

Litter Abatement Curriculum

2017



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How to Use this Curriculum:

Throughout this curriculum document, the reader has the opportunity to "jump" from one location to another. Clicking on any item in the table of contents will take you to that section. Clicking on a section heading or subheading will take you back to the table of contents. Clicking on a topic or word in blue font within the document will take you to the referenced item (e.g., a table, figure, bolded appendix or external resource). For referenced items within the document, clicking on the referenced item takes you back to your original location in the document.

In addition, provided throughout the curriculum are several interactive pages where you are encouraged to fill in information, for brainstorming and planning purposes. The curriculum can then be re-saved under a different file name, and selected pages printed for reference.

Please report any broken links to: litter@kab.org

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1. Introduction

About Keep America Beautiful

At Keep America Beautiful, we want to ensure that beauty is our lasting signature. A leading national nonprofit, Keep America Beautiful inspires and educates people to take action every day to improve and beautify their community environment. We envision a country where every community is a clean, green, and beautiful place to live.

Established in 1953, Keep America Beautiful provides the expertise, programs and resources to help people end littering in America, increase recycling in America, and beautify America's communities. The organization is driven by the work and passion of more than 600 community-based Keep America Beautiful affiliates, millions of volunteers, and the support of corporate partners, municipalities, elected officials, and individuals. To learn how you can donate or take action, visit kab.org. Follow us on [Twitter](#) and [Instagram](#), like us on [Facebook](#), or view us on [YouTube](#).



Photo 1: Dale Ruff/The Republican

Purpose of this Document

This document has been developed to provide an array of stakeholders – KAB affiliates, law and code enforcement officers, concerned citizens, and others interested in stopping litter – with knowledge and tools to become informed about litter-related crime and ways in which it can be combatted. The curriculum provides background information about a broad array of litter-related topics. KAB has also created other resources, including an Enforcement Guide and a Collaboration Guide, to provide more in-depth exploration in those topics. A model litter/illegal dumping ordinance has also been developed, as well as a litter/illegal dumping database. These resources are all available on [KAB's website](#).

What is Litter?

Litter is trash, debris, and other items that have been discarded improperly along roadsides, in waterways, and otherwise uncontained or improperly managed. One definition of litter states that it “consists of items found in socially unacceptable locations.”¹ Litter can be a result of deliberate actions, or can be accidental in nature – such as when materials become windblown from the back of a vehicle. Garbage piles on public or private property, the result of illegal disposal or dumping, are considered to be extreme forms of litter.

The Evolution of Litter

¹ Geller, “Prompting Anti-Litter Behaviors.” Proceedings of the 81st Annual Convention of the American Psychological Association. 1973.

The nature of litter changes as our consumption patterns, products, packaging, and lifestyles change. For example, packaging of food, beverages and other products has become more lightweight, and many packaging types are not biodegradable. Examples include plastic bags and bottles and multi-layered chip and snack bar packaging. A recent KAB Study (2009 KAB Litter Study, by MSW Consultants) compared the incidence and type of roadway litter to litter studies from 1969. The study indicated that, normalized for population increases, the quantity (by item count) of the following types of litter has declined:

Paper, by 78.9 percent,
Metal, by 88.2 percent, and
Glass, by 86.4 percent.

However, the quantity of plastic litter observed has increased by 165.4 percent.²

The increase in plastic/synthetic litter over the past 30 to 40 years is of concern because these materials do not degrade, or degrade only slowly over time. Also, due to their light weight, they tend to be transported via wind and water to other locations. There is growing concern across the nation regarding the accumulation of plastics in waterways, which contributes to the growing marine debris issue. Fortunately, since 1969, the total quantity (by count) of visible litter observed along the nation's roadways has decreased by 61 percent.³ There is no way to estimate the total amount of litter in non-roadway locations nationally, however, and litter remains a pervasive problem with serious negative consequences.

Why Should Litter Be Addressed?

To some people litter may seem like a relatively unimportant issue, particularly when compared to crimes such as theft, rape and murder. This can make it challenging to obtain adequate resources to clean up and make efforts to end litter. However, the truth is that litter has important implications for the environment and in communities. It can negatively impact the health and safety of humans and animals, as well as the economic health and overall quality of life. If left unaddressed, litter in areas can attract more littering behavior as well as other forms of blight. When litter or



Photo 2: Steven Dearth/Hingham, MA Police Department

² MSW Consultants, "2009 National Litter Survey and Cost Study," for KAB. 2009.

³ Ibid.

accumulation of garbage occurs on vacant properties, it may attract trespassers who notice that the property is unattended, as is explained by the Broken Windows Theory, which is described below.

Health and Safety of People and Environment

Litter and debris in and around living quarters and businesses can attract insects and rodents, which pose a health and safety risk to people. Other types of litter that pose a threat to humans, animals and the environment include:

- Illegally disposed scrap tires, for example, fill with water and attract mosquitos, which carry several illnesses;
- Refrigerators with the doors still attached that children can become locked inside;
- Flammable and caustic agents;
- Byproducts from drug production, such as methamphetamine ("meth") labs;
- Illegally disposed needles from legal and illegal drug use; and
- Lit cigarettes.



Photo 3: Keep Guntersville Beautiful

Some material types, like scrap tires and wood piles, can spontaneously combust, putting people, property and animals at risk. In general, litter damages ecosystems and animal habitats. Debris from improperly covered loads and vehicular debris (truck tire treads, for example) cause hundreds of deaths annually across the U.S.) 800 in 2011, the latest year for which data are published.⁴ Lastly, debris that is carried to waterways via storm drains and wind (due to nature or vehicular movement) can be ingested by aquatic animals and birds or entrap them.

