photos or artwork for display (\$200).	\$400
Slide show	Estimate based on taking and developing slides, and writing of slide script for public presentations. Based on 30 hours at \$15/hour for public information personnel or contracted services.	\$450
TOTAL	All items above.	\$3,450 - \$4,000

¹ Brochure costs may be reduced significantly by using the illegal dumping brochure developed by TNRCC which can be imprinted on the back panel with local government information. See insert in this appendix.

SAMPLE NEWS RELEASE²

FROM: (Contact person and telephone number)

DATE: (Date sent out)

TAKING OUT THE TRASH? MAKE IT LEGAL

Tossing trash along a riverbank or in the woods is illegal for good reason, says (name of county/city official or environmental enforcement officer). It's also illegal to let refuse blow from the back of pickups and trucks. That's because trash that ends up along roads and waterways can cause extreme damage to the environment, animals, and humans. Trash spoils the natural beauty that characterizes (your county/city). And people who litter will choose to throw their garbage into areas where trash has already accumulated.

“In the long run, illegal dumping costs a lot more than it costs to collect and dispose of these items legally,” (name of local official or environmental enforcement officer) says.

The first thing to do is to cut down the amount of your garbage which needs to be disposed of by separating out the materials that can be recycled locally. In (name of city/county), (list what can be recycled) are recyclable. (Explain how and where people can recycle locally, including hours of operation).

“If items like broken furniture, surplus building materials, or large, old appliances, are too worn to be given to someone else who can reuse or repair them, they should be disposed of legally,” (name of local official or environmental enforcement officer) says. To find out how to correctly throw away these items in (your county/city), call (county/city) Solid Waste Department (telephone number).

###

² *Combating Illegal Dumping*, Oregon Department of Environmental Quality, Solid Waste Programs, July 1996, p.9.

PUBLIC EDUCATION REFERENCES

City of Chicago
Department of Environment
30 N. LaSalle Street, Ste. 2500
Chicago, IL 60602-2575
(312)744-8096
www.ci.chi.il.us/WorksMart/Environment³
Contact: Carmen Driver

City of Houston
Neighborhood Protection Program/ Rat on a Rat
2931 W. 12th St.
Houston, TX 77008
(713)654-6102
Contact: Tom Collins

Franklin County District Board of Health
410 High Street
Columbus, OH 43215-4562
(614)462-3160
Contact: Mitzi Kline

Harris County Precinct Three
Environmental Enforcement Division
166355 Clay Road
Houston, TX 77084
(281)371-0566 or 0565
Contact: Captain Ted Heap

Keep America Beautiful
www.kab.org

Keep Texas Beautiful
1-800-CLEANTX
www.ktb.org

North Central Texas COG
616 Six Flags Drive, Ste. 200
Centerpoint Two
P.O. Box 5888
Arlington, TX 76005-5888
(817)695-9229

www.nctcog.dst.tx.us
Contact: Charlotte Ross

PhilaPride
1818 Market Street, Ste. 3510
Philadelphia, PA 19103-3681
(215)575-2210
Contact: Mark Vigiano, Executive Director

Solid Waste Authority
Palm Beach County
7501 N. Jog Road
West Palm Beach, FL 33412
(561)697-2700, Ext. 4701
Contact: Joanna Aiken, Community Service Coordinator

Stop Oregon Litter and Vandalism (SOLV)
P.O. Box 1235
Hillsboro, OR 97123
(503)844-9571
info@solv.org
Contact: Jack McGowan, Executive Director

Texas Natural Resource Conservation Comm.
P.O. Box 13087
Austin, TX 78711-3087
(512)239-0683
www.tnrcc.state.tx.us
Contact: Scott Pasternak

³ The City of Chicago maintains an award-winning website. The Department of Environment offers the opportunity to file a complaint about illegal dumping online with an electronic complaint form which can be accessed at this site.

SAMPLE BROCHURES

A sampling of educational brochures from Texas and other states have been included in this manual, for your information. They may be used to help write or design a brochure tailored to local environmental enforcement programs. In addition, the TNRCC provides ready-made brochures at a nominal cost which can be imprinted with local information. Both English and Spanish versions are available. See order form in this manual.

A listing of the enclosed brochures and key contact names follow.

1. Cameron County, TX
Solid Waste Enforcement
Leslie de Los Santos
(956)399-3679

2. City of Chicago
Stop Illegal Dumping
Carmen Driver
(312)744-8096

3. City of Houston
Rat on a Rat
Sylvia Brumelow
(713)654-6102

4. Harris County Precinct Three
Stop Trashing Our Precinct
Captain Ted Heap
(281)371-0566

4. North Central Texas COG
Stop Illegal Dumping in Its Tracks
Charlotte Ross
(817)695-9229

5. PhilaPride
The Untrashables (comic book)
Mark Vigiano
(215)575-2210

6. TNRCC
Let's Work Together to Stop Illegal Dumping
Scott Pasternak
(512)239-0683

Environmental Enforcement Full Cost Accounting Workbook

March 1999

**Prepared for:
Houston-Galveston Area Council
Community and Environmental Planning Department
P.O. Box 22777
Houston, Texas 77227-2777
(713) 627-3200**

**Prepared by:
Reed-Stowe & Co., Inc.
5806 Mesa Drive, Suite 310
Austin, Texas 78731
(512) 450-0991
and
West Environmental Consulting
11 Shallow Pond Place
The Woodlands, Texas 77381
(281) 292-5876**

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Environmental Enforcement Full Cost Accounting Workbook

I. INTRODUCTION

A. Background

Reed-Stowe & Co., Inc. was retained by the Texas Natural Resource Conservation Commission (TNRCC) in 1994 to develop a Municipal Solid Waste Services Full Cost Accounting Workbook (Workbook). The purpose for the Workbook was to develop a tool that local governments could use to determine their full cost of providing municipal solid waste services, and then establish user fees accordingly. This is an abridged form of the original workbook modified for use in determining costs of environmental enforcement programs.

For those communities that operate environmental enforcement programs it is essential that they know how much it costs to operate their enforcement program so that sufficient funding is made available to ensure the financial integrity of the program. This workbook will assist local governments in determining the full cost of operating their environmental enforcement programs.¹

The methodology used in this workbook follows the same methodology developed by Reed-Stowe & Co. in drafting the *Municipal Solid Waste Services Full Cost Accounting Workbook*.² The primary differences between this workbook and the one developed for the TNRCC in 1994 is that this workbook is a “simplified” version of the *Municipal Solid Waste Services Full Cost Accounting Workbook*. The Workbook developed in 1994 was more detailed since it indicated how to determine the annual revenue requirement (budget) for multiple solid waste programs (solid waste collection, disposal, recycling, yard waste, etc.), as well as for multiple customer classes (residential, commercial, etc.). This workbook on the other hand, requires the calculation of a revenue requirement for only one program (the environmental enforcement program). In addition, this program does not require the allocation of costs by type of customer since there are no customers. Instead, the program’s funding is typically generated through either ad valorem taxes or a portion of the solid waste user fees.

B. Benefits of Using the Workbook

As mentioned in the previous section, the primary purpose for this workbook is to provide a document that local governments can use to determine the “true cost” of operating the city or county’s environmental enforcement program. By knowing the program’s “true cost” the local

¹ For purposes of this workbook, “local governments” is defined as cities, counties, water districts, solid waste districts, etc. that have some type of structured program in place to combat illegal dumping. The authors have found that city and county governments are overwhelmingly the “local” governmental bodies responsible for dealing with illegal dumping. Therefore, the term “city,” “county,” or “local government” will be used interchangeably throughout the text of this manual. However, the authors would emphasize that this workbook will prove beneficial to all governmental agencies and non-profit organizations (Keep America Beautiful, etc.) that desire to establish an environmental enforcement program.

² A copy of the *Municipal Solid Waste Services Full Cost Accounting Workbook* may be obtained from the TNRCC by calling the Publications Department at (512) 239-0028 and requesting document RG-127.

government will be better able to budget for the program and make sure sufficient funding is available to finance the program on an on-going basis. In addition, if the local government decides to expand the services offered by the program it will have a better idea as to what the additional services will cost based on the program's historical costs.

An additional benefit of using full cost accounting to track the cost of the environmental enforcement program is that it will allow the manager of the program to measure the cost effectiveness of the program. For instance, this information will allow the county to quantify the amount of money spent on the following environmental enforcement issues:

- Education of the general public
- Cleanup of illegal dumpsites
- Enforcing the state and local government's illegal dumping laws
- Prosecuting environmental crimes
- Management and administration of the program

This information can then be used to determine whether the money is being spent wisely and effectively. For instance, the county might determine a correlation between an increase in educational expenditures has resulted in a decrease in illegal dumping. This analysis might warrant consideration on the part of the county to fund additional money for education concerning illegal dumping.

By knowing the full costs associated with the local government's environmental enforcement program the manager can also begin to analyze the "cost-benefit" of providing solid waste collection services and/or recycling services, versus the potential decrease in illegal dumping and the associated decrease in illegal dumpsite cleanup costs.

Knowing the full cost of funding an environmental enforcement program will allow a community to make better decisions with regard to how to best use the local government's limited resources.

C. Comments Concerning the Workbook

The authors of this workbook appreciate the time and effort expended by the cities and counties that provided information with regard to how they budget for purposes of their environmental enforcement program. The authors believe that the enclosed workbook will assist program managers throughout the H-GAC region, as well as Texas, in better administering their programs. The authors welcome and encourage any comments or suggestions with regard to the workbook and the full cost accounting methodology described herein. If you have any questions or comments please contact:

Mr. Dave Yanke
Assistant Vice President
Reed-Stowe & Co., Inc.
5806 Mesa Drive, Suite 310
Austin, Texas 78731

(512) 450-0991 (phone)
(512) 450-0515 (fax)

dyanke@rcgroup.com (e-mail)

II. THE FULL COST ACCOUNTING METHODOLOGY

A. Full Cost Accounting Defined

Full cost accounting is defined as the identification and inclusion of all direct and indirect costs associated with the providing of a particular service or program. For purposes of this workbook, full cost accounting will be discussed from a local government's budgeting perspective, which emphasizes a modified cash basis.³

If a city establishes its environmental enforcement program's budget utilizing an accrual basis it runs the risk of incurring a cash shortfall. If a municipality wants to ensure the full recovery of all cash costs associated with operating an environmental enforcement program, full cost accounting should be based on what is called a "**modified cash basis.**" The difference between the modified cash basis and accrual basis is that principal payments and cash capital outlays are used instead of depreciation expense to recover capital costs. A comparison of the two methods is detailed below:

Modified Cash Basis:

Salaries, Wages & Benefits
General O&M Costs
Vehicle Expense
Capital Costs
- **Principal Payments**
- Interest Expense
- **Cash Capital Outlays**

Accrual Basis:

Salaries, Wages & Benefits
General O&M Costs
Vehicle Expense
Capital Costs
- **Depreciation Expense**
- Interest Expense

Because most cities budget and operate on a cash basis, it is important that the budgets be established on a cash basis to ensure the recovery of the cash costs associated with these services. Use of the accrual basis could result in a potential "under-budgeting" for the environmental enforcement program. For instance, if a city has purchased a vehicle for the enforcement officer that is being depreciated over ten (10) years but is financed with a five (5) year note, the note's annual principal payments will be greater than the annual depreciation expense. This will result in a cash shortfall for the city in the early years and a surplus in the later years.

The use of the accrual basis to set budgets also creates a level of uncertainty for the investment community which is familiar with the establishment of municipal budgets on a cash basis. This uncertainty could adversely impact the city's debt ratings. The modified cash basis should aid the city in avoiding any potential cash shortfalls while maintaining the financial integrity of the city's environmental enforcement program.⁴

³ A number of articles and presentations on full cost accounting have focused on the topic from a financial reporting and enterprise fund accounting perspective, which utilizes an accrual basis.

