



NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS

Illegal Dumping and Prevention

Solid Waste Administration and Solicitation Support

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1.0 Introduction

Illegal dumping is the unauthorized disposal of waste on public or private property, posing significant environmental, economic, and social challenges for communities in Texas. This practice not only degrades the aesthetic appeal of neighborhoods but also presents serious health hazards, contaminates soil and water resources, and places a substantial financial burden on local governments. Commonly dumped items include household trash, construction debris, appliances, tires, and hazardous materials.

This white paper examines the contributing factors to illegal dumping and explores mitigation strategies, providing guidance for city managers and personnel within the North Central Texas Council of Governments (NCTCOG).

2.0 Current Landscape of Illegal Dumping

Illegal dumping remains a persistent challenge in North Central Texas, requiring a comprehensive and proactive approach to mitigation. While reactive measures like abatement are necessary, long-term solutions depend on prevention and education to address root causes and foster community engagement. The most effective programs integrate enforcement, education, and community participation, ensuring a holistic strategy to combat illegal dumping. The following section examines the regulatory framework for enforcement and the key factors contributing to illegal dumping.

2.1 Regulatory Framework

Illegal dumping is regulated at the federal, state, and local levels. Local governments are empowered to enforce these laws and may enact ordinances imposing stricter regulations and penalties for illegal dumping within their jurisdictions. While no direct state or federal mandates require local governments to address illegal dumping, they play a critical role in enforcement. They are often responsible for cleanup and prevention efforts to protect public health and the environment. Here is an overview of key elements of the framework:

- Federal Regulations
 - Resource Conservation and Recovery Act (RCRA)
 - Under RCRA, the U.S. Environmental Protection Agency (EPA) regulates the management and disposal of hazardous waste.
- Texas State Regulations
 - Texas Commission on Environmental Quality (TCEQ):
 - TCEQ oversees solid waste management in Texas.
 - The agency provides technical guidance to local governments on combating illegal dumping.
 - Texas Health and Safety Code:
 - Chapter 365, also known as the Texas Litter Abatement Act, makes it illegal to dispose of litter or solid waste at unapproved sites.
 - This law outlines penalties ranging from fines to imprisonment, depending on the volume and type of waste involved.
 - Texas Water Code:

- The Texas Water Code also prohibits unauthorized discharges that may harm water quality.
- Texas Administrative Code (TAC):
 - Chapter 335 of the TAC governs municipal solid waste.
- Local Government Programs
 - Local governments are empowered to enforce these laws and may enact ordinances imposing stricter regulations and penalties for illegal dumping within their jurisdictions.

2.2 Contributing Factors to Illegal Dumping

Illegal dumping is a complex issue with multiple contributing factors. Understanding these factors is crucial for developing effective prevention and mitigation strategies. Key contributing factors include:

Lack of Adequate Waste Disposal Options: Insufficient or inconvenient legal disposal options can lead individuals to resort to illegal dumping. Infrequent bulk waste collection or limited capacity of legal disposal sites can also lead to illegal dumping.

Cost Avoidance: High costs associated with proper waste disposal, especially for items like tires and hazardous materials, can motivate individuals to dump illegally.

Inadequate Awareness and Education: Lack of knowledge about the environmental and health impacts of illegal dumping and proper disposal methods contributes to the problem.

Weak Enforcement: Inadequate enforcement of waste disposal regulations can embolden potential offenders.

Social and Cultural Norms: In some communities, illegal dumping may be acceptable due to long-standing practices or lack of education.

Vacant and Disinvested Areas: Research has shown that areas with high vacancies and low investment are more vulnerable to illegal dumping due to reduced social organization and surveillance.

Proximity to Major Roads: Sites near major arterials are more likely to attract illegal dumping due to easy access.

Existing Dump Sites: Existing illegal dump sites can create a "domino effect," encouraging further dumping in the same area.

While increased enforcement can serve as a deterrent, a comprehensive approach that addresses the root causes and incorporates reactive and proactive strategies is typically the most effective in combating illegal dumping.

3.0 Strategies for Illegal Dumping

To address the multifaceted challenges posed by illegal dumping, communities (e.g., cities, towns, and counties) across Texas have implemented a variety of strategies. These approaches range from reactive measures that address immediate concerns to proactive initiatives aimed at preventing illegal dumping before it occurs. By combining these techniques, local governments have found effective ways to combat illegal dumping, mitigate its impacts, and foster cleaner, healthier communities. The following section

outlines the key differences between reactive and proactive approaches, highlighting the growing trend towards more preventative strategies.