Marine Debris – A Growing Concern

Marine debris is defined as any persistent solid material that is manufactured or processed and directly or indirectly, intentionally or unintentionally, disposed of or abandoned into the marine environment or the Great Lakes. It is estimated that up to 80 percent of marine debris was originally littered on land. Marine debris is a global problem that not only impacts the environment, economy, and human health, but also navigation safety. Currents tend to pull debris into certain locations where debris becomes concentrated. Of particular concern is plastics, which slowly degrade into smaller pieces, eventually into "microplastics;" but most plastics we commonly use never fully degrade. Litter in aquatic environments can also cause algae blooms, further disrupting the marine environment. The National Oceanic and Atmospheric Administration and the Ocean Conservancy are leaders in educating about marine debris, and in partnering with others to clean up and end marine debris, as is the National Academy of Sciences. The U.S. EPA has also initiated a Trash Free Waters (TFW) program. This program helps states, local governments, and businesses work together to explore more effective ways to reduce litter, block trash entry into water, and reduce packaging waste by working with public, private, and non-profit stakeholders at the state and local levels. Keep America Beautiful is a member of Trash Free Seas and partners with the U.S. EPA on their Trash Free Waters program.

Aesthetics/Quality of Life

Litter along roadways and in public spaces, and on private property has negative impacts on aesthetics and quality of life. A community park or downtown area that has litter strewn about is likely to be less inviting to the public. Studies show that once litter exists on a site, others are more likely to litter at that location – litter begets litter. Also, the existence of litter can further lead to neglect and abuse of the property, further deteriorating the aesthetics and safety of a site. Studies have shown, for example, that according to the “The Broken Windows Theory,” once an area has been subject to litter, people are more prone to not only litter, but also otherwise damage the property, often leading to graffiti and other vandalism and anti-social behaviors. A small quantity of litter essentially has the potential to initiate a significant downward spiral for a specific location, which impacts quality of life in the community overall.

Economics

Litter can result in significant negative economic impacts. Besides the direct costs of cleaning up litter borne by businesses, state and local departments of transportation, parks management, etc., who spend countless hours collecting trash and/or managing efforts of volunteer organizations, there are many indirect costs associated with litter. Litter can make an area less appealing to visitors and tourists, resulting in direct and indirect sales and tax revenue losses. Litter that ends up in waterways, for example, can have a negative impact on tourism-related businesses such as boat tours, commercial and recreational fishing, and tourism activity in general. Litter also results in a reduction of property value. The presence of litter in a community, according to a model developed by the National Homebuilders' Association, reduces a property's value by 7 percent.⁵ Litter can also deter businesses from locating in a particular community, resulting in fewer local jobs.



Photo 4: Houston Brown, Lake Highlands Advocate Magazine

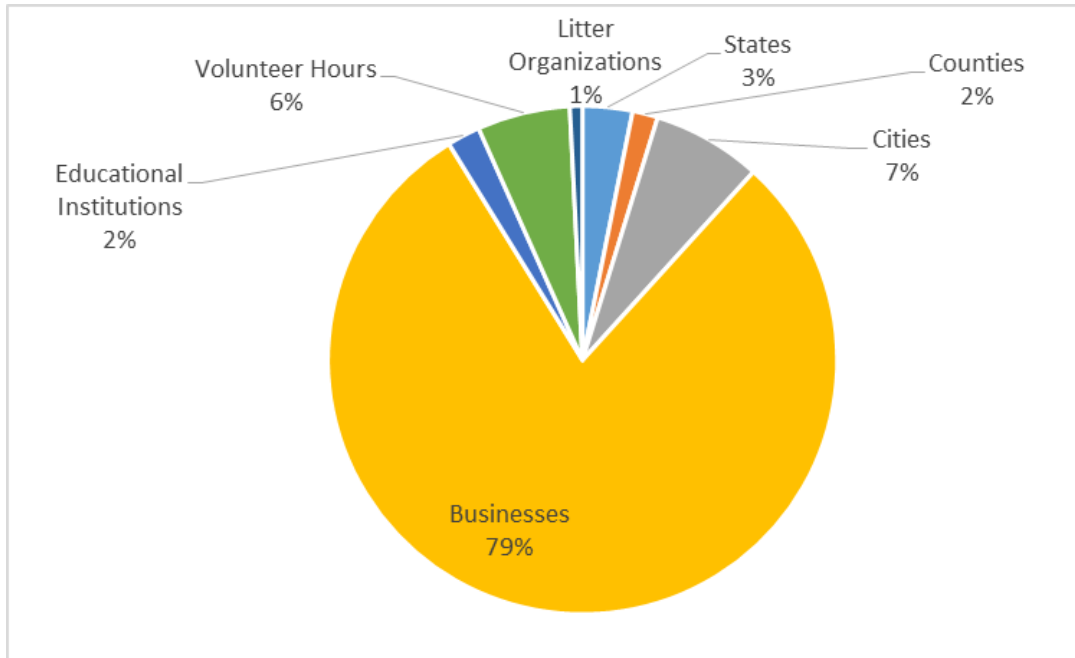
Litter cleanup costs alone cost the nation \$11.5 billion per year, most of which (80 percent) is paid by businesses.⁶ States, cities and counties, combined, spend about \$1.3 billion per year to clean up litter.⁷ Educational entities and non-governmental organizations (NGOs) also spend significant amounts of money cleaning up litter. The amount of money spent annually to address and clean up litter is summarized in Figure 1.

⁵ MSW Consultants, “2009 National Litter Survey and Cost Study,” for KAB. 2009.

⁶ Ibid.

⁷ Ibid.