⁴ The author would note that any difference to the city's budget from using a modified cash basis versus the accrual basis would be relatively insignificant for a city's environmental enforcement program. However, this methodology becomes more significant when it is used to establish user fees for a solid waste utility, which is more likely to incur debt and have significant cash capital outlays. It is an even larger issue for those cities that have to deal with landfill costs (predevelopment costs, closure and post-closure care costs). Therefore, to be consistent with the modified cash basis which was used in the development of the *Municipal Solid Waste Services Full Cost Accounting Workbook*, the authors would propose that the same methodology be used for determining the "true cost" of operating a city's environmental enforcement

B. Cost Components

Full cost accounting is defined as the "identification and inclusion of all direct and indirect costs associated with providing a particular service." The first step in developing a cost of service based budget for the local government's environmental enforcement program is to determine what costs are to be included.

Direct Costs

Direct Costs are those expenditures which are specifically budgeted for the environmental enforcement program. They are also directly and clearly attributable to the specific service performed. The workbook will provide the means to calculate the direct costs associated with the city's environmental enforcement program. The workbook separates direct costs into the following seven types:

Salaries, Wages & Benefits
Vehicle Expense
Capital Costs
Disposal Costs

Educational Materials Cost
General O&M Costs
Other Costs

Indirect Costs

The full cost for an environmental enforcement program cannot be calculated without taking into account the indirect costs associated with the program. Indirect costs represent services which are provided to the city's environmental enforcement program by other departments within the city. Indirect costs are those that relate to administrative or general services that are shared by many departments within a municipality or county. Indirect costs include such services as:

Administration/City Manager
Central Purchasing
Finance Department
Accounting/Billing
City Council

Legal Department
Personnel Administration
County Engineer
Management Information Systems
General Insurance

There are several accepted and commonly used methods for allocating indirect costs to a local government's environmental enforcement program. Provided in the workbook is a description of two allocation methodologies. The city or county may use either of these methodologies to allocate indirect costs to its environmental enforcement program (Indirect Costs - Forms 10 and 11).

A municipality is not required to use one of the indirect cost allocation methodologies presented in this workbook. However, the municipality should develop an allocation methodology that accurately captures the indirect costs associated with the city's environmental enforcement program. If a city presently has an allocation methodology in place, they need only to verify that it is a fair and equitable methodology.

program. Finally, while the difference between the modified cash basis and accrual basis will be relatively minor, with regard to the environmental enforcement program's budget, it is important to note that the modified cash basis is the most accurate methodology in determining the program's actual annual costs.

C. Other Revenue

Once the city has identified its direct and indirect costs, the city must account for any special revenues generated by the city's environmental enforcement program. These special revenues may include revenues from penalties and fines collected from illegal dumpers, sale of recyclables, interest income and miscellaneous income. These revenues are then subtracted from the direct and indirect costs to determine the net cost or budget for the environmental enforcement program. Grant funds should not be included as a revenue offset since they are not typically considered a reliable source of revenue that a local government will have access to every year. As a result, if grant funds are included they will cause the program's "true cost" to be understated.

D. Examples of Full Cost Accounting

Reed-Stowe & Co., Inc. in conjunction with West Environmental Consulting completed a study for H-GAC in December 1997 that determined the full cost of operating environmental enforcement programs for Montgomery and Wharton Counties. This study showed that Montgomery County spent \$492,401 per year dealing with illegal dumping.⁵ Wharton County was estimated to have spent \$152,276 per year dealing with illegal dumping.⁶

⁵ Montgomery County spent \$390,775, while the City of Oak Ridge North and Montgomery County Drainage District #6 spent an additional \$101,626 per year.

⁶ *A Review of Illegal Dumping in Montgomery and Wharton Counties*, H-GAC, December 1997.

III. HOW TO USE THE WORKBOOK

A. Forms Provided in the Workbook

The workbook includes one summary form and eleven data collection forms that may be used by the local government to record its detailed cost and volumetric data. Form A and Forms 1-11 may be used to determine the cost for the local government's environmental enforcement program. The forms are:

Summary Form

Form A Program Cost Summary

Detailed Cost Information Forms

Form 1 Salaries, Wages & Benefits

Form 2 Monthly Vehicle Expense Report

Form 3 Annual Vehicle Expense Report

Form 4 Capital Costs

Form 5 Disposal Costs - Monthly

Form 6 Annual Disposal Costs

Form 7 Educational Materials Cost

Form 8 General Operations & Maintenance Costs

Form 9 Other Costs

Form 10 Indirect Costs - Method I: Internal Assessment Allocation

Form 11 Indirect Costs - Method II: Employee Based Allocation

B. How to Use the Forms

After environmental enforcement personnel and the city have reviewed the workbook, they should be able to determine which forms need to be used to calculate the annual cost of the city's environmental enforcement program. Form A, Program Cost Summary, will provide a breakdown of the city's total costs for the program.

Forms 1 through 11 can be used to calculate the cost of each "program category" as listed on Form A. For purposes of this workbook a "program category" is defined as the major elements which comprise an environmental enforcement program (education, enforcement,

prosecution/courts, cleanup, administration, and other). The “other” category should be used to track any additional service cost within the environmental enforcement program.

The forms in this workbook are designed to provide a generic process which can be used by a wide variety of local governments in the H-GAC region, as well as in Texas, all of which have different accounting and financial reporting requirements. Based on a local government's specific needs, it may decide to create its own supplemental forms.

IV. SUMMARY FORM

This section of the workbook provides a brief description of the summary form and how the local government can use this form to identify the cost of each “program category.”⁷

Program Cost Summary

The Program Cost Summary Form will allow the local government to determine the costs associated with each program cost category. The specific costs for each program category can be determined either from the local government’s existing records (if these cost categories are already identified), or by using Forms 1 through 11.

Columns B through G will be used to determine the cost associated with each of the local government’s program categories. Upon completing columns B through G, those columns will provide the total dollar amount expended on each type of program category service, such as environmental education, enforcement, prosecution/courts, etc. These columns are then summed in Column A to arrive at the total costs associated with operating the local government’s environmental enforcement program.

⁷ Education, Enforcement, Prosecution/Courts, Cleanup, Administration, Other.

V. DETAILED COST INFORMATION FORMS

A. Salaries, Wages & Benefits (Form 1)

This form is designed to summarize a county or city's detailed direct labor and employee benefit costs in an annual format which may then be assigned to the county or city's different program categories (education, enforcement, etc.). The purpose of this form is to capture the salaries, wages and benefits of only those employees who work for the county or city's environmental enforcement program.⁸ The form will include the costs associated with both full-time and part time employees.

The county or city will need to complete one Salaries, Wages & Benefits Form for each of the environmental enforcement program's "program categories." This will allow the local government to clearly identify the salaries, wages and benefits associated with each program category. **If the local government's annual budget, or historical costs, already provides salaries, wages and benefits by program category, the city does not need to use Form 1. Instead, the city or county may simply enter the salaries, wages and benefits by program category, directly from the local government's budget on to the Program Cost Summary Form (Form A, line 1).**⁹

Employees who perform duties for more than one program category should designate such information when filling out their detailed timesheets. For example, a full-time enforcement officer may spend 25% of his/her time in education and 75% in enforcement.

Data to be entered into Form 1 is as follows:

- Service Provider: Name of city, county, or governmental agency completing the workbook.
- Date Prepared: Date the form is completed.
- Fiscal Year: Record the fiscal year which applies.
- Program Category: Record the name of the program category. The city should fill out one Salaries, Wages & Benefit Form for each of the city's program categories.
- Employee: Enter the name or other identification of each employee who works in this program category.
- Total Wages: Record each employee's annual wages including overtime, bonuses and other monetary compensation. (Some of these items may need to be estimated.)

⁸ The authors realize that an employee may spend only 50% of his time on the environmental enforcement program and his remaining time on other non-environmental enforcement related programs (e.g. road repairs). In this case only 50% of his time should be allocated to the environmental enforcement program.

⁹ The city or county may use either historical or budgeted costs to determine the environmental enforcement program's total cost. However, the local government should be consistent in which costs are used in completing this workbook.

- **Benefits:** Include FICA, vacation/sick leave, worker's compensation, unemployment insurance, retirement contribution and other pertinent benefits. These costs can be developed on an individual employee basis or using a composite factor depending on the type of records kept by the local government.
- **Total Wages & Benefits:** Combined Total Wages and Benefits for each employee.
- **Proportion of Time in this Program Category:** Record percentage of time that employee spends working in this program category. After completing the Salaries, Wages & Benefit Forms for each program category, make sure for any individuals whose time was allocated between different program categories that the percentages total to 100%.¹⁰
- **Wages and Benefits this Program Category:** This entry is calculated by multiplying the "Total Wages and Benefits" column by the "Proportion of Time on this Program Category."

The salaries, wages and benefits for each program category are then totaled at the bottom of Form 1 and entered on the Salaries, Wages & Benefits line of the Program Cost Summary Form for each respective program category (Form A, line 1).

¹⁰ Only individuals that work 100% of the time on the environmental enforcement program should have their time add up to 100%. If an individual only spends 40% of his/her time working on the environmental enforcement program, then only 40% of his time should be recorded on Form 1.

B. Vehicle Expense (Forms 2 and 3)

The purpose of the vehicle expense forms is to assist the local government in budgeting its annual costs associated with operating and maintaining equipment for each of the county's program categories. These costs include parts, supplies, fuel, and all labor involved in the maintenance and repair of the environmental enforcement program's vehicles. There are a number of methods which the county may use to track and record these costs: 1) the use of an internal services fund; 2) the use of some other financial reporting system within the local government; or 3) the use of Forms 2 and 3.

The workbook will provide a brief overview of the first two accounting methods and a more detailed description of Forms 2 and 3. **If the city has a current vehicle cost reporting system that allows them to budget vehicle expenses, and identify which program category(ies) uses the vehicle, the city will not need to use Forms 2 and 3. For those cities that do not have a system in place to track and record vehicle costs by program category, Forms 2 and 3 will help cities to identify these costs.**

1) Internal Services Funds

Prior to determining the city's vehicle costs for each program category, the city should first review the process it is currently using to record vehicle costs. Many cities use an internal services fund to track and record the costs associated with purchasing and maintaining its fleet of city vehicles. This equipment is then "leased" to the individual departments within the city. If the city tracks and records all vehicle costs (purchases, repairs, fuel, etc.) through the use of an internal services fund, the city will probably not have to use Forms 2 and 3 to determine vehicle costs. Once the internal services fund has determined the annual costs associated with each of the environmental enforcement program's vehicles, the only remaining step is to identify which vehicles, or portions of vehicles are associated with each specific program category. The city can then determine the vehicle costs associated with each program category.

2) Other Financial Reporting Systems

While a city may not have an internal services fund, it may still utilize a financial reporting system that allows the city to track costs associated with each vehicle. As long as the system is capable of recording the costs associated with each vehicle and the city can determine which program categories used the vehicle, the city will not have to use Forms 2 and 3.

3) Forms 2 and 3

For a city that has not historically tracked vehicle expenses, by vehicle, Forms 2 and 3 may be used to determine these costs. Form 2 will need to be filled out monthly for each program category. For instance, using Form 2 the environmental enforcement program's cleanup program category will list each piece of equipment that is used in cleaning up illegal dumpsites, including equipment that is partially used (example: 50% cleanup, 50% road repair). After completing a Form 2 for each of the program categories, the city will have the total monthly fuel, repair labor, parts and supplies, outside costs, and lease costs associated with each vehicle in a program category. The annual vehicle cost for each program category is calculated by completing Form 2 on a monthly basis for each program category and then recording the monthly costs on Form 3. This will provide the city with what it costs on an annual basis to own and operate its fleet of environmental enforcement program vehicles, by program category. This figure may then be used as a basis to determine the amount of vehicle expenses which will be budgeted for each program category. The budgeted amount may then be entered on Form A, line 2.