3.1 Reactive vs. Proactive Approaches

Municipalities typically address illegal dumping through strategies that can be categorized as either reactive or proactive. Table 1 summarizes strategies to address illegal dumping.

Table 1: Strategies to Address Illegal Dumping

| Prevention | Education and Outreach | Abatement | Enforcement |
|---|---|--|--|
| Proactive measures aim to stop illegal dumping before it occurs. This includes strategies such as improving access to legal disposal options, securing vulnerable sites, and implementing design measures that deter dumping. | Proactive efforts focus on informing the public about the consequences of illegal dumping, proper waste disposal methods, and available resources. This can include community workshops, school programs, and targeted awareness campaigns. | Abatement, often a reactive measure, involves cleaning up existing dump sites. While necessary, this approach addresses the symptom rather than the root cause of illegal dumping. | Both reactive and proactive enforcement include identifying and penalizing offenders. Proactive enforcement strategies might involve increased surveillance of known dumping hotspots and stricter penalties to deter potential offenders. |

Many Texas communities have traditionally relied heavily on reactive approaches, primarily focusing on abatement and enforcement. However, there is a growing recognition of the need to transition towards more proactive strategies emphasizing prevention and education. This shift addresses the issue more effectively and offers numerous benefits to communities and local governments.

3.2 Benefits of Proactive & Reactive Approaches

Table 2 presents the contrasting outcomes of proactive and reactive approaches, emphasizing the long-term benefits of prevention and education over-reactive measures' short-term, cyclical nature.

Table 2: Pros & Cons by Approach Type

| Approach | Pros | Cons |
|------------------|--|--|
| Proactive | <ul style="list-style-type: none"> - Reduces overall incidents of illegal dumping - Lowers long-term costs - Improves community aesthetics and quality of life - Enhances environmental protection and health safety - Increases public awareness and responsible waste management - Can boost economic growth and property values | <ul style="list-style-type: none"> - Requires higher initial investment in education and prevention - Needs more planning and cross-department coordination - Results may not be immediately visible - May face resistance from stakeholders used to current practices |

| | | |
|-----------------|---|---|
| Reactive | <ul style="list-style-type: none"> - Provides immediate results through visible cleanup - Easier to justify expenditures for tangible outcomes - Can lead to successful prosecution of offenders | <ul style="list-style-type: none"> - Involves higher long-term costs due to repeated cleanups - Fails to address root causes, leading to repeated dumping - Strains municipal resources over time - Negative impact on community perception and property values - Does little to change behavior or improve public awareness |
|-----------------|---|---|

4.0 Case Studies

The following case studies highlight initiatives from various communities to illustrate the effectiveness of proactive strategies in combating illegal dumping. These examples showcase how different approaches—tailored to each area's specific needs and resources—have led to significant improvements in reducing illegal dumping incidents and promoting responsible waste management.

4.1 Case Study 1: TCEQ Statewide Efforts

The TCEQ has implemented a statewide approach to combat illegal dumping.

Key strategies implemented:

- Maintenance of a 24-hour complaint line for citizens to report environmental violations, including illegal dumping
- Provision of online resources for proper waste disposal and recycling
- Coordination with local governments and regional Councils of Government
- Public education initiatives through the "Take Care of Texas" program
- Enforcement of state laws about illegal disposal of solid waste

Program outcomes:

- Increased public awareness about the environmental impacts of illegal dumping
- Improved access to information on proper disposal methods for various types of waste
- Enhanced coordination between state and local authorities in addressing illegal dumping
- Promotion of recycling and proper waste management practices to reduce illegal dumping incidents

The TCEQ's efforts demonstrate a comprehensive statewide approach to combating illegal dumping through education, enforcement, and collaboration with local authorities.

4.2 Case Study 2: City of Dallas, Texas

2023 Population (estimated¹): 1,302,868

The City of Dallas has implemented a multi-faceted approach to address the persistent issue of illegal dumping, which has been a significant challenge for the city.

Key Strategies Implemented:

- Establishment of an illegal dumping hotline (214-671-CODE) for residents to report incidents and get updates on cases.
- Placement of over 50 cameras in chronic illegal dumping sites to catch offenders.
- Launch of the "Real Trash Talk" campaign to raise awareness and encourage community involvement in reporting illegal dumping.
- Implementation of a system allowing immediate action to clean locations subject to dumping within the last year.
- Collaboration between Code Compliance Services, City Marshal's Environmental Crimes Unit, and other city departments to address illegal dumping comprehensively.
- The Community Hand Tool Program provides free equipment for citizens who want to clean up their neighborhoods.