Figure 1: Annual Costs to Address Litter by Responsible Party



Litter Overview Review:

True False

- 1) All litter is intentional.
- 2) The total amount of roadside litter (by count) has decreased in the past 50 – 60 years.
- 3) In the past 50 – 60 years, the quantity of plastic found along roadsides has decreased.
- 4) The only problem litter poses is aesthetic in nature.
- 5) Litter and illegal dumping can pose health and safety risks.
- 6) Provide two examples of how litter can harm a community economically:

- 7) Describe the "Broken Windows Theory:

Departments and Organizations that Spend Resources to Address Litter

Litter cleanup costs include equipment (gloves, bags, dumpsters, other containers/recycling bins), disposal costs, transportation costs, labor costs, equipment costs to manage large/heavy items. The types of departments and organizations that clean

up litter or otherwise address litter (beyond private businesses, who collectively spend the most to clean up litter) include:

- Parks and recreation departments
- State and local highway departments
- State and local law enforcement officers
- Local code enforcement officers
- Contracted third parties
- Sanitation departments and private sanitation service providers
- Judicial system
- Keep America Beautiful national office and affiliate offices
- Volunteers



Photo 5: Prince William County, Virginia Neighborhood Services

Working with Food Service Establishments to Stop Litter

KAB partnered with the Foodservice Packaging Institute and the National Restaurant Association to develop a guide for reducing litter from food service establishments. The guide includes:

- Information about the behaviors that lead to litter and the importance of stopping litter;
- Ways to train staff to reduce the likelihood of litter;
- A checklist that can be used by food service establishments to better understand the types and quantities of litter in and around their location;
- Ways to change the environment to discourage littering behavior;
- A practical checklist food service establishments can use to ensure they are doing what they can to stop litter; and
- Tips for engaging with customers and the community to stop litter.

The guide is available at:

https://www.kab.org/sites/default/files/EndLittering_ForAffiliates-Businesses_A_Guide_to_Reducing_and_Managing_Litter_0.pdf



Litter in My Community:

1) In my community, I tend to see litter at the following locations:

2) Litter in my community has had the following negative impacts:

3) The organizations/departments involved in cleaning up litter in my community include:

4) Costs associated with litter cleanup in my community include (if dollar amounts are unknown, think about and list any resources you are aware of that are used to clean up litter, including third-party services, equipment, and labor used to clean up litter).

5) Costs associated with litter education/prevention in my community include (if dollar amounts are unknown, think about organizations and the types of resources, outreach, efforts that are expended annually):

6) Types of litter that are particularly important to address in my community include:

7) They are important to address because:

Why Do People Litter?

Those working to end litter may be better equipped to do so if they have some understanding of why people litter in the first place. Research shows that 85 percent of litter is related to individuals' attitudes and other individual factors.⁸ Changing attitudes, therefore, is key to preventing litter. In an observational study, 81 percent of littering was intentional, not accidental.⁹

Recent studies looking at the types of littering behavior over time (from 1990 to present) have shown that there is a trend away from deliberate littering, with littering as a whole dropping by approximately 2 percent per year since the 1990s.¹⁰

Following are some factors that studies show contribute to or are associated with littering. Some of these factors can be controlled, but others are intrinsic to individuals and cannot be changed.



Photo 6: Post and Courier (SC)

The Presence of Litter at the Site

KAB's 2009 Littering Behavior Study shows what prior studies have also indicated – individuals are much more likely to litter in an already littered environment. And once there,



Photo 7: Protect Our Oceans Please

it attracts more litter. On the other hand, a clean, tidy community, including those with no litter, nice landscaping, and well-maintained infrastructure, discourages littering and improves overall quality of life in the community.

Convenience (Real or Perceived) of Receptacles

Studies show that whether adequate receptacles for trash, recyclables, and cigarettes are convenient is closely related to the existence (or non-existence) of trash at a location. Of course, convenience can be subjective. The 2009 KAB Littering Behavior Study shows that distance from the waste generator to the receptacle had a strong positive correlation with littering. In particular, distances of over 20 feet were correlated with a higher rate of littering. The study also suggests that receptacles that are brightly colored or thematic/interesting in nature seem to invite use. Among smokers, the presence (or lack thereof) of a cigarette/ash

⁸ Action Research, "Littering Behavior in America: A National Study," for KAB, 2009.

⁹ Ibid.

¹⁰ R.W. Beck, "A Review of Litter Studies, Attitudes Surveys and Other Litter-Related Literature," for KAB, 2007, as cited by Action Research.

receptacle was even more influential than the impact on other litter. These findings may help guide placement of receptacles in communities, particularly when paired with information about where people tend to litter.

Demographics

Age -- Several studies show that age is negatively correlated with the likelihood of littering – that is, younger people are more likely to litter than older people. Individuals under the age of 30 are more likely to litter than those 30 or over. People aged 19 and below are more likely to litter than any other age group.¹¹ It has also been suggested that adults 21-35 are three times more likely to litter than those over the age of 50 and two times more likely to litter than those aged 35-49.¹² This information may help identify target audiences for education and outreach efforts – particularly if community studies and observations reflect the same findings.

Gender -- Gender does not influence the likelihood of littering to a significant degree, although some studies suggest that males are more prone to admit that they litter than females.^{13 14 15}

Degree of Urban/Rural and Family Size -- There is some evidence that people living in rural areas are more likely to litter than people living in cities. In addition, some research suggests that individuals from small households (1-2) are less likely to litter than those from large households (5+)¹⁶.

Social Norms

Studies show that social norms have a strong influence over a person's decision to litter (or not), and that social norms regarding littering have changed over the last 50 years from a moderate level of concern to a strong feeling of personal obligation not to litter.¹⁷ Recent research through telephone surveys and behavioral observations shows that people are considerably less likely to litter when they believe that it is wrong to do so, even when receptacles are not convenient.¹⁸ This points once again to the importance of changing attitudes and social norms to stop littering.

¹¹ Krauss, R. M., Freedman, J. L., & Whitcup, M., Field and Laboratory Studies of Littering. *Journal of Experimental Social Psychology*, 1978, 14, 109-122, as cited by Action Research.

¹² Geller, 1968, as cited by Action Research, "Littering Behavior in America: Results of a National Study," for KAB, 2009, as cited by Action Research.

¹³ Cialdini, R. B., Reno, R. R., & Kallgren, C. A., "A Focus Theory of Normative Conduct: Recycling in a Concept of Norms to Reduce Littering in Public Places," *Journal of Personality and Social Psychology*, 1998, 58(6), 1015-1026.

¹⁴ Krauss, R. M., Freedman, J. L., & Whitcup, M., Field and Laboratory Studies of Littering. *Journal of Experimental Social Psychology*, 1978, 14, 109-122, as cited by Action Research.