If the cost associated with the purchase of vehicles is included in the internal services fund or on Forms 2 and 3, make sure these same costs are not included on the Capital Costs Form (Form 4) to avoid "double-counting" the purchase costs of any vehicles.

Forms 2 and 3 have the following entries:

- Service Provider: Name of city, county, or governmental agency completing the workbook.
- Date Prepared: Date the form is completed.
- Month: The month for which this report applies.
- Program Category: The program category for which the form is being completed.
- Vehicle ID: Number or other identification for the specific vehicle.
- Fuel: Total fuel costs.
- Repair Labor: Costs of all labor charges for repair.
- Parts/Supplies: Cost of all parts and fluids used for repair and maintenance.
- Outside Costs: Any external repair services required.
- Lease Cost: If the city purchases its vehicles through an internal services fund and the financing costs are not recorded on the Capital Costs Form (Form 4), the city should record the monthly "lease cost" in this column.
- Total Monthly Costs of Vehicle: This column provides a total of the monthly costs incurred for each vehicle.
- Percent of Use in Program Category: The proportion of time that the vehicle is used by each of the environmental enforcement program's "program categories."
- Total Monthly Program Category Costs of Vehicle: The result of multiplying "Total Monthly Costs of Vehicle" by the "Percent of Use in Program Category." This dollar amount represents the proportion of the vehicle costs which are associated with this particular program category.
- Total Monthly Vehicle Expense by Program Category: The total monthly vehicle expense by program category is totaled at the bottom of Form 2. The monthly totals are then entered on Form 3 to arrive at the annual vehicle costs of each program category.

C. Capital Costs (Form 4)

Operating an environmental enforcement program requires that equipment be purchased and used. Some of the "smaller" asset purchases are often financed with "cash capital outlays." In these instances, the assets are paid for with cash, rather than through the issuance of debt. Larger capital purchases, such as the construction of facilities and the purchase of some types of equipment, are usually funded with debt.

Cash capital outlays are used as a "financing vehicle" by most local governments and are often relatively constant from one year to the next. As such, the historical cash capital outlays of an environmental enforcement program can often be used to predict future cash capital outlays. Financing larger expenditures with debt allows the ratable collection of funds over the life of the asset.

Since most municipalities operate on a cash basis, this workbook uses what is called a "modified cash basis." Using annual principal and cash capital outlays in lieu of depreciation expense is an important difference between the modified cash basis and the accrual basis. The modified cash basis is used in determining the true cost of operating an environmental enforcement program on an annual basis. As mentioned earlier in the workbook, there are situations where the use of depreciation expense would understate the cash revenues on an annual basis required to repay the debt service associated with an asset (such as a new truck).

As mentioned in the Vehicle Expense Section (Forms 2 and 3), many municipalities use an internal services fund to purchase and maintain equipment. These funds purchase the required equipment and then "lease" it to the other city departments using a depreciation factor. This is an acceptable methodology, with the lease payment used in lieu of debt service, especially since these assets are often purchased with cash instead of debt. For purposes of this workbook, the internal services fund "lease cost" appears on the workbook's Vehicle Expense Form (Form 2), in anticipation of the same internal services fund also providing maintenance and repair activities as well.

If an environmental enforcement program plans to purchase a major piece of equipment without using debt, or an internal services fund, its impact on "cash capital outlays" will be significant at the time of purchase and cause a "spike" in terms of showing what the true annual cost of operating the environmental enforcement program is. In this special case an amortization factor should be used in order to recoup the cash outlay ratably over the life of the asset. This situation is referred to as an "extraordinary cash outlay" on Form 4. In this case, the annual cost of the asset is determined by dividing the purchase price by the forecasted service life. For example, the cost of a vehicle purchased for use by an environmental enforcement officer would be divided by the number of years the vehicle is to be in service, perhaps 7 to 10 years. Salvage values, when realized, will be recorded in the "Other Revenue" section of Form A, Program Cost Summary.

Form 4, Capital Costs, is a form that can help a city determine the annual capital costs needed for each program category by considering the annual cash outlays and debt service per category. The city will need to complete a Capital Costs Form for each of the city's program categories. This will allow the city to clearly identify the capital costs by category.

Form 4 has the following entries:

- Service Provider: Name of city, county or governmental agency completing the workbook.
- Date Prepared: Date the form is completed.
- Fiscal Year: Record the fiscal year that applies.
- Program Category: The program category that the debt service and cash outlays support.
- Debt Service:
 - ? Debt Issue - The date and size of the bond issue.
 - ? Total Principal and Interest (P&I) Annual Amount - The total annual payment (principal and interest) for the specified bond. Depending on the payback schedule this number can change from year to year or remain constant. In addition, applicable coverage and revenue requirements should be included for revenue bonds.
 - ? Percentage to Program Category - The proportion of assets related to this program category as a percentage of the entire debt issue. A description of the funded assets should be specified in the bond issue. If the level of detail is insufficient to develop a percentage, estimates should be made with original purchase prices.
 - ? Program Category P&I Annual Amount - Calculated by multiplying the "Total P&I Annual Amount" by the "Percentage to Program Category."
 - ? Year Debt Expires - This is the final year of debt service associated with the bond issue. This column is not used in the capital cost analysis but is identified to facilitate subsequent reporting. Early debt payoffs and/or refinancings will need to be considered in future report development.
- Cash Capital Outlays:
 - ? Description - Cash Capital Outlays are generally described in the city's budget. If insufficient detail is available at the budget level, estimates must be made and/or supporting analysis used.
 - ? Purchase Amount - Dollars identified for each group of capital expenditures.

- ? Percentage to Program Category - Percentage of each capital expenditure which is to be used by this program category. Again, detail must be located or estimated to develop this percentage.
- ? Program Category Annual Amount - Calculated by multiplying "Purchase Amount" by the "Percentage To Program Category."

If a large group of program category assets is budgeted to be purchased from cash capital outlays, which is considered outside the course of normal operations, an amortization of this expenditure may be used to avoid a "spike" in determining the environmental enforcement program's total cost. The following entries are used in this situation:

- Extraordinary Cash Outlays

- ? Description - Large capital assets budgeted to be purchased with cash.
- ? Purchase Amount - Estimated or actual purchase price.
- ? Expected Life - Number of years the equipment is projected to remain in service.
- ? Amortized Annual Amount - Purchase price divided by expected life. Any salvage value realized at the end of the asset's life will be included in Other Revenues (Form A, Program Cost Summary).
- ? Percentage to Program Category - Percentage of each capital expenditure which is to be used by this program category.
- ? Program Category Annual Amount – Calculated by multiplying "Amortized Annual Amount" by the "Percentage to Program Category."

D. Disposal Costs (Forms 5 and 6)

The environmental enforcement program must keep track of the tipping fees incurred on a monthly, as well as annual basis, with regard to the cleanup program. Forms 5 and 6 can help the local government in tracking these items.

Data to be entered into Forms 5 and 6 are as follows:

- **Service Provider:** Name of city, county or governmental agency completing the workbook.
- **Date Prepared:** Date the form is completed.
- **Month/Year:** The month for which the disposal fees are being recorded.
- **Tonnage/Cubic Yards:** The local government will enter the estimated cubic yards or actual pounds/tonnage of materials cleaned up from illegal dumpsites, on a daily basis.
- **Disposal Cost:** The local government will enter the daily tipping fees paid for the disposal of materials at the local/regional landfill, transfer station, etc. which have been cleaned up from illegal dumpsites.
- **Total:** At the end of each month the “tonnage/cubic yards” and “disposal costs” are totaled and entered for the appropriate month on Form 6. The amounts entered on Form 6 are then summed to determine the total annual tipping fees incurred for the cleanup of illegal dumpsites. The amount of material collected from illegal dumpsites is then totaled as well, and can be tracked by month, and compared on a year by year basis.

The annual tipping fees incurred in cleaning up illegal dumpsites is recorded on the Program Cost Summary (Form A) line 7, column E. The rest of the “program category” boxes are shaded (blocked) since tipping fees are only associated with cleanup costs and therefore should be recorded only in the cleanup category.

E. Educational Materials (Form 7)

Since the educational component of an environmental enforcement program is one of the key components to a successful program, these costs should be tracked separately. Form 7 was designed to help local governments identify the costs associated with the different educational materials used by the local government to educate the various targeted audiences (general public, prosecutors, local officials, etc.).

Data to be entered on Form 7 is as follows:

- **Service Provider:** Name of city, county or governmental agency completing the workbook.
- **Date Prepared:** Date the form is completed.
- **Fiscal Year:** The month for which the educational costs are being recorded.
- **Source:** Because it may be a little more difficult to identify these costs, as opposed to the costs identified using the other ten (10) forms, the local government may need to make some estimates or approximations with regard to these costs. A listing of the source documents (receipts, purchase orders, etc.) as well as assumptions should be documented, and then noted in this blank as to where these assumptions and documents are located. This will allow the local government to review these assumptions in future years for accuracy and to determine whether a better method can be developed for projecting these costs.
- **Educational Materials Cost:** Listed below this “heading” are a sample listing of some of the educational materials which the local government may have purchased to help in educating its citizens, elected officials, etc. This list is not to be considered a comprehensive listing. It is assumed that most local governments will add additional categories to this form to summarize all of its various educational materials.
- **Total Cost:** The total cost for educational materials is recorded on the Program Cost Summary (Form A) line 8, column B. The rest of the “program category” boxes are shaded (blocked) since the educational materials expenditures are associated exclusively with the local government’s educational program for environmental enforcement.

F. General Operations & Maintenance – Annual (Form 8)

This form is used to compile the General Operations & Maintenance Costs (General O&M) which are specifically budgeted for the local government's environmental enforcement program. Examples of General O&M include office supplies, utilities, small equipment purchases, lease payments (other than those included in the Vehicle Expense Form), insurance (other than that which is included in the Salaries, Wages & Benefits Form), travel and training, and outside payments for services.

The first step in assigning General O&M costs to the environmental enforcement program's different program categories (education, enforcement, prosecution/courts, etc.) is to group the costs in two categories, "**Directly Assignable Costs**" and "**Allocated Costs**." "Directly Assignable Costs" are those costs which can be directly associated with a particular program category, or which are allocated based on a professional standard or educated estimate. For example, the environmental enforcement program may track its postage costs directly related to the mailing of brochures, flyers, etc. These costs would then be entered in the top half of Form 8 with the postage costs entered in the education category.

However, there are some costs that will be unclear as to how they should be allocated among the different program categories. In this case, the local government needs to estimate the amount of General O&M costs that are directly related to supporting the environmental enforcement program. In order to determine this dollar amount, the local government must first calculate the total amount of General O&M in the departments which provide direct support to environmental enforcement protection. For a city, those departments may include the police department, sanitation department, and the courts. If 10% of the direct costs (salaries, vehicle expense, capital outlays, etc.) within the police department are associated with providing environmental enforcement, then 10% of the General O&M within the police department should be allocated to the environmental enforcement program. This calculation should be made for each department within the city that provides direct support to the environmental enforcement program.¹¹ Once the total amount of General O&M associated with the environmental enforcement program is identified, it then needs to be allocated between the different program categories. The General O&M costs will be allocated between the program categories based on a composite of the direct costs as summarized on Form A, line 9. For instance, if 20% of the direct costs on Form A, line 9 are related to the city's education program category, and the city has \$20,000 in General O&M costs that cannot be directly assigned, then 20%, or \$4,000, of these costs should be allocated to the education program category.