Program Outcomes:

- The city receives nearly 5,000 illegal dumping cases reported annually.
- The cost of cleaning up individual illegal dump sites ranges from \$300 to \$800 each.
- The City of Dallas spends approximately \$20.4 million annually on preventing, combating, and cleaning up litter and illegal dumping.
- Improved response times and case tracking through the dedicated hotline system.
- Enhanced community awareness and involvement through education campaigns and reporting mechanisms.

Challenges and Ongoing Efforts:

- Despite these efforts, illegal dumping remains a persistent issue in Dallas. The city continues to refine its approach, considering additional initiatives such as:
- Offering cash rewards for citizens who report illegal dumping
- Revoking violators' driver's licenses
- Posting violators' photos online
- Collaborating with schools, churches, and businesses for broader community engagement

The City of Dallas's approach demonstrates the importance of combining enforcement, community engagement, and rapid response in addressing illegal dumping. While the problem persists, the city's multi-faceted strategy shows promise in mitigating the environmental and economic impacts of illegal dumping.

¹ [U.S. Census Bureau QuickFacts: Dallas city, Texas](#)

4.3 Case Study 3: City of Fort Worth, Texas

2023 Population (estimate²): 978,468

Fort Worth has implemented a comprehensive approach to managing litter and illegal dumping issues.

Key strategies implemented:

- Alternative revenues generated for litter and illegal dumping programs through special assessment rates, toll revenues, and stormwater utility fees
- Illegal dumping prevention through drop-off stations and collection events
- The “Ten on Tuesday” campaign encourages residents to pick up ten pieces of litter, and Adopt-a-Drain and Adopt-a-River programs encourage litter and illegal dumping awareness and action
- Code Rangers Program trains citizen organizations to identify and report serious illegal dumping issues

Program outcomes:

- Total annual expenditure of \$8,546,200 on litter and illegal dumping management
- In fiscal year 2015, \$93,700 in stormwater utility fee credits were awarded for non-residential properties implementing best management practices
- Free drop-off stations resulted in an estimated \$1,357,600 annually in litter and illegal dumping abatement savings
- In fiscal year 2015, 2,800 tons of illegal dumping removed

Fort Worth's approach demonstrates a balanced distribution of resources across all aspects of litter and illegal dumping management, with significant investments in prevention and abatement efforts.

4.4 Case Study 4: City of Camden, New Jersey

2023 Population (estimate³): 71,100

The City of Camden implemented a comprehensive approach to address chronic illegal dumping sites and improve overall community cleanliness and health through the "Camden Strong" initiative.

Key strategies implemented:

- Identification and targeting of chronic dumpsites
- Regular cleanup operations and community cleanups
- Allocation of significant resources for remediation efforts
- Implementation of a series of targeted activities addressing illegal dumping, community health, and unsafe conditions
- Engagement of community volunteers in cleanup efforts

Program outcomes:

- \$4 million spent on remediation efforts

² [U.S. Census Bureau QuickFacts: Fort Worth city, Texas](#)

³ [U.S. Census Bureau QuickFacts: Camden city, New Jersey](#)

- Approximately 58 chronic dump sites targeted
- Over 340 cleanup operations conducted
- More than 7,000 tons of illegally dumped materials removed
- Ongoing series of community cleanups spanning spring and summer, starting in neighborhoods like Cramer Hill
- Expansion of the initiative to include cemetery cleanups
- Increased community engagement and volunteer participation in cleanup efforts

The Camden Strong initiative demonstrates a persistent and evolving approach to combating illegal dumping and improving overall city cleanliness. The program's success is evident in the significant amount of waste removed, the number of sites cleaned, and the ongoing community engagement. The initiative's expansion to include various aspects of city improvement, such as business façade enhancements and cemetery cleanups, shows a holistic approach to creating a cleaner and safer city.

4.5 Case Study 5: City of Weslaco, Texas

2023 Population (estimate⁴): 43,053

Weslaco has implemented a multi-faceted approach to managing litter and illegal dumping issues.