¹⁵ Meeker, F.L., "A Comparison of Table-Littering Behavior in Two Settings: A Case for A Contextual Research Strategy," *Journal of Environmental Psychology*, 1997, 17, 59-68, as cited by Action Research.

¹⁶ Geller, 1968; as cited by Action Research.

¹⁷ Action Research, "Littering Behavior in America: Results of a National Study", for KAB, 2009.

¹⁸ Ibid.

Where do People Litter?

Roadsides

We often see litter along the nation's roadsides. Litter is thrown from vehicles, blows to roadsides from other locations, and is inadvertently blown from moving vehicles. Roadways impacted include federal highways, state highways, and city and county roads.

Litter is commonly quantified in terms of pieces of litter, as opposed to by weight. It is often categorized, in litter composition studies, by size – for example, over four inches or four inches or less in size.



Photo 9: Alamy/The Telegraph

There are over 51 billion pieces of litter on our nation's roadways, 4.6 billion of which are larger than four inches in size. On average, there are 1.3 pieces of litter per every foot of roadway (to a 15-foot depth) in the U.S., or 6,729 pieces of litter per mile. On a per-mile basis, there is more litter along urban roadways (7,728 pieces of litter per mile) than rural roadways (6,357 pieces of litter per mile). However, because there are more rural roadway (by nearly

three-fold), there is more litter among rural roads, nationally. Also on a per-mile basis, considering national, state, municipal and county roads, the average number of items per mile is greatest along national roadways, followed by state, county and lastly municipal roads. These study results are illustrated in [Figure A-1](#).

Non-Roadside Locations

While we hear much about roadside litter, there are other places where litter commonly occurs. They include (but are not limited to) the following types of locations:

- Parks and recreation areas, particularly picnic areas;
- Outside of buildings – particularly venues where people are expected to finish food, beverage, and smoking before entering (also referred to as "transition areas");
- Vacant lots;
- Parking lots;



Photo 8: Susan Bush/R. W. Beck

- Areas where trash and recyclables are managed, such as transfer stations, landfills and trash and recycling convenience centers;
- Festivals and events;
- Loading docks;
- Shopping areas;
- Bridges and overpasses;
- Near convenience and grocery stores;
- Storm drains; and
- Transportation hubs (e.g., bus stops, train stations, etc.).

Having a better understanding of where littering occurs can help identify where recycling, cigarette, and trash receptacles may need to be located.

What Materials Are Commonly Littered?

Understanding the types of materials that are littered, and typical places where litter occurs



Photo 10: Daily Mail.com

can help target efforts to address litter and stop litter behavior. Most litter studies focus on roadside litter, although other types of litter also exist.

Many studies have been undertaken to characterize litter, however they do not all characterize litter using the same categories. Several studies have shown that the most frequently littered item by count and volume is cigarette butts.¹⁹

Roadside Litter

The 2009 KAB National Litter Survey Study showed that the following were the most frequent types of litter identified among

roadways, in order of prevalence:

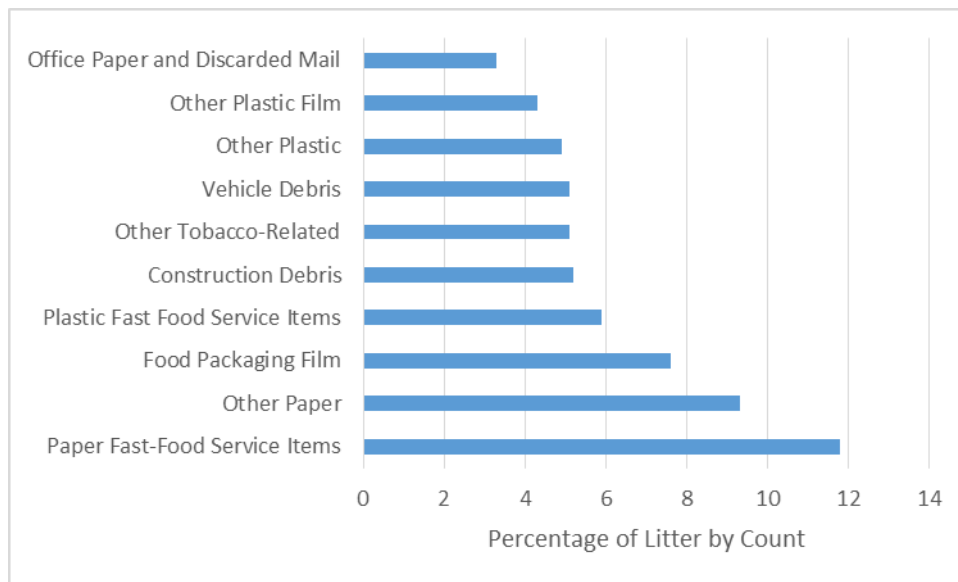
- 1) Tobacco products,
- 2) Other litter (not elsewhere classified),
- 3) Miscellaneous paper,
- 4) Packaging,
- 5) Miscellaneous plastic, and
- 6) Beverage containers.

Figure A-2 provides a visual breakout of all litter types (large and small) from the 2009 visual litter survey study results, by item count.

¹⁹ Sibley, C. G., & Liu, J. H. (2003). Differentiating Active and Passive Littering: A Two Stage Process Model of Littering Behavior in Public. *Environment and Behavior*, 35, 415-433, as cited by Action Research.

Figure 2 shows the breakout of litter items from the 2009 litter survey study, when only litter greater than four inches in size is considered. When considering only these larger, more visible littered items, snack food packaging, fast food packaging, and other packaging combined comprise nearly 46 percent of litter.

Figure 2: Roadside Litter Types Greater than Four Inches in Size



Non-Roadside Litter

While roadside litter is often the focus of litter survey studies, other types of litter are also generated in non-roadway locations. Such litter may have originated on the site, or may have migrated from a roadway, loading dock, garbage truck, or recycling bin (or a myriad of other sources) with the help of wind or water. Examples of non-roadside litter types (which could also be found roadside) include:

- Signage not removed in a timely fashion (i.e., election signs, event signs, missing pet signs);
- Scrap appliances;
- Abandoned automobiles;
- Vehicle debris/parts;
- Construction and demolition debris;
- Scrap tires;
- Typical household or business trash;
- Snack wrappers;
- Beverage containers;
- Cigarette butts;
- Gum;



Photo 11: WA Dept. of Ecology

- Paper; and
- Abandoned boats left on moorings or at docks in waterways (also referred to as "derelict vessels."