Form 8 is used to determine the amount of General O&M Costs associated with each of the city's program categories. This is accomplished in a two-step process: first, by identifying all of the directly assignable costs and assigning them to the appropriate program categories; and second, by taking the remaining General O&M costs that are not directly assignable and allocating them to the program categories based on a composite of the environmental enforcement program's direct costs (Form A, line 9).

¹¹ Only the departments which provide direct support to the environmental enforcement program should be included on this form (police department, sanitation department, etc.). For those departments that provide indirect support services (purchasing department, finance department, etc.), those indirect costs will be calculated using either Form 10 or 11.

Data to be entered on the worksheet are:

- Service Provider: Name of city, county or governmental agency completing the workbook.
- Date Prepared: Date the form is completed.
- Fiscal Year: Record the fiscal year which applies.
- Directly Assignable Costs: Those costs which can be directly assigned to a program category or which can be allocated based on professional standards or educated estimates.
 - ? Account Number - Entered, if applicable.
 - ? Description - Description of the cost (postage, etc.).
 - ? Total Cost - Annual cost for the particular General O&M cost.
 - ? Program Category - Enter amount of General O&M costs directly assignable to program categories (e.g., education, enforcement, prosecution/courts, etc.).
 - ? Total Dollar Amount - Summation of directly assignable General O&M costs, by program category.
- Allocated Costs: Those General O&M costs which cannot be directly assigned and must instead be allocated based on percentages developed from the direct costs which are summarized on Form A, line 9.
 - ? Allocation Percentage - Calculated by summing the data on Form A, lines 1 through 8 and entering it on Form A, line 9. Using the data on line 9, calculate the percentage of direct costs associated with each program category as a percentage of the total direct costs. This percentage is then entered on Form 8, line 11.
 - ? Account Number - Entered, if applicable.
 - ? Description - Description of the cost (e.g., copier service, etc.).
 - ? Total Cost - Annual cost for the particular General O&M cost.
 - ? Program Category - Assigned by multiplying the "Allocation Percentage" (Form 8, line 11) by the "Total Cost" column for each separate cost item.
 - ? Total Dollar Amount - Summation of allocated costs, by program category and in total.

- Total General O&M Costs Per Program Category: Sum of totals in "Directly Assignable Costs" and "Allocated Costs" groups (lines 10 and 18). This amount is then entered on Form A, line 10.

G. Other Costs (Form 9)

This form is used to compile any additional costs associated with the local government's environmental enforcement program that do not readily fall into one of the prior cost categories. It may be of use if a unique category of costs is incurred. The directions for Form 9 are identical to the directions for General Operation & Maintenance Costs (Form 8). Please refer to the General Operation & Maintenance Costs section for specific directions.

Once the Other Costs are calculated on Form 9, they are entered on Form A, line 11.

H. Indirect Costs (Forms 10 and 11)

Indirect costs represent services that are provided to the local government's environmental enforcement program by other departments within the local government. In order to determine the "true cost" of operating an environmental enforcement program, an accurate allocation methodology must be developed in order to assign a portion of these indirect costs to the local government's environmental enforcement program.

There are several accepted and commonly used methods for allocating indirect costs. For the purposes of this workbook, two methodologies are explained in detail. However, local governments may use other methods to allocate indirect costs as long as they reflect the cost incurred to provide the service(s) to the environmental enforcement program.

Method I: Internal Assessment Allocation (Form 10)

This methodology requires that each department providing indirect support services to the environmental enforcement program determine the percentage of their total costs associated with providing service to environmental enforcement. For instance, the purchasing department might determine its level of support service provided to the environmental enforcement program based on the percentage of purchase orders processed for environmental enforcement activities as a percentage of total purchase orders processed. In the finance department, costs could be allocated on a proportion of financial transactions. The engineering department could allocate costs based on the total number of hours spent on environmental enforcement activities as a percentage of total hours in the department.

This methodology will also allow the allocation of department costs based on interviews with individuals in the department who may be able to better determine what percentage of their time is spent on environmental enforcement activities. Form 10 provides a framework to support the internal assessment methodology.

- Service Provider: Name of city, county, or governmental agency completing the workbook.
- Date Prepared: Date the form is completed.
- Fiscal Year: Record the fiscal year that applies.

Part 1 - Indirect Costs Allocated to the Environmental Enforcement Program

- Department: List the departments that provide indirect support services to the environmental enforcement program (e.g., Purchasing Department, Finance Department, etc.)¹²
- Departmental Budget: Enter the annual budget for each department.

¹² If a city or county department has incurred costs associated with supporting an environmental enforcement program (police department, sanitation department, etc.) those are **direct** costs, which are directly involved in the provision of the service, versus the purchasing department or finance department which provides support services, and therefore are **indirect** costs. Only indirect costs are to be recorded using either Form 10 or 11.

- Percentage Attributable to Environmental Enforcement: Based on the local government's own internal assessment, determine the percentage of the budget which would be attributable to the environmental enforcement program.
- Dollar Amount Attributable to Environmental Enforcement: Column 2 multiplied by Column 3.

Part 2 - Allocation of Indirect Costs to each Environmental Enforcement Program Category

- Direct Costs: Enter the total direct costs for each program in column A (Enter directly from Form A, line 12).
- Percentage of Total Environmental Enforcement Direct Costs: Divide the Direct Costs for each program (Column A) by the "Total Direct Costs" at the bottom of Column A, line 20.
- Total From Part 1 (\$ Amount): Enter the total "Dollar Amount Attributable to Environmental Enforcement" (Column 4, line 13) **on each line** in Column C.
- Indirect Cost to Program Category: Multiply Column B by Column C to determine the indirect cost associated with each of the program categories. This amount is then entered on Form A, line 13, for each program category.

Method II. Employee Based Allocation (Form 11)

This allocation is based on a ratio of environmental enforcement employees to total local governmental employees. The subsequent allocation to individual program categories is accomplished by identifying the number of environmental enforcement employees associated with each environmental enforcement program category.

- Service Provider: Name of city, county, or government agency completing the workbook.
- Date Prepared: Date the form is completed.
- Fiscal Year: Record the fiscal year which applies.

Part 1 - Budgets for Departments Providing Indirect Service to Environmental Enforcement Program

- Department: List the departments which provide indirect support services to the local government's environmental enforcement program. (e.g., Purchasing Department, Finance Department, etc.)

- Department Budget: Enter the annual budget for each department.

Part 2 - Indirect Costs Allocated to the Environmental Enforcement Program

- Environmental Enforcement Employees: Enter the total number of environmental enforcement employees on line 14. Part-time employees should be added as a fraction (e.g., 1/2, 1/4, etc.).
- Total Local Government Employees: Enter the total number of local government employees on line 15. This number should include all local government employees, both full-time and part-time employees.
- Ratio of Environmental Enforcement Employees to Total: Divide line 14 by line 15.
- Amount Allocated to Environmental Enforcement: Total from Part 1, line 13 multiplied by the percentage in Part 2, line 16.

Part 3 - Allocation of Indirect Costs to Each Environmental Enforcement Program Category

- Environmental Enforcement Employees by Program: Enter the total number of environmental enforcement employees associated with each specific program category. Part-time employees should be added as a fraction (e.g., 1/2, 1/4, etc.).
- Percentage of Total Environmental Enforcement Employees: Divide the number of employees for each program (Column A) by the "Total Environmental Enforcement Employees" at the bottom of Column A, line 24. (Note: "Total Environmental Enforcement Employees" should equal the number of environmental enforcement employees from Part 2, line 14.)
- \$ Amount from Part 2, Line 17: Enter the total dollar amount from Part 2, Line 17 **on each line** in Column C.
- Indirect Cost to Program Category: Multiply Column B by Column C to determine the indirect costs associated with each of the local government's environmental enforcement program's categories. This amount is then entered on Form A, Line 13, for each environmental enforcement program category

I. Other Revenue

Sources of other revenue for the local government's environmental enforcement program are listed on Form A, Lines 14 through 19. These revenues include penalties and fines collected, interest income, revenues generated from the sale of recyclables, miscellaneous revenue and the salvage value of any equipment sold by the local government's environmental enforcement program. These revenues should be recorded as a revenue offset in the determination of the local government's cost of operating the environmental enforcement program. Grant funds should not be included as a revenue offset since they are not typically considered a reliable source of revenue that a local government will have access to every year. As a result, if grant funds are included they will cause the program's "true cost" to be understated.

Where revenues can be directly assigned to a program category they should be recorded as a revenue offset to only that program category. For instance, the sale of any recyclables should be recorded as a revenue offset to the cleanup program (Form A, Line 16, Column E).¹³ For those revenues which cannot be clearly identified with a specific program category, they should be allocated among the program categories based on a composite of the program categories' direct costs (Form A, Line 12).

¹³ These revenues should be recorded as revenue offset to the cleanup program category since these recyclables are gathered during the cleanup of illegal dumpsites.

**Houston - Galveston Area Council
Full Cost Accounting for Environmental Enforcement
General Operations & Maintenance - Annual**

Service Provider:
Fiscal Year:

Date Prepared:

DIRECTLY ASSIGNABLE COSTS

Account Number	Description	Total Cost	Program Category					
			Education	Enforcement	Prosecution/Courts	Cleanup	Administration	Other
1								
2								
3								
4								
5								
6								
7								
8								
9								
10	Total Dollar Amount							

ALLOCATED COSTS

Account Number	Description	Total Cost	Program Category					
			Education	Enforcement	Prosecution/Courts	Cleanup	Administration	Other
11	Allocation Percentage							
12								
13								
14								
15								
16								
17								
18	Total Dollar Amount							

19	Total Other Costs Per Program Category (1) (To Form A, Line 10)							
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(1) Sum of lines 10 and 18

**Houston - Galveston Area Council
Full Cost Accounting for Environmental Enforcement**

Other Costs - Annual

Service Provider:
Fiscal Year:

Date Prepared:

DIRECTLY ASSIGNABLE COSTS

	Account Number	Description	Total Cost	Program Category					
				Education	Enforcement	Prosecution/Courts	Cleanup	Administration	Other
1									
2									
3									
4									
5									
6									
7									
8									
9									
10		Total Dollar Amount							

ALLOCATED COSTS

	Account Number	Description	Total Cost	Program Category					
				Education	Enforcement	Prosecution/Courts	Cleanup	Administration	Other
11		Allocation Percentage							
12									
13									
14									
15									
16									
17									
18		Total Dollar Amount							
19		Total Other Costs Per Program Category (1) (To Form A, Line 11)							

(1) Sum of lines 10 and 18

**Houston - Galveston Area Council
Full Cost Accounting for Environmental Enforcement
Indirect Cost Method I: Internal Assessment Allocation**

Service Provider:
Date Prepared:
Fiscal Year:

Part 1

	Department	Departmental Budget	% Attributable to Environmental Enforcement	\$ Attributable to Environmental Enforcement
	(1)	(2)	(3)	(4)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13	TOTAL			<input type="text"/>

(To Part 2, Column C)

Part 2

	A	B	C	D
Program Category	Direct Costs (From Form A, Line 12)	% of Total Environmental Enforcement Direct Costs	Total from Part 1 (\$ Amount)	Indirect Cost to Program Category (BxC)
14	Education			
15	Enforcement			
16	Prosecution/Courts			
17	Cleanup			
18	Administration			
19	Other			
20	Total Direct Costs	100%		(To Form A, Line 13)

**Houston - Galveston Area Council
Full Cost Accounting for Environmental Enforcement
Indirect Cost Method II: Employee Based Allocation**

Service Provider:
Date Prepared:
Fiscal Year:

Part 1

	Department	Departmental Budget
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13	TOTAL	

Part 2

14 Environmental Enforcement Employees	
15 Total Local Government Employees	
16 Ratio of Environmental Enforcement Employees to Total	
17 Amount Allocated to Environmental Enforcement	

(Line 14 divided by Line 15)

(Total from Part 1 multiplied by Line 16)

Part 3

	A	B	C	D
Program Category	Environmental Enforcement Employees by Program	% of Total Environmental Enforcement Employees	\$ Amount From Part 2, Line 17	Indirect Cost to Program Category(BxC)
18 Education				
19 Enforcement				
20 Prosecution/Courts				
21 Cleanup				
22 Administration				
23 Other				
24 Total Environmental Enforcement Employees		100%		(To Form A, Line 13)

LIMITED SURVEY OF ENVIRONMENTAL ENFORCEMENT PROGRAMS THROUGHOUT THE UNITED STATES

The project team conducted a limited survey¹ of cities and counties throughout the United States that have environmental enforcement programs. While this survey is not meant to provide a comprehensive review of how local governments in the United States deal with illegal dumping, the survey is helpful in affirming some of the recommendations proposed by the project team. A detailed description of some of the entities interviewed is provided below. The surveys are separated into two categories: "Texas Programs" and "National Programs."