Key strategies implemented:

- Extended hours for construction material and bulk trash drop-off stations to increase accessibility for proper waste disposal
- "Operation Clean Sweep" community cleanup event to engage residents in litter prevention efforts
- Regular pickup of illegally dumped trash by city crews to maintain cleanliness
- Enforcement of municipal codes to deter illegal dumping activities
- Public education initiatives to raise awareness about the impacts of illegal dumping

Program outcomes:

- Increased accessibility for proper waste disposal, reducing the likelihood of illegal dumping
- Enhanced community engagement in cleanup efforts through "Operation Clean Sweep"
- Reduction in illegal dumping incidents, particularly in drainage ditches and canals
- Improved overall cleanliness of the city through regular trash pickup by city crews
- Greater public awareness of the environmental and economic impacts of illegal dumping

Weslaco's approach demonstrates a balanced focus on prevention, community engagement, and enforcement to address litter and illegal dumping issues. By providing more convenient disposal options and involving residents in cleanup efforts, the city has made strides in combating this persistent problem.

4.6 Case Study 6: City of Lufkin, Texas

2023 Population (estimate⁵): 34,18

⁴ [U.S. Census Bureau QuickFacts: Weslaco city, Texas](#)

⁵ [U.S. Census Bureau QuickFacts: Lufkin city, Texas](#)

In 2015, Lufkin implemented a comprehensive approach to managing litter and illegal dumping issues, with funding from residential and commercial solid waste customers.

Key strategies implemented:

- Jointly organized free drop-off events at the City of Lufkin Recycling Center, including Household Hazardous Waste Collection Day and Tire and Electronic Recycling Day
- Placement of cameras in common illegal dumping areas by the Police Department
- Installation of "No Dumping" signage by the Street Department
- Educational programs in schools, including Keep America Beautiful's Waste-in-Place curriculum
- EEK! Week (Environmental Education Kamp) for pre-teens, including tours of waste management facilities
- Multi-department approach to litter abatement involving Solid Waste, Parks and Recreation, and Streets departments
- Community cleanup events organized by Keep Lufkin Beautiful (KLB)
- Code Enforcement Department (CED) response to complaints and issuance of violation notices

Program outcomes:

- Collection of around 4,000 tires at each recycling event
- Total 2015 annual expenditure of \$232,800 on litter and illegal dumping management
- ~\$51,500 spent on litter abatement crews for city rights-of-way and main thoroughfares
- ~\$98,100 spent annually on park cleanup efforts
- ~\$13,700 spent annually on addressing illegal dump sites
- ~\$50,600 spent on litter and illegal dumping enforcement through the CED
- 270 volunteer hours contributed to Lufkin schools for education programs
- Over 150 volunteers participated in community-wide cleanup events

Lufkin's approach demonstrates a balanced distribution of resources across prevention, education, abatement, and enforcement efforts to address litter and illegal dumping. The city's strategy involves multiple departments and community organizations, showing a collaborative effort to maintain cleanliness and deter illegal dumping activities.

5.0 Action Steps for Communities

Increase surveillance and enforcement, limit access to potential dump sites, and provide accessible options for waste disposal – these are the top three most effective ways to prevent illegal dumping in a community.

For communities looking to address illegal dumping, initiating effective strategies may seem challenging, especially with limited resources. The following steps provide a roadmap to help communities, regardless of size, begin combating illegal dumping:

5.1 Assess the Problem

Conduct a Community Survey: Identify common illegal dumping sites, types of waste dumped, and possible sources.

Map Dumping Hotspots: Use simple mapping tools to visualize problem areas for targeted interventions.

5.2 Engage Stakeholders

Form a Task Force: Include local government officials, law enforcement, community leaders, businesses, and residents.

Community Meetings: Host meetings to discuss the issue, gather input, and build community support.

5.3 Develop a Plan

Set Clear Goals: Define what the community aims to achieve (e.g., reduce illegal dumping incidents by a certain percentage).

Identify Resources: Determine available resources, including volunteers, funding, and partnerships.

Establish Policies and Ordinances: Review and, if necessary, develop local ordinances to deter illegal dumping.

5.4 Implement Prevention Strategies

Improve Waste Disposal Access: Provide accessible and affordable disposal options, such as scheduled bulk waste pickup or drop-off events.

Secure Vulnerable Sites: Install barriers or signage at common dumping sites to discourage illegal activity.

Educational Campaigns: Launch awareness campaigns to inform residents about the impacts of illegal dumping and proper disposal methods.

5.5 Enhance Enforcement

Strengthen Partnerships with Law Enforcement: Collaborate with local police or sheriff's departments to enforce anti-dumping laws.

Establish Reporting Mechanisms: Create hotlines or online platforms for residents to report illegal dumping anonymously.

Increase Surveillance: Use cameras or community watch programs to monitor hotspots.

5.6 Mobilize the Community

Organize Clean-Up Events: Engage volunteers in regular clean-up activities to remove existing waste and discourage further dumping.