Where is Litter Coming From?

Roadside Litter

Litter can be due to intentional or non-intentional actions. The 2009 KAB Study²⁰ identified the following as generator types and sources of roadside litter:

Motorists — Litter that occurs when a motorist discards trash while driving.

Pedestrians — Trash improperly disposed by pedestrians traversing the sidewalk by the roadside or otherwise walking through a non-roadway area.

Improperly Secured Loads — Litter that occurs as a result of negligence during the transport of trash or recyclables. Examples would include wrappers escaping from the bed of a pickup truck, as well as debris being blown from uncovered roll-off containers during transport. This can be due to commercial haulers or residents.

Overflowing Containers — Litter that results from trash and recycling containers, including dumpsters, from being improperly closed or adequately sized, causing material to be set alongside the container, which can become windblown or scattered by animals.

Vehicle Debris — Tire treads and other parts that disengage from a moving vehicle as well as debris resulting from vehicle accidents.

Unknown — In some cases the research team was unable to determine the source of litter.

Based on [context clues](#) researchers conducting the 2009 KAB Litter Study²¹ determined that litter along U.S. roadways was generated largely by motorists (52.8 percent), as well as

Figure 3: Sources of Roadside Litter

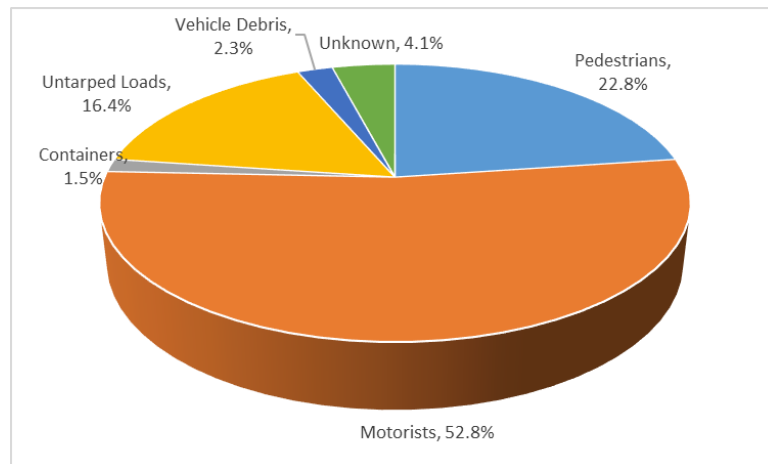


Photo 12: NC Dept. of Transportation



Photo 13: Waste Free Oceans

²⁰ MSW Consultants, "2009 Litter Survey and Cost Study," for KAB. 2009.

²¹ Ibid.

pedestrians (22.8 percent) and uncovered loads (16.4 percent). The results of the study are shown graphically in Figure 5.

Non-Roadside Litter

The 2009 KAB Litter Study²² examined the source of non-roadside litter by location type. Essentially generators included pedestrians, motorists (even though not classified as roadside litter), unsecured loads, workers, and unknown sources. The extent to which these types of generators were responsible for litter at different types of locations varied by the type of location. The Study, which involved making observations at locations deemed to be commonly littered, included the following types of non-roadway locations listed in order of prevalence:

1. Transition points (including bus stops, convenience store, movie, fast food and other retail entrances, train station, rest area, and post office entrance, education center entrance, and hotel entrance);



Photo 14: Kevin Proft/ecoRI News

²² MSW Consultants, Litter Survey and Cost Study, for KAB. 2009.

2. Storm drains;
3. Loading docks;
4. Recreational areas (parks, clubhouses, walking paths, ball courts, sport fields, beach, etc.);
5. Construction sites; and
6. Retail areas.

Details regarding the types and quantities of litter identified at each of these locations is provided in [Table A-1](#). Unlike the roadway litter, there are no national databases that provide data about all non-roadway sites, therefore it is not possible to estimate the quantity of litter generated nationally at non-roadway locations. However, studies of non-roadway litter sites help identify ways to end littering at these sites.

Review of the Where's and What's of Litter:

- 1) The type of roadways with the most litter per mile are _____ (national, state, county, or rural) roadways.
- 2) However, considering the number of miles of each of these types of roadways, _____ (national, state, county or rural) roadways are the largest source of roadside litter.
- 3) The most common type of littered item along roadways is (tobacco products, beverage containers, snack packaging) (circle one).
- 4) Littering is always intentional Yes No
- 5) List three reasons people might litter:
 a) _____ b) _____ c) _____
- 6) What is one way litter can occur unintentionally?

Seasonality of Litter:

Litter tends to be seasonal in nature – with more litter being generated in summer months when windows in vehicles are more likely to be down, and pedestrian traffic is higher in most areas. The 2009 KAB Litter study was conducted during the summer of 2008, so results from the study may provide a slightly inflated estimate of litter due to the inability of the researchers to account for seasonality.

Seasonality can also impact communities that have seasonal fluctuations in populations. Visitors and part-time residents (including college students):

- May not feel as connected to and protective of the area;
- May not know people in the area, and therefore may not feel social pressure to “do the right thing” with trash and recyclables they generate; and
- May not be aware of options for proper management of trash, recyclables, and other materials (or may not want to go through an added expense or inconvenience) to properly manage the materials they generate.

Strategies to Prevent, Clean and Stop Littering

Since its inception in 1953, Keep America Beautiful and its affiliates have been working to identify the causes of litter, clean up litter, and most importantly, end littering behavior. Extensive research, using observations of behavior as well as self-reported behavior, help guide strategies to end litter. Strategies include:

Litter Abatement Strategies: Broadly Speaking
Antecedent Strategies – Aim to prevent litter BEFORE littering occurs. The most commonly include education and outreach, keeping areas clean, and thoughtful, convenient placement of receptacles.