Commercial construction and demolition (C&D) debris remains a major illegal dumping focus of many cities and counties experiencing a significant growth in population. Most of these local governments have realized the correlation and have implemented more progressive and proactive programs to combat illegal dumping.

TEXAS PROGRAMS

City of San Antonio, Texas

- The City of San Antonio's program started in 1988 and originally focused on noise pollution. In 1991 illegal dumping was included as an enforcement responsibility. The program is housed within the Code Compliance Department of the city. There are 38 civilian employees to deal with substandard housing, abandoned automobiles, etc. The seven police officers within Code Compliance deal solely with illegal dumping.
- The police officers that are in the field are each assigned a district within the city. Each officer has office space at the police precinct station within his district.
- In the northern part of the city, C&D debris is a problem. Overall, the primary debris dumped illegally is residential trash, sofas, beds, etc. The Senior Abatement Officer did note, however, that the dumping of tires is on the rise, since the State of Texas abolished the state's tire recycling program.
- Educational programs concerning illegal dumping focus primarily on the elementary and middle schools. In the past two years, the city has also begun to conduct more presentations for homeowner's associations.
- The city has a 24 hour complaint line (which is shared with the Code Compliance Department for all code issues). The illegal dumping complaints are then sent via computer

¹ Schedule C-1 and C-2.

to the Senior Abatement Officer, who then assigns the case to the appropriate field officer in one of the City's four districts.

Johnson, Hood, Erath and Somervall Counties, Texas

- An illegal dumping task force was recently created to begin combating illegal dumping in a four-county area (Johnson, Hood, Erath and Somervall counties). Johnson and Hood counties are experiencing rapid growth, and as a result are seeing a corresponding increase in illegal dumping.
- The start-up of the program is being funded by a grant from the North Central Texas Council of Governments and the Texas Natural Resource Conservation Commission.
- Of the four counties, some were initially more committed to the program than others. To get the buy-in of all four counties, county commissioners and judges from the more proactive counties helped sell the program to the other counties.
- Each county is responsible for "policing" its own territory. However, monthly meetings of the illegal dumping task force allows all counties to keep informed as to the status of illegal dumping in the other areas, share ideas, etc.
- At this point, with the program one year old, the biggest challenge is getting the prosecutors and judges involved and educated with regard to environmental law.

Capital Area Planning Council (CAPCO), Texas

- CAPCO's solid waste program has recently taken on the role of administering and coordinating the Capital Region Solid Waste Enforcement Task Force. The purpose of this task force is to improve the enforcement of solid waste laws in Central Texas. The task force was created in 1996 through an interlocal agreement with the counties of Bastrop, Blanco, Burnet, Caldwell, Fayette, Hays, Llano, Lee, Travis and Williamson; the City of Austin; and the Lower Colorado River Authority.
- Within Travis County there is an environmental county attorney who specializes exclusively in environmental crimes.
- Of the ten counties that comprise CAPCO's region, five have environmental enforcement officers. It should be noted that not all of these officers spend 100% of their time combating illegal dumping. Other responsibilities for these officers includes code enforcement, health and safety, etc.
- CAPCO staff and county officials agree that a coordinated effort and continual emphasis on combating illegal dumping is essential for the success of the program at a county and regional level.

City of Houston, Texas

- The City of Houston established its program to combat illegal dumping in 1992. The program was initially funded with a grant from the Texas Natural Resource Conservation Commission. The program is now funded by the city's General Fund, however, the city does attempt to obtain grant funds whenever possible.
- The city established the "Rat-on-a-Rat" program to encourage citizens to call in on the city's 24 hour hotline when they see someone illegally dumping.² Citizens can receive up to \$200 in cash rewards for the successful conviction of an illegal dumper.
- The program is currently staffed with 17 individuals (1 chief inspector, 6 inspectors, 1 supervisor for inspectors, 2 sergeants, 4 police officers, 1 community liaison, and 2 administrative assistants). Everyone concentrates on the illegal dumping of solid waste with the exception of 2 police officers who focus on hazardous waste. Currently, two police officers are fully qualified to handle hazardous materials, but all remaining police are in the process of qualifying and are involved in hazardous cases. It is not the intent of the program to dedicate particular officers to hazardous waste exclusively. All will be fully trained to respond as needed.
- The unit spends 70% of its time on solid waste illegal dumping, which is its primary focus. The remaining 30% of the time is spent on hazardous illegal dumping and water pollution.
- The city also conducts education programs in the community as part of its Neighborhood Environmental Education Training (NEET) project. NEET conducts seminars and activities aimed at discouraging litter and illegal dumping of hazardous materials. Education programs also encourage recycling, pollution prevention, and safe waste handling methods. Low income and minority neighborhoods are targeted.

Harris County, Texas

- Harris County's Environmental Enforcement Division (EED) was created in May 1993 to respond countywide to the problem of illegal dumping of solid waste in the unincorporated areas of Harris County. It is currently staffed with five (5) certified peace officers commissioned through a centrally-located constable's office.
- The duty of these officers is:
 - To actively work to prevent the illegal dumping of solid and special wastes
 - To bring violators into compliance or justice
 - To educate the public about the hazards of illegal dumping, how to properly dispose of solid waste and household hazardous wastes, and how to report illegal dumping
 - To enforce the State of Texas's laws pertaining to the illegal disposing of solid waste

² The City of Houston spends \$5 million per year cleaning up illegal dumpsites and hauls away approximately 160,000 cubic yards per year of trash from illegal dumpsites.

- The Division is focused on traditional enforcement. Enforcement is targeted at identifying, categorizing, and properly responding to dumpsites, abandoned barrels, and related environmental concerns. Two officers are HAZWOPER (Hazardous Waste Operations and Emergency Response) certified and the others will also be trained. The officers are on call 24 hours a day and the EED maintains a 24-hour emergency response line for citizens to report violations. Investigators are immediately notified by the computerized system. Officers have the authority to issue citations to a violator or to arrest those participating in the act of illegal dumping. Cases are also referred to the EED by regular patrol deputies in the Harris County Sheriff's Department and the various Constables' Precincts.
- The EED's proactive education program includes adult and children's versions of STOP (Stop Trashing Our Precinct) brochures developed in cooperation with a local elementary school, which won first place at the State's Community Problem Solving Competition in 1993. A grant-supported, professionally produced videotape on the dangers and consequences of illegal dumping was also produced.
- The estimated annual cost of the program is \$275,000+. This includes salaries, benefits, vehicles, film/processing, uniforms, equipment and printing.

NATIONAL PROGRAMS

Lee County, Florida

- Lee County collects a \$.60 per ton surcharge for all solid waste. These funds are earmarked to finance an environmental enforcement program that currently costs \$150,000 per year. The program funds four deputies and their transportation costs in order to cover the 575 square mile county. Each of the deputies works in a decentralized manner patrolling the existing illegal dumpsites within his/her own quadrant.
- Each deputy also specializes in a specific waste material³ and maintains current knowledge on safety, recycling and disposal of those waste materials. Strong lines of communication throughout the county allow the deputies to share knowledge of specific waste materials, and apply the proper safety and enforcement procedures.
- The Lee County deputy who specializes in the disposal of tires designed an aggressive program that has successfully removed thousands of illegally dumped tires⁴. The county found a vendor who recycled tires into useful products such as sports turf, mulch and weed mats around road signs. The county had one of their parks resurfaced with the spongy, shock absorbing matting, which is safer for children to play on than conventional surfaces.

³ i.e., hazardous waste, tires, construction and demolition and household solid waste.

⁴ 1,801 in 1993 alone.

Jackson, Gallia, Meigs, and Vinton Counties, Ohio – Solid Waste Management District

- The four rural counties surveyed in Ohio formed a joint Solid Waste Management District to combat illegal dumpers in the southeast region of the state. Each county has a sheriff's deputy who spends 20 hours per week on illegal dumping issues. A surcharge on tipping fees funds the equivalent of half a sheriff's deputy per county to enforce illegal dumping.
- The Solid Waste Management District (District) has significant problems with construction and demolition debris from the county's own residents. Typically, high growth counties have problems with C&D, but the rural southeast region of Ohio has recently endured severe flooding; therefore, homeowners have been gutting and repairing their homes and illegally disposing of the materials.
- Tires have been the other concern of these counties. The District has become a target for illegal commercial tire dumping. Companies load tires in unmarked covered trailers in Columbus, Ohio and dump the tires in the rural counties within the District. These acts have been nearly impossible for the part-time enforcement officers to proactively combat or "catch" in the act.
- Even when an illegal dumper is apprehended, many of the cases are seen as "low priority" by the courts; thus, they are dismissed by judges.
- Counties in Ohio, much like Texas, do not have the ability to draft ordinances and must therefore rely on the State of Ohio to enact legislation with regard to the prosecution of illegal dumpers.

Gwinnet County, Georgia

- Gwinnet County has recently consolidated what was previously a disorganized and ineffective environmental enforcement program. Currently the program has two environmental enforcement officers covering a 422 square mile area.
- The rapid growth and expansion in Atlanta has resulted in severe construction and demolition dumping on the county's public property and right-of-ways. The problem has been magnified since the county does not have a C&D disposal facility.
- All solid waste services within the county are privatized. The private operators pay a regulatory fee to the county to fund the enforcement budget. The fees fund a \$400,000 annual illegal dumping enforcement budget.
- Although C&D illegal dumps have been a problem, the county does not plan on constructing a C&D landfill. Currently private operators drive to one of the five type IV sites in the Atlanta metro area, outside the county. Lack of accessibility to a C&D landfill may continue to yield illegal dumpsites within the county.

Maricopa County, Arizona

- Maricopa County's environmental enforcement program is split between the County Board of Health and the Arizona Department of Environmental Quality (ADEQ).
- A limited budget of \$60,000 has been established to fund the nation's fastest growing county⁵ with one enforcement officer and one vehicle.
- Maricopa has over 9,000 square miles of land to patrol.
- Aggressive pursuance of illegal dumpers "caught in the act" has been an impossibility with one officer to cover the entire county; therefore, the enforcement officer is limited to reactive measures. He investigates complaints received by phone. Complaints and numbers of illegal dumpsites have grown and are projected to continue under the current program.