Recognize and Reward Participation: Acknowledge individuals and groups contributing significantly to anti-dumping efforts.

5.7 Seek Funding and Support

Apply for Grants: Look for state or federal grants for environmental protection or community improvement.

Partner with Local Businesses: Seek sponsorships or donations from businesses interested in community development.

Collaborate with Nonprofits: Work with environmental organizations that can provide expertise or resources.

5.8 Monitor and Evaluate Progress

Track Incidents: Keep records of illegal dumping reports, clean-up efforts, and enforcement actions.

Assess Effectiveness: Regularly evaluate the impact of implemented strategies and adjust the plan as needed.

Report to the Community: Share progress and successes with residents to maintain engagement and support.

By following these action steps, communities can effectively develop tailored strategies to address illegal dumping. Starting small and building upon early successes can lead to significant improvements in reducing illegal dumping and enhancing the quality of life for all residents.

6.0 Conclusion

The three most effective ways to combat illegal dumping include Increasing surveillance and enforcement, limiting access to potential dump sites, and providing accessible and affordable waste disposal options. Focusing on these three ways, plus the examination of various illegal dumping prevention efforts across Texas communities, reveals several key insights for municipalities and stakeholders:

Proactive Approaches Yield Long-Term Benefits: While reactive measures like abatement are necessary, proactive strategies focusing on prevention and education offer more sustainable solutions to illegal dumping. These approaches address root causes and foster community engagement.

Community Involvement is Crucial: Engaging citizens in reporting and prevention efforts significantly enhances the effectiveness of anti-dumping initiatives. Programs incentivizing community participation have shown notable success in reducing illegal dumping incidents.

Resource Allocation is Essential: Dedicating specific funding, personnel, and equipment to combat illegal dumping leads to more responsive and effective programs. This commitment demonstrates the priority of addressing the issue and enables sustained efforts.

Inter-Agency Coordination Enhances Effectiveness: Successful programs highlight the importance of cooperation between various departments and agencies in addressing illegal dumping. This collaboration ensures a unified approach and maximizes resource utilization.

Technology Plays a Vital Role: Surveillance cameras, hotlines, and data management systems can improve the detection, reporting, and prosecution of illegal dumping incidents. These tools also aid in identifying patterns and hotspots for more targeted interventions.

Education is Fundamental: All successful programs incorporate strong educational components to raise awareness about the impacts of illegal dumping and proper waste disposal methods. This proactive measure helps prevent illegal dumping before it occurs.

In conclusion, the transition from reactive to proactive efforts in combating illegal dumping offers numerous benefits to Texas communities. By implementing comprehensive strategies that emphasize prevention, education, and community engagement, municipalities can reduce the incidence of illegal dumping, lower long-term costs, and improve overall community well-being.

7.0 Additional Resources

Resources:

- Resources on managing municipal solid waste from the TCEQ
- Website: [Resources on Managing Municipal Solid Waste - Texas Commission on Environmental Quality - www.tceq.texas.gov](https://www.tceq.texas.gov)

Strategic Plans:

- City of Dallas Code Compliance Strategic Illegal Dumping Plan
- Website: [City of Dallas Code Compliance Strategic Illegal Dumping Plan](#)
- City of Houston One Clean Houston: A Strategic Plan for a Cleaner City
- Website: [One Clean Houston](#)

Studies:

- Texans for Clean Water: The Cost of Litter and Illegal Dumping in Texas
- Website: [The Cost of Litter and Illegal Dumping in Texas](#)
- Keep Pennsylvania Beautiful: The Cost of Litter and Illegal Dumping in Pennsylvania
- Website: [The Cost of Litter and Illegal Dumping in Pennsylvania](#)
- Journal of Environmental Management: Community identified characteristics related to illegal dumping; a mixed methods study to inform prevention
- Website: [Community identified characteristics related to illegal dumping: a mixed methods study to inform prevention](#)
- Resource and Energy Economics: On the relationship between the provision of waste management service and illegal dumping
- Website: [On the relationship between the provision of waste management service and illegal dumping - ScienceDirect](#)

Guidebooks:

- Houston-Galveston Area Council: How to Establish and Operate An Environmental Enforcement Program
- Website: [Environmental Enforcement Publications | Houston-Galveston Area Council \(H-GAC\)](#)
- Environmental Protection Agency: Illegal Dumping Prevention Guidebook
- Website: [Illegal Dumping Prevention Guidebook, March 1998 | US EPA ARCHIVE DOCUMENT](#)