Consequential Strategies – Take place AFTER littering occurs and might include paying a ticket, cleaning up litter, or having the violator's name

- Providing adequate and convenient waste management services;
- Having adequate receptacles and implement other environmental design strategies;
- Education and outreach;
- Ordinances;
- Monitoring and surveillance;
- Penalties/enforcement; and
- Cleanup efforts.

Each of these strategies is explored below.

Provide Adequate and Convenient Waste Management Services

Some types of material are observed to be littered/illegally dumped because generators either do not know what to do with it, or do not want to pay for proper management. This type of waste may be found roadside, on private property, or on empty lots in rural areas. Examples include:

- abandoned vehicles and vehicle parts;
- electronics,
- appliances,
- scrap tires,
- waste oil and antifreeze;
- construction and demolition debris,
- mattresses/furniture,
- leaves and yard trimmings,
- other bulk items,
- hazardous waste (including household hazardous waste), and
- medical waste.



Photo 15: City of Natchitoches Parish Journal.com

Communities can help end litter by ensuring that adequate, convenient programs exist, and that residents, businesses, and visitors are made aware of the existence of programs, as well as the expectation that materials are to be managed properly. Practices that can help avoid illegal dumping include:

Communities provide garbage and recycling collection to all "single-family" households (which usually includes smaller multi-family dwellings) either directly (using city crews) or indirectly (via a contract or franchise agreement with a service provider). When residents pay for their own trash collection, some residents may illegally dispose of their trash to avoid paying that cost.

Provide a convenient, low-cost means of managing yard trimmings and Christmas trees.

Provide low-cost or no-cost collection of household hazardous waste (HHW) and scrap tires.

Provide convenient options for management of construction and demolition (C&D) materials.

Provide convenient options for management of appliances, or provide residents with information about programs that exist to manage these items at the end of their useful life.



Photo 16: Keep America Beautiful, America Recycles Day

Inform residents of proper ways to manage medical waste.

Often programs are in place but residents and businesses are not aware of them. If programs are not being used, communities may try to identify the barriers (real and perceived) that exist – such as lack of knowledge, lack of convenience, cost, etc. This could be done through a community survey or as part of the litter enforcement process.

Have Adequate Receptacles in Place and Implement Other Environmental Design Strategies

The presence or lack of appropriate receptacles for cigarettes, trash, and recyclables, significantly impacts littering behavior. This is especially true of cigarettes and other tobacco products. Therefore, having trash, recycling, and cigarette receptacles in convenient locations is imperative. There is a significant need for more ash/cigarette receptacles, as tobacco products comprise 38 percent of all litter. Transition points – areas where it is required to finish/dispose of items, such as at a building entrance -- are especially important areas for receptacle placement. People are more likely to use receptacles if they:

- are conveniently located (> 20 feet is associated with an increased rate of littering);
- are emptied as needed;
- are in a clean, well-lit, highly visible area; and
- are brightly colored or themed as appropriate for the type of venue where they are located.



Photo 17: Keep America Beautiful, America Recycles Day



Photo 18: SafetySign.com

Other environmental design elements can make it less likely that crimes, including littering, will take place on a property. The concept is referred to as "Crime Prevention through Environmental Design" (or CPTED). Because people are more likely to litter or prevent other crimes in areas where they cannot be seen, designing spaces, particularly public spaces, such that all areas are highly visible, is one way to reduce litter. This includes incorporating lighting and landscaping design elements that enhance visibility

throughout the entire space. Another strategy is territorial reinforcement, which calls for a unified design throughout the public space and a well-maintained, neat appearance that gives the public the impression that the space is well controlled and therefore not an appropriate place to litter (or commit other crimes). More about CPTED can be found at the [International CPTED Association](#) (ICA). South Carolina's KAB affiliate, PalmettoPride, provides training in CPTED.

Crime Prevention through Environmental Design:

The three main tenets of avoiding crime through environmental design require thinking like a criminal. A criminal will ask himself:

S – Surveillance – Will I be seen committing this act? – Not only are surveillance cameras helpful, but also ensuring that someone can't hide behind vegetation or in darkness help the potential criminal feel "watched."

A – Access – Can I get in and out quickly? – Fences and curved walkways can act as pedestrian traffic control devices, if placed properly.

T – Territoriality – Does anyone care what happens here? – This trait stresses the need to clean litter, graffiti, and litter dumps as quickly as possible, before the property appears to be abandoned.

Considering these three characteristics together can help deter crime. It can be easy for someone to cut open a fence, for example (gaining access), but if they feel the property is being watched (surveillance), they are much less likely to do so. Some elements can help in one way, but hurt in another. For example, tall fences limit access, but if they are opaque, they can also prevent surveillance. A tall fence that can be seen through (offering surveillance and limiting access) may be a better design to deter crime.

Source: <http://www.slideshare.net/HERAmember/crime-prevention-through-environmental-design>

Conduct Education and Outreach

Education and outreach are important when it comes to changing or encouraging people to behave a certain way. Messaging can be broad and suitable for society at large, but more commonly there is a more specific target audience that needs to receive, understand, and act upon a specific message.

Identifying the Message and the Target Audience

Education and outreach can serve many purposes relative to preventing and cleaning up litter. Examples include:

- Make generators of waste and other materials (and others, such as elected officials and community leaders) aware of the potential negative impacts of litter;

- Help establish a social norm that littering is unacceptable/broadly promote anti-littering;
- Make generators of waste and other materials aware of the availability of options for properly managing materials;
- Educate generators about steps they can take to minimize waste and litter, for example, educating vehicle fleet managers about proper tire maintenance can help reduce roadside debris of tires as well as make tires last longer;
- Make generators of waste aware of the ordinances that exist against litter, and the enforcement actions that can result from violations of these ordinances; and
- Solicit volunteers to help with cleanup activities.

When considering the target message, consider:

- What is the intended message?
- What action is desired of the target audience?
- What seems to motivate the target audience?
- How can the target audience be reached? What will get their attention?
- How can the target audience stay engaged?