City of Chicago, Illinois

- The City of Chicago uses an administrative hearings process in place of courts to prosecute violators of illegal dumping statutes. The administrative hearings process has greatly reduced the case loads for municipal judges, and resulted in the illegal dumping cases being presented in an administrative hearings process, where the cases receive the appropriate attention. Administrative hearings are funded by the city, but operate with complete autonomy in order to remove any biases.
- An enforcement unit was created within the Department of Environment (DOE) in 1996. The unit is devoted full-time to enforcing against illegal dumping. Investigators respond to citizen complaints, conduct surveillance at high incident sites, and coordinate with the Chicago Police Department in making arrests.
- The city has co-authored a Construction and Demolition Debris handbook with the Environmental Protection Agency. The City of Chicago has historically experienced a large amount of illegal dumping of C&D debris.
- City has established tire bounty days when tires can be disposed of in a legal manner.
- Increasing the cost to dumpers was an important step in improving the city's enforcement program. Fines were increased to between \$1,000 and \$2,000 for first offenses and vehicles of dumpers were impounded at an additional charge of \$2,000.
- City is able to maintain community and governmental involvement by continually broadening the scope of the program and by developing a strong public education component which includes brochures, billboards, bus cards, and an information video, as well as participation in events such as senior citizen picnics, super block meetings and festivals.

⁵ Based on physical population gain of 489,226 people (1990-1996).

Keep Akron Beautiful

- Program has involvement from all levels of government. The state funded the program, the mayor appointed a policy making board, and the City of Akron service coordinator coordinated all activities with the board. Each level of government has an interest in the success of the program and has an avenue for expressing concerns and interests.
- Program has annual bus tours where judges, prosecutors, and concerned citizens view various illegal dumpsites, and see sites that have been cleaned up and revitalized. In addition, a monthly newsletters is one way in which the program keeps interested parties abreast of current issues with regard to the program.

City of San Diego, California

- Each of the eight enforcement officers is dedicated to a specific geographical area of the city. Each officer becomes familiar with the area they patrol and can identify changes or patterns with regard to illegal dumping.
- The program provides a community cleanup once or twice a month on Saturdays. These cleanups give a community the chance to get rid of large and bulky items. The cleanups rotate, so that every community has a cleanup day about once every three years.
- A new computer system tracks all calls with special codes so that operating data can easily be tracked. A key trend identified through the use of this tracking process is an increase in illegal dumping on public property.

City of Las Vegas/Clark County, Nevada

- Program started in 1994 due to a complaint from a citizen to the Clark County Health District concerning illegal dumping.
- The program is a county operation, but the majority of the activity involves the City of Las Vegas.
- Citizens are highly involved in the illegal dumping program. If a citizen reports an illegal dumper and testifies in the prosecution, then 50% of the fine levied goes to the citizen witness.
- C&D debris is the number one problem, especially concrete. Other commonly found types of debris include yard waste, primarily from commercial landscapers and residential waste.
- A dirt exchange program has helped excavation companies locate people/companies that need fill dirt, thereby reducing some illegal dumping activities.

- The county would like to establish, at some point in the future, an environmental court where only environmental crimes are tried. At present, the prosecutors have not been anxious to prosecute illegal dumpers. As a result, the offenders are oftentimes just told to clean up the illegally dumped materials.
- The program is funded through a \$1.00 surcharge on the sale of tires.

City of Chattanooga, Tennessee

- The City's program has been in existence for 11 years. The original staffing consisted of three inspectors/investigators. Total staff is now at nine inspectors with each inspector responsible for a specific "district" in the city⁶.
- The City of Chattanooga currently has an environmental court. This has greatly expedited prosecution of illegal dumping cases. Environmental cases are heard every Thursday.
- The program has received favorable press. It has recently been the topic of talk radio programs in the City of Chattanooga, and is also getting significant television exposure.
- The program is constantly evolving to better meet the needs of the citizens and to prevent illegal dumping. The program is complaint driven. Citizens are educated regarding illegal dumping through brochures, TV ads, talk radio shows and neighborhood organization meetings.
- Inspectors build a relationship with the police by conducting courses on illegal dumping at the police academy. Inspectors have now developed a relationship with the police that assists in having an open line of communication with regard to code enforcement violations (illegal dumping, etc.).
- The City program will soon be computerized to help track its operations.
- The illegal dumping program has developed a neighborhood network through the code enforcement department.

Cook County, Illinois

- The illegal dumping program is managed by the Air Monitoring Department of Cook County.
- Individuals sentenced by county courts to perform community service are used in illegal dumping cleanup efforts.

⁶ It is important to note that the inspectors are also responsible for all code enforcement activities within the city (substandard housing, abandoned automobiles, etc.).

- The program is successful due to the cooperation of county highway department and HAZMAT (hazardous materials unit). The highway department allows the use of their trucks and HAZMAT personnel are used in the cleanup of sites.
- The program is funded through county taxes.

City of New York, New York

- Each sanitation supervisor for the City of New York can issue a summons to an illegal dumper to appear in court.
- The program has a community board, which helps to promote community involvement and also helps to govern the program. The board is made up of individuals from different boroughs throughout New York City. The board enhances communication about similar problems and promotes involvement by the entire community.
- The community board helps to educate and inform the public about illegal dumping issues.
- The City of New York has dedicated an entire unit of enforcement officers to combat illegal dumping.

Franklin County, Ohio

- The Franklin County illegal dumping program holds investigation workshops for the police department. The program has been extremely successful in educating over 400 different municipal officers.
- The entire \$380,000 budget is funded by the Solid Waste Authority of Central Ohio.
- The program has a community board that is made up of business leaders, citizens, and representatives from the city. The community board helps to decide how to spend money collected from fines for illegal dumping.
- The program has established and maintained a 100% clean up rate of illegal dump sites.
- A dedicated legal counsel is assigned to the county's Anti-Dumping Project. This county prosecutor specializes in environmental law.
- Fines assessed on illegal dumpers are used to help fund the Ohio program and pay for road signs and cleanups.

Dade County, Florida

Dade County has significantly reduced its illegal dumping problems by taking a proactive approach. They believe the current program is one of the most progressive in the nation.

- Dade County uses a “three-pronged approach.” This approach consolidates the services of the Metro-Dade Police Department, the Office of the State Attorney, and the Dade Solid Waste Management (DSWM). This cooperative effort allows for the investigation, arrest, and prosecution of persons who commit illegal dumping.
- In addition, a “special master” program has been implemented. These county enforcement personnel are empowered to issue civil citations carrying fines from \$250 to \$1,000.
- The enforcement personnel are supplemented with ten undercover illegal dumping enforcement units. This group is not certified to issue citations, but maintains lines of communication with proper enforcement authorities over police radio channels from common illegal dumpsites (i.e., stakeouts).
- The special master program uses a third party who is not a government employee to render impartial decisions.

Palm Beach County, Florida

In 1989, Palm Beach County had an estimated 740 acres of illegal dumpsites across the 2,300 square mile county. In 1990, the Illegal Dumping Task Force was formed and has been comprised of individuals from the following agencies:

- | | |
|------------------------------|--|
| ◆ County Sheriff’s Office | ◆ County Real Estate Management Department |
| ◆ State Attorney’s Office | ◆ County Environmental Control Office |
| ◆ County Code Enforcement | ◆ Department of Environmental Protection |
| ◆ County Property Department | ◆ The Solid Waste Authority |
| ◆ County Public Health Unit | |

The Task Force has been very successful at achieving the program’s goals. This is due, in large part, to full commitment and cooperation of all agencies involved.

- Repeat offenders have been given prison sentences.
- Vehicles involved in the act of committing felonies have been confiscated.
- Cleanup and restoration has been required for those prosecuted.
- Civil penalties as well as community service has been imposed.

A key factor that illustrates the success of an environmental enforcement program is the number of complaints investigated within the county. The following table illustrates the number of complaints over an eight-year period.

**Palm Beach County Public Health Unit
Complaints Investigated by Solid and Hazardous Waste Control**

Year	No. of Complaints
1986	232
1987	482
1988	601
1989	682
1990	694
1991	688
1992	599
1993	532

This table is evidence that a combination of commitment by the Illegal Dumping Task Force and strict enforcement has helped to curb Palm Beach County's illegal dumping problem since the Task Force's inception in 1990⁷.

⁷ Data not available 1994 – date.

Houston Galveston Area Council
Illegal Dumping Program Survey - State of Texas

City/ County/ Other	Contact	Phone Number	Enforcement Officer	Environmental Prosecutor	Funding ⁽⁷⁾	Education				Tracking Data	
						Citizens	Police	Prosecutors	Judges	Financial	Operating
Bexar County	Sam Sanchez	(210) 207-8853	0	No ^(b)	1	X		X		X	X
Bosque County	Judge Bobby Conrad	(254) 435-2382	1 (FTE)	No ^(b)	1, 3					X	
City of Bryan	Kelly Wellman	(409) 821-5931	3	No ^(b)	2					X	X
City of Burleson / 4 County Task Force	Kirk Barnes	(817) 447-5400 Ext. 269	N/A ⁽⁸⁾	No ^(b)	3						
Cameron County	Leslie De Los Santos	(956) 399-3679	2	No ^(b)	1, 3	X	X			X	X
Collin County	Ron James	(972) 547-5156	1	No ^(b)	1	X	X				X
Cooke County	Larry Lange	(940) 665-3471	1	No ^(b)	1, 3	X				X	
Dallas County	Ed Morris	(214) 819-2115	1+	No ^(b)	1, 3	X				X	X
Falls County	Judge Meyer	(254) 883-1426	0	No ^(b)	1	X				X	
Grayson County	Jim White	(903) 813-4216	1	No ^(b)	1, 3	X				X	
Hardin County	Patricia Eppes	(409) 246-5100	1	No ^(b)	1, 3, 4	X				X	X
Harris County	Ted Heap	(713) 755-6306	5	Yes ^(a)	1, 3	X	X	X	X	X	X
Harrison County	Dennis Engdahl	(903) 935-4870	1	Yes ^(a)	1, 3	X		X	X	X	X
City of Houston	Tom Collins	(713) 865-7102	17	Yes ^(a)	1, 3	X	X	X	X	X	X
Limestone County	Judge Elenor Holmes	(254) 729-3810	1	No ^(b)	1, 3	X				X	
McLennan County	Judge Jim Lewis	(254) 757-5049	1	No ^(b)	3	X	X	X	X	X	
Montgomery County	Jim Strong	(409) 539-7812	1.2	No ^(b)	1, 3	X				X	X
City of Plainview	Greg Zielinski	(806) 296-1100	.5 (FTE)	No ^(b)	1	X				X	X
City of San Antonio	Ruben Castillo	(210) 207-8228	7	No ^(b)	1, 3	X	X	X		X	X
City of Slaton	Michael James	(806) 828-2020	1	No ^(b)	1	X					
Stark County	Elisa Beas	(956) 487-5223	1	No ^(b)	1, 3	X				X	X
Tarrant County	Jack Allen	(817) 238-4410	3	Yes ^(b)	1, 6	X	X			X	X
City of Waco	Anna Dunbar	(254) 751-8561	1.5 (FTE)	No ^(b)	1, 2, 3	X	X	X	X	X	X
Washington County	Webster Hart	(409) 277-6290	1	No ^(b)	1, 3	X	X	X	X	X	
Wharton County	Mark Hoffer	(409) 543-1373	1	No ^(b)	1, 3	X	X			X	X
Woods County/ Upper Sabine Valley Solid Waste Management District	Johnny Burns	(903) 763-2201 Ext. 29	1	No ^(b)	1, 3	X			X	X	X

Notes:

- | | |
|-----|---|
| FTE | Equivalent of a full time employee. |
| a | Prosecutor is solely dedicated to illegal dumping/ environmental law. |
| b | Prosecutor is selected from a pool of city/ county prosecutors and is not solely dedicated to illegal dumping/ environmental law. |
| 1 | Funded through Taxes. |
| 2 | Funded through Solid Waste User Fees, Tipping Fees, etc. |
| 3 | Funded through Grants. |
| 4 | Funding through private donations. |
| 5 | Funded through Surcharge on the Sale of Tires. |
| 6 | Funded partially by the City of Ft. Worth, Texas. |
| 7 | Does not include fines collected. Fines collected do not represent a major source of funding. |
| 8 | Program is in the start up phase. |

Houston Galveston Area Council Illegal Dumping Program Survey - National

City/ County/ Other	State	Contact	Phone Number	Enforcement Officer	Environmental Prosecutor	Funding ⁽⁷⁾	Education				Tracking Data	
							Citizens	Police	Prosecutors	Judges	Financial	Operating
Keep Akron Beautiful	Ohio	Paula Davis	(330) 375-2116 (423) 757-5204 Ext. 0545	1 (FTE)	No ^(b)	1, 3, 4	X		X	X	X	X
City of Chattanooga	Tennessee	Steve Hargis	(312) 744-8096	9 ⁽⁸⁾	Yes ^(a)	1	X	X	X	X	X	X
City of Chicago	Illinois	Carmen Driver	(619) 492-5055	4	Yes ^(b)	1, 3	X	X	X	X	X	X
City of San Diego	California	Nancy Lovell	(702) 383-1274	8	Yes ^(a)	2	X	X			X	X
Clark County/ Las Vegas	Nevada	Victor Skaar	(708) 865-6165	4	No ^(b)	5	X		X	X	X	
Cook County	Illinois	Robert LaMorte	(305) 594-1520	3 (FTE)	No ^(b)	1	X				X	
Dade County	Florida	Joseph Ruiz	(305) 594-1664	10	Yes ^(a)	1, 3	X	X	X	X	X	X
		Mara Austin	(614) 462-3160									
Franklin County	Ohio	Mitzi Kline	(740) 446-1221	3+	Yes ^(a)	6	X	X			X	
Gallia County	Ohio	Bonnie Pierce	(770) 822-5187	0.5	Yes ^(a)	3	X	X	X	X	X	X
Gwinnett County	Georgia	Connie Wiggins	(740) 286-6464	2								
Jackson County	Ohio	Joe Wright	(941) 691-7533	0.5	Yes ^(a)	3	X	X	X	X	X	X
Lee County	Florida	Dave Archer	(941) 338-3102	4								
		Rick Clontz	(602) 506-3867									
Maricopa County	Arizona	Marc Richardson	(707) 463-4466	1	No ^(b)	1	X	X	X			X
Medocino County	California	John Morley	(740) 992-3371	1	Yes ^(a)	1, 2	X				X	X
Meigs County	Ohio	James Soulsby	(212) 219-8090	0.5	Yes ^(a)	3	X	X	X	X	X	X
City of New York	New York	Richard DiPietro	(561) 697-2700	20+	No ^(b)	1	X					
Palm Beach County	Florida	Ken Berg	(614) 596-5242	2	Yes ^(b)	1, 2, 3	X	X	X	X	X	X
Vinton County	Ohio	Angie Mitchell	(919) 856-6196	0.5	Yes ^(a)	3	X	X	X	X	X	X
Wake County	North Carolina	Wayne Woodliet		0.5	Yes ^(a)	1, 2	X		X			

Notes:	
FTE	Equivalent of a full time employee.
a	Prosecutor is solely dedicated to illegal dumping/ environmental law.
b	Prosecutor is selected from a pool of city/ county prosecutors and is not solely dedicated to illegal dumping/ environmental law.
1	Funded through Taxes.
2	Funded through Solid Waste User Fees, Tipping Fees, etc.
3	Funded through Grants.
4	Funding through private donations.
5	Funded through Surcharge on the Sale of Tires.
6	Funded 100% by the Solid Waste Authority of Central Ohio.
7	Does not include fines collected. Fines collected do not represent a major source of funding.
8	Not dedicated solely to illegal dumping enforcement, also responsible for other city code enforcement.

LIMITED SURVEY OF STATE AND FEDERAL ENVIRONMENTAL AGENCIES

To gain further insight into how illegal dumping of solid waste is being addressed at the state and national level, the project team interviewed the EPA's regional offices and numerous state environmental agencies¹. While these interviews do not constitute a comprehensive review of how illegal dumping of solid waste is being addressed nationally, they do help in endorsing some of the recommendations presented by the project team in this manual. In addition, the interviews provided additional insight with regard to several strategies that the Houston-Galveston Area Council may wish to pursue.

From the project team's interviews with the EPA's regional offices, we have found that at a national level, little support and help is provided to cities and counties. The regional offices generally leave these responsibilities to the state and local officials. The state officials, in turn, oftentimes leave this problem to the local officials. Those EPA regions that have taken a more proactive role with regard to illegal dumping are described below, however, even their involvement is extremely limited in scope.

EPA REGIONAL OFFICES

Region 1 Environmental Protection Agency

The Region 1 EPA Office serves Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont. Region 1 has an extensive library collection of environmental publications addressing solid waste issues, including illegal dumping, from not only the Region 1 area, but also from across the United States and around the world. These publications are available to the public for viewing, and many can be obtained by mail or via the Internet.

Region 5 Environmental Protection Agency

The Region 5 EPA Office serves Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin. They furnish several publications to help local officials combat illegal dumping. One such publication is the *Chicagoland Construction and Demolition Site Recycling Guidebook and Directory*. This publication provides a guide to construction and demolition contractors in Illinois to help them develop and implement programs to reduce the generation of construction and demolition waste and ensure proper disposal. It supplies a list of names, addresses, and phone numbers of businesses that collect and/or process C&D materials for recycling, and also lists materials accepted and type of service provided by these businesses.

¹ Schedule D-1 and D-2.

The Region 5 EPA Office also published the *Illegal Dumping Prevention Guidebook*. This guidebook provides general information about illegal dumping and ways various entities have sought to combat illegal dumping. Helpful case studies are included.

Region 6 Environmental Protection Agency

The Region 6 EPA Office serves Arkansas, Louisiana, New Mexico, Oklahoma, and Texas. This regional office conducts a quarterly roundtable with the state's environmental enforcement agencies to review and discuss issues facing the states regarding solid waste. The Region Office also provides material to educate citizens on the dangers and problems associated with illegal dumping.

Region 9 Environmental Protection Agency

The Region 9 EPA Office, which serves Arizona, California, Hawaii, Nevada, American Samoa, and Guam, is currently drafting a report that provides technical advice for cleaning up solid waste dumpsites. This report gives guidance on the appropriate steps, methods, and precautions for cleaning up solid waste dumpsites.

STATE ENVIRONMENTAL AGENCIES

As with the EPA regional offices, the project team found the majority of state environmental agencies left the responsibilities of addressing illegal dumping in the hands of local officials. However, the project team did discover a few states that were actively assisting, or at least attempting to assist, local officials in combating illegal dumping. These states are listed below.

Arkansas Department of Pollution Control and Ecology

The State of Arkansas has 16 solid waste districts. The Department of Pollution Control and Ecology supplies guidelines for the 16 solid waste districts and all counties to follow when handling illegal dumping of solid waste. The state provides funding and assistance in the clean up of illegal dumpsites through the Landfill Post-Closure Trust Fund. This fund is financed through landfill tipping fees. Ten sites are selected annually across the state for clean up based on assessments by state and local officials.

California Integrated Waste Management Board (Board)

The Board provides an extensive list of publications to help local officials address illegal dumping concerns. These publications help to educate local officials on the state laws regarding illegal dumping and the appropriate measures to clean up and prevent illegal dumping. Several of these publications are available on the Internet at <http://www.ciwmb.ca.gov>. The Board also works with and funds local governments in cleaning up illegal dumpsites. A ranking system is used to determine the priority sites that need clean up. These sites are ranked according to their

magnitude of risk to the environment and citizens. Those posing the most environmental and health risks are targeted to be cleaned up first.

Illinois Environmental Protection Agency (Illinois EPA)

The Illinois EPA provides to all counties the *Illinois Counties Solid Waste Management Association's Guide to Education and Solid Waste*, which lists state and national contacts for solid waste information. Guides are also provided for citizens to help them understand problems associated with illegal dumping, what they can be fined, how to report an illegal dumpsite, ways to prevent illegal dumping, and acceptable methods of disposal. The Illinois EPA provides guidance to local governments in the establishment of an effective sanitation code. They also have agreements with approximately 20 local governments to assist in inspecting dumpsites and issuing citations.

Minnesota Pollution Control Agency

The Minnesota Pollution Control Agency has plans to implement a coordinated program for hazardous waste among the state, cities and counties. It is hoped that this program will eventually address the illegal dumping of municipal solid waste.

Missouri Department of Natural Resources

In 1994, the state established an illegal dumping task force composed of the state's Attorney General's Office, Health Department, Public Safety, and Solid Waste Department. The task force was formed to assist counties and cities in their attack on illegal dumping. This task force was eventually abandoned due to complications in coordinating efforts between state and local officials. The state is currently attempting to implement a program at their six regional offices within the state to assist local officials.

Pennsylvania Department of Environmental Protection (Pennsylvania DEP)

The Pennsylvania DEP provides a complaint coordination center to receive complaints and investigate illegal dumpsites. If investigation reveals that the dumping is of a criminal nature, then it is given to the State's Attorney General's Office for prosecution. Although the Pennsylvania DEP receives calls for assistance from local officials, most complaints come from citizens. Pennsylvania law contains a whistleblower provision to protect employees who report their company's illegal dumping activities.

Texas Natural Resource Conservation Commission (TNRCC)

The TNRCC maintains a very active program with regard to combating illegal dumping. The TNRCC conducted a study to determine the magnitude of illegal dumping along the Texas/Mexico border. The report is titled *Illegal Dumping Assessment of Impacts on County Governments in the Texas-Mexico Border Region*. This study was completed in July 1997. The TNRCC has also developed a number of educational materials, which are used by local governments in Texas to combat illegal dumping. In addition, the TNRCC provides funding to

the 24 Councils of Government (COGs) within the State of Texas to combat illegal dumping. These funds are then distributed by the COGs to the local governments to develop educational materials, hire environmental enforcement officers and purchase the equipment necessary to combat illegal dumping (trucks, cameras, radios, global positioning systems, etc.).

Environmental Protection Agency Regional Offices

	Contact	Phone Number	Program to Assist States ⁽¹⁾	Program to Assist Local Governments ⁽¹⁾	Educational Programs and/or Materials
Region 1	Cynthia Green	(617) 565-3165			X
Region 2	Phil Flax	(212) 637-3000			X ⁽²⁾
Region 3	Andy Uracheck	(215) 814-3375			X ⁽²⁾
Region 4	Mark Davis	(404) 562-9900			
Region 5	Paul Reusch	(312) 886-7598	X	X	X
Region 6	Glen De Apley	(214) 665-6444	X		X
Region 7	David Flora	(913) 551-7000			
Region 8	Jerry Allen	(303) 312-7008			X ⁽²⁾
Region 9	Beth Godfrey	(415) 744-2095	X	X	X
Region 10	Steve Sharp	(206) 553-6517			X

(1) All 10 Regions provide informal help and guidance to states, local governments, and citizens regarding illegal dumping. However, Regions 5, 6 and 9 provide a structured program to assist states and/or local governments.

(2) Source of educational material is Region 5 EPA's *Illegal Dumping Prevention Guidebook*.