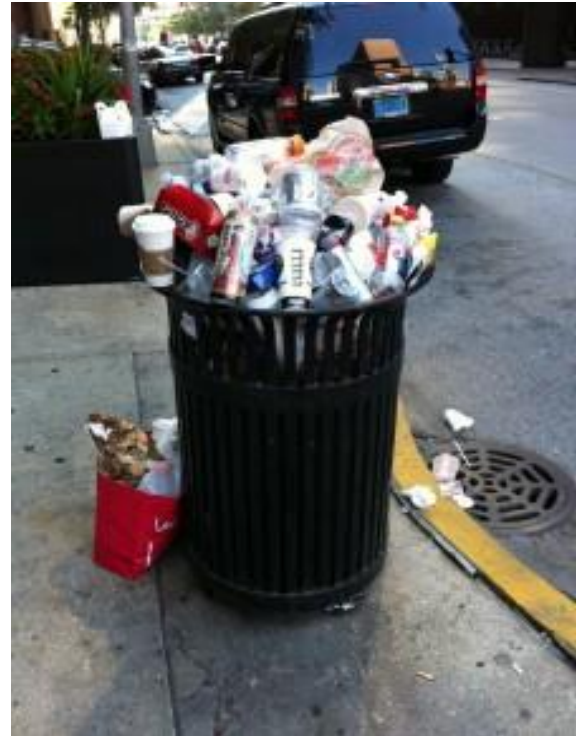


Photo 19: Homemade Mothering.com

More detailed specific messages and target audiences to enhance a community's litter and illegal dumping prevention and cleanup efforts are presented in Table 1.

Table 1: Potential Target Audiences and Messages

Audiences	Potential Message(s)
Waste haulers and people who self haul waste.	<ul style="list-style-type: none"> • The importance of collecting waste properly – ensuring it does not become scattered by elements, and using caution • The importance of covering loads • Laws/ordinances about illegal dumping and littering, including potential penalties
Commercial waste generators and vehicle fleet managers	<ul style="list-style-type: none"> • Expectations about how materials are to be managed – examples include landscaping debris, construction and demolition debris, general trash and recyclable materials.

Audiences	Potential Message(s)
	<ul style="list-style-type: none"> • Potential penalties of not managing materials properly • The importance of maintaining vehicles properly, especially tires, to prevent vehicle-related litter. • Potential business impacts of littering and illegal disposal.
Users of public transportation and Users of recreational facilities/parks	<ul style="list-style-type: none"> • Rules/establishment of social norms regarding eating, smoking, drinking, chewing gum on public transportation, where to properly dispose of items • Fines/fees that can be charged for littering • Existence of surveillance cameras • Foster pride and environmental stewardship of recreational resources
Users of roadways	<ul style="list-style-type: none"> • Awareness/establishment of social norm that littering is not acceptable, how to properly dispose of trash • Potential penalties of littering/illegal dumping • Existence of surveillance cameras
School children	<ul style="list-style-type: none"> • Awareness/establishment of social norm that littering is not acceptable, awareness of proper disposal/recycling • Foster development of environmental stewardship
Public employees/law enforcement/judges/prosecutors Potential KAB affiliate/litter cleanup partners ¹	<ul style="list-style-type: none"> • Importance of leading by example and fostering development of environmental stewardship among citizens • Full understanding of the ill-effects of litter and illegal dumping and laws pertaining to these offenses, as appropriate • Understanding of programs in place to manage waste properly, to share information with residents and businesses, as appropriate • Opportunities for cleanup projects or other ways to assist in stopping littering/illegal dumping

¹ Keep Arizona Beautiful has developed a [tip sheet](#) (also available in [Spanish](#)) to introduce potential partners to the importance of stopping illegal dumping.

It is important to ensure the message is conveyed in a manner that is clear, concise, interesting, correct, and consistent with other publications and messaging. Studies show that people need to hear a message several times before it “sinks in.” It is also important to remember that different types of messages motivate people differently. Similarly, different modes of receiving information are more effective for some people than others. This means, ideally, education and outreach will occur repeatedly, using different media types. If possible, it is helpful to measure the impact of an outreach effort. Piloting an outreach effort can also provide an opportunity to assess the effectiveness of the effort. Conducting research beforehand to understand the target audience and their perceived barriers and

Cigarette Litter Prevention Program

Keep America Beautiful has developed a program with helpful tools to prevent cigarette litter with sponsorship from the Phillip Morris USA, Reynolds American Inc., and The Santa Fe Natural Tobacco Company. The program provides:

- Information about the importance of addressing cigarette litter;
- PSAs addressing cigarette litter;
- Case Studies and Fact Sheets; and
- Practical tips to implement to stop cigarette litter.

Just because cigarette butts are small, does not mean their litter is not a big problem! Learn more at: <https://www.kab.org/cigarette-litter-prevention>



motivators is also helpful.

IN MY COMMUNITY – Adequacy of Service and Containers

Indicate the type of litter observed in your community:

- ☐ Regular trash/recyclables
- ☐ Electronics
- ☐ Appliances
- ☐ Scrap Tires
- ☐ Abandoned vehicles/vehicle parts
- ☐ Construction and demolition debris
- ☐ Mattresses/furniture
- ☐ Other bulky waste items
- ☐ Hazardous waste
- ☐ Medical waste
- ☐ Other _____

1) Of the materials listed above, the community lacks programs to properly manage the following:

2) For which materials do programs exist, but may be less convenient or more expensive than citizens might like? _____

3) For which materials do convenient, low-cost programs exist, but generators may lack awareness?

4) Does litter being generated due to lack of adequate container/lids on containers, or unsecured loads appear to be an issue? If so, please describe.

5) Are there specific public areas that lack adequate receptacles for trash, recycling, and/or cigarette butts? If so, describe.

6) Are there specific types of generators that can be identified that are likely generating/littering this material (e.g., visitors, businesses, people that live in areas where they have to subscribe to trash services, haulers, etc.)?