State Offices for Environmental Protection

	Contact	Phone Number	Program to Assist Local Governments ⁽¹⁾	Funding to Assist in Clean Ups ⁽²⁾	Educational Programs and/or Materials
Arizona Department of Environmental Quality	Bryon James	(602) 207-4123			X
Arkansas Department of Pollution Control and Ecology	Alicia Farmer	(501) 682-0600	X	X	X
California Integrated Waste Management Board	Marge Rowe	(916) 255-2347	X	X	X
Florida Department of Environmental Conservation	Rooul Clarke	(850) 488-9334			
Illinois Environmental Protection Agency	Connie Letsky	(618) 346-5120	X		X
Minnesota Office of Environmental Assistance	Mark Rust	(612) 215-0198	X		X
Minnesota Pollution Control Agency	Diane Jacobs	(218) 723-2356	X		X
Missouri Department of Natural Resources	Tom DeHaven	(573) 751-3443	X		
Nevada Division of Environmental Protection	Less Gould	(702) 687-4671			
New York State Department of Environmental Conservation	Tom Lynch	(718) 482-4949			X
North Carolina Department of Environmental and Natural Resources	Phil Pret	(919) 733-4996			
Ohio Environmental Protection Agency	Mark Navarre	(614) 644-2782	X		X
Oregon Department of Environmental Quality	Tim Davidson	(541) 278-4611	X		
Pennsylvania Department of Environmental Protection	Sam Sloan	(717) 787-7381	X		X
Texas Natural Resource Conservation Commission	Steve Dayton	(512) 239-6824	X	X	X
Washington Department of Ecology	Millie White	(360) 407-6000			

(1) Each state provides informal help and guidance to local governments and citizens regarding illegal dumping.

However, the indicated states, (X), provide an officially established coordinated program to help local governments.

(2) The indicated states, (X), have a structured program to assist in the cleaning up of illegal dumpsites.

However, the other states may provide some type of financial assistance in the cleaning up of illegal dumpsites.

OTHER RESOURCES

In addition to the references listed in Appendix A—Educational Materials, Appendices C and D—Limited Surveys, as well as the training resources listed in the Enforcement and Prosecution section of this manual, there are many other resources that may be helpful to local governments. Most start-up activities can be made more cost effective and increase their chances for success by consulting with others who already operate illegal dumping programs and can share first-hand experiences.¹ Among the available information sources are the following.

Regional Sources

Each of the state's 24 COGs has a solid waste planning coordinator. Supported in part by grant contracts from TNRCC, the COG roles generally include grant funding assistance to local governments and dissemination of solid waste management information from TNRCC. Among the COGs which have developed information on environmental enforcement issues are:

Houston-Galveston Area Council of Governments
PO Box 22777
3555 Timmons Lane, Suite 500
Houston, TX 77227-2777
Contact: Cheryl Mergo
(713) 993-4520
www.hgac.cog.tx.us

Capital Area Planning Council of Governments
2512 S. I-35, Suite 220
Austin, TX 78704
Contact: Sarretta McCaslin
(512) 916-6185
www.capco.state.tx.us

North Central Texas Council of Governments
PO Box 5888
616 Six Flags Drive, Suite 200, Centerpoint Two
Arlington, TX 76005-5888
Contact: Charlotte Ross
(817) 695-9229
www.nctcog.dst.tx.us

Texoma Council of Governments
3201 Texoma Parkway, Suite 200
Sherman, TX 75090-1974
Contact: John Ockels
(903) 893-2161
www.texoma.cog.tx.us

Nonprofit and Volunteer Organizations

Many local environmental volunteer networks exist statewide. Contact COG solid waste coordinators for referrals to local organizations with interests in solid waste management. In addition, larger nonprofit organizations exist such as Keep Texas Beautiful, Inc. KTB is a nonprofit grassroots environmental umbrella organization which consists of a vast network of private citizens, Proud Communities, industry, civic groups, and government agencies. Working in cooperation with Keep America Beautiful, the national organization, KTB actively promotes illegal dumping prevention and education programs and other outreach activities. For more information, contact by phone or visit their websites.

¹ *Illegal Dumping: Assessment of Impacts on County Governments in the Texas-Mexico Border Region*, TNRCC (AS-138), July 1997, p.70.

Keep Texas Beautiful
1-800-CLEANTX
www.ktb.org

Keep America Beautiful
www.kab.org

TNRCC

There are many solid waste management programs at TNRCC including comprehensive planning, public policy development and grants administration, regulatory enforcement, public awareness, and technical assistance. An overview of a few of these programs follows.

The TNRCC Waste Planning and Assessment Division performs work statewide related to data collection and evaluation, disposal capacity assessment, needs assessment, policy development, legislation impact analysis, grant programs development and technical assistance to local governments. This program staff produced the *Illegal Dumping: Assessment of Impacts on County Governments in the Texas-Mexico Border Region*, July 1997. (512) 239-0028.

The TNRCC Local Government Assistance Program was established in 1995 to directly assist local governments with environmental problems and permitting issues. It strives to strengthen partnerships with local governments and minimize the cost of complying with environmental regulations; *The Local Government Guide to the TNRCC* (GI-145) contains key policies, procedures, self help information and contact numbers. To reach the program, call 1-800-687-9222.

TNRCC statewide education and awareness campaigns under the CLEAN TEXAS 200 program include a focus on pollution prevention, litter abatement, and informing citizens and businesses of safe waste disposal practices. This program covers numerous waste management subjects and has self-help resources available. These resources can be reached through the TNRCC Pollution Prevention and Recycling Division (512) 239-3100.

TNRCC also operates a publications library which contains many educational pamphlets and reports about solid waste management and other environmental issues. A catalog of available publications and videos can be ordered by calling (512) 239-0028.

Many resources and contact names and numbers for appropriate TNRCC programs are also accessible on the Internet at www.tnrcc.tx.us.

Environmental Enforcement Organizations

Texas Environmental Enforcement Association (TELEA)
Contact: Steve Dicker, City of Houston
(713) 865-7104
www.telea.org

Southern Environmental Enforcement Network
Contact: John Ockels, Texoma COG
(903) 893-2161.

The Texas District and County Attorneys Association
Lectures on illegal dumping and environmental enforcement are periodically sponsored by the Texas District and County Attorneys Association, which serves as a resource for state prosecutors. Legal issues associated with illegal dumping are also addressed on occasion in the association's publications "Prosecutor's Report" and "The Prosecutor," as well as at their annual conference. Lectures and conferences are announced in association mailings. Contact: Training office (512) 474-2436.

Illegal Dumping Regulations

Texas environmental law enforcement regulations include the following chapters of these state codes abbreviated as follows: Health and Safety Code (H&S), Texas Water Code (WC), Transportation Code (TC), and Texas Penal Code (PC).

Chapter 341, H&S	Minimum standards of sanitation and health protection measures
Chapter 342, H&S	Local regulation of sanitation and requirements to clean or improve areas
Chapter 343, H&S	Ability to abate public nuisances in counties of > 125,000 population
Chapter 361, H&S	Solid Waste Disposal Act (including hazardous waste)
Chapter 363, H&S	Comprehensive Municipal SWM, Resource Recovery, and Conservation Act
Chapter 364, H&S	County Solid Waste Control Act
Chapter 365, H&S	Litter
Chapter 368, H&S	Transportation of waste and inspection, permitting, licensing of waste haulers
Chapter 371, H&S	Used Oil Collection, Management and Recycling Act
Chapter 382, H&S	Texas Clean Air Act (and outdoor burning regulations)
Chapter 26, WC	Water Quality Control Code
Chapter 12, TPC	Punishments classified as Class A, Class B, Class C misdemeanors
Chapter 683, TC	Junked Vehicles

Resources Interviewed for Environmental Enforcement Manual

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San Antonio, TX 78205
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Mark Vigiano
PhilaPride
1818 Market Street, Ste. 3510
Philadelphia, PA 19103-3681
(215) 575-2210

Houston-Galveston Area Council Environmental Enforcement Manual

Reference Materials

1. An Environmental Court Planning Guide: For Local Officials, Legal Professionals, and Community Educators, Keep America Beautiful, Inc.
2. Characterization of Building-Related Construction and Demolition Debris in the United States, U.S. EPA (EPA530-R-98-010), June 1998.
3. Code Enforcement Process Seminar, City of San Antonio Code Compliance Department, September 1, 1998.
4. Combating Illegal Dumping, Oregon Department of Environmental Quality, Solid Waste Programs, July 1996.
5. Contracting for Solid Waste Services, A Workbook for Cities and Counties, H-GAC, September 1996.
6. Criminal Environmental Law Enforcement Training Conference, May 12-14, 1998 (sponsored by: Texas Natural Resource Conservation Commission (TNRCC), Southern Environmental Enforcement Network, Austin Police Department, U.S. EPA).
7. Environmental Law Enforcement Training Conference, February 24, 25, 1997 (sponsored by: TNRCC; H-GAC; University of Houston Criminal Justice Center; Commissioner Steve Radack, Harris County Precinct 3; City of Houston).
8. Guide to Preventing Illegal Dumping in the State of Texas, Panhandle Regional Planning Commission.
9. Illegal Dumping Assessment of Impacts on County Governments in the Texas-Mexico Border Region, TNRCC (AS-138), July 1997.
10. Illegal Dumping: Incidence, Drivers, and Strategies, by Lisa Skumatz, Hans Van Dusen and Jennie Carto.
11. Illegal Dumping Report, 1996 Anti-Dumping Project, Franklin County, Ohio, Board of Health, October 1996.
12. Illegal Dumping Prevention Guidebook, U.S. EPA Region 5, (EPA905-B-97-001), March 1998.
13. Organizing Your Community Against Trash and Illegal Dumping, Philadelphia More Beautiful Committee, City of Philadelphia and PhilaPride, Inc., October 1990.
14. Outdoor Burning in Texas, TNRCC (RG-49), April 1997
15. Public Communication Plan for Decreasing the Municipal Cost to Battle Short Dumping in Philadelphia, Mark Vigiano, 1995.

16. Resource Responsibility

- ◆ Solid Waste Management Plan for the H-GAC Region, 1992-2012 (February 1994).
- ◆ Solid Waste Management Plan for the H-GAC Region, 1992-2012 – Executive Summary (February 1994).
- ◆ 1996 Update (November 1996).

17. A Review of Illegal Dumping in Montgomery and Wharton Counties, H-GAC, December 1997.

18. Solid Waste Management Regulations, Clark County District Board of Health, June 26, 1997.

19. SOLV IT Coordinator's Handbook, Stop Oregon Litter and Vandalism, April 1998.

20. Status Report – Municipal Solid Waste Management in Texas, TNRCC, April 1997

21. Stopping Illegal Dumping, Regional Solid Waste Management Plan for North Central Texas

22. Strategic Plan – Municipal Solid Waste Management in Texas, TNRCC, March 1997

23. Survey of the Costs Associated with Illegal Dumping in Philadelphia, Pennsylvania Economy League, Inc., June 1995

24. Texas Environmental Event Planning Guide, TNRCC (GI-157), September 1998

Abbreviations and Definitions

authors	Reed-Stowe & Co., Inc. and West Environmental Consulting
bulky items	couches, chairs, mattress springs, etc.
C&D	construction and demolition debris
COGs	Councils of Governments
FTE	full-time-equivalent employee
H-GAC	Houston-Galveston Area Council
KAB	Keep America Beautiful
SEEN	Southern Environmental Enforcement Network
SOLV	Stop Oregon Litter and Vandalism
S.T.O.P.	Stop Trashing Our Precinct
TELEA	Texas Environmental Law Enforcement Association
TNRCC	Texas Natural Resource Conservation Commission
Tri-County MHMR	Tri-County Mental Health Mental Retardation Services
U.S. EPA	United States Environmental Protection Agency
white goods	household appliances like refrigerators, washing machines, dryers, etc.