Photo 20: Nebraska Law Enforcement Training Center

Media Modes

There are several modes for reaching the target audience. They include:

Print Media – includes brochures, book marks, calendars, coloring pages, newsletters, op-ed pieces in newspapers, paid advertising in print media. Some methods of using print media can be cost-effective, such as op-eds, however mailings can be costly. Many materials can be



Photo 21: City of Burnaby, B.C.

developed and disseminated digitally.

Broadcast and Public Service

Community-Based Social Marketing

Community-Based Social Marketing (CBSM) calls on using strategies beyond advertising and informing to foster sustainable behaviors. It tries to use psychology to change behaviors. KAB's Behavior Change System incorporates CBSM concepts and techniques.

Some of the tools that CBSM espouses include:

Social Diffusion – Personal interaction or relationship with an adopter of a new behavior helps spur others to adopt the behavior.

Commitment – People who sign a commitment to adopt a behavior are far more likely to do so than those simply asked to, without making a commitment. Research indicates commitments alone are less effective than commitments with social diffusion.

Prompts – Prompts remind people to engage in a behavior – such as a sticker on a recycling bin or a message on a container not to litter.

Norms – When people see others behaving in a certain way, they are more likely to behave in that way too.

Communication – Communication should be clear, specific, targeted, engaging, and is most effective if developed after some information is known about the audience and their barriers to behaving in the desired way.

Incentive – An incentive may be financial or other (e.g., social acceptance). For some, knowing the negative impacts of littering may be enough to incentivize ceasing littering behavior.

Remove Barriers – Understand the target audience's barriers, which may be real or perceived – perhaps by having a focus group or conducting a survey. Then, barriers can be addressed.

Evaluate – How well did the efforts work? Understand the baseline level of litter, and measure again after implementing CBSM initiatives.

Source: *Fostering Sustainable Behavior: An Introduction to Community-Based Social Marketing* by Doug McKenzie-Mohr and William Smith.

Announcements – includes television, radio, local cable channel programs, closed-circuit television, paid/movie theatre advertising. Paid advertising can be costly. It may be possible to spread costs among several affiliate groups/regions if broadcasts span a large area.

Signs – may be print or digital, and can include billboards, signs on the side of buses, airport signs, train and bus station signs, bus shelters, benches, on-bus or on-train signs, and gas stations (at gas pumps).



Photo 22: Visual FunHouse.com

Electronic – includes websites, e-mails, discussion boards, blogs, list serves, electronic boards, and other social media such as Facebook, Instagram, and Twitter.

In-Person/Other – includes special events, presentations to schools and community groups, specialized training for staff and enforcement officers, contests. A benefit of this mode of outreach is that it provides opportunities to share information about barriers, and to answer questions. The drawback is that most departments are unable to reach a significant portion of the population in person, due to limited staffing resources.

Making the Most of the Outreach Budget

Most non-profit organizations and governmental entities face tight budgets. The following tips may help maximize the effectiveness of outreach budgets:

- **Think carefully before printing** – There are times when print media is appropriate, but using print materials judiciously can help save costs and reduce waste.
- **Don't reinvent the wheel** – KAB affiliates and KAB national have resources available that you may be able to put to use. Even if you have to adapt an existing item, you may be able to start with something already in existence.
- **Seek partnerships** – There may be opportunities to partner with other agencies, local government departments, and/or private corporations.
- **Use the free press** – Though they are not always widely heard or read, PSAs, letters to the editor, and press releases provide an opportunity to share news or remind readers of the importance of not littering.
- **Limit prompts/incentives** to those that will be used.

Prompts and Incentives – includes items that remind people about the importance of not littering, and help people avoid littering. Examples include bookmarks, pencils, magnets, car trash bags, reusable mugs and water bottles, etc. Often these prompts/incentives are distributed at in-person events.

Understanding the Benefits of Education and Outreach Efforts

It's helpful to track the benefits of education and outreach efforts. This can be done by conducting before and after litter surveys, surveying generators about their littering perceptions, activities, and/or knowledge about litter and illegal dumping.

Thinking about Education and Outreach:

True False

- 1) All education and outreach efforts should be geared for all audiences.
- 2) Print media is a relatively low cost means of educating the public.
- 3) Most people need to hear a message several times before it sinks in.
- 4) Electronic media can be a relatively low cost way to reach the audience.
- 5) Social norms are not important when it comes to changing behavior.
- 6) If a message is well developed, it will appeal to everyone.
- 7) A benefit of in-person communications

is:_____

- 8) The main drawback of in-person communication is:

- 9) My organization has tried to conduct education and outreach to the following target markets:

- 10) Some of the more successful efforts have included:

They were successful because:_____

Consider the types of future litter education and outreach efforts that might be beneficial in your community. Who do you think should be targeted? What would the message(s) be? How can the target audiences be reached? Brainstorm using the template provided in Table 2 below.

Table 2: Template for Considering Education and Outreach Efforts

Message	Target Audience	Way to Reach the Audience (Media Modes)	Potential Partners and their Roles	Estimated Costs	Steps to Implement

Provide Simple Citizen Reporting Opportunities

Many states and local governments have developed ways that citizens can report observed littering behavior and/or illegal dumping sites. This reporting can take place through websites, smart phone apps, or telephone hotlines.

Littering Reporting

As a result of observed litter reporting the owner of the vehicle receives a letter indicating that they were observed littering, and the severity of the crime and the potential penalties are described.

In most state legal action cannot be taken unless there is ample evidence that the person caused the litter. Often this requires an enforcement officer witnessing the littering behavior or catching the act on a surveillance camera. Still, providing citizens a convenient means of reporting littering lead to increased surveillance in that area.



Photo 23: Don't mess with Texas

States and programs that allow citizen reporting of littering include [Don't mess with Texas](#), [PalmettoPride](#), [Athens-Clarke County, Georgia](#), and [Montgomery County, Ohio](#).

Reporting of Illegal Dumping or Dump Sites

Many communities encourage citizens to report illegal dump sites. Often this is done through 311 (community service phone or web site) or through a KAB affiliate. Keep Pennsylvania inventoried all illegal dump sites on public lands in the state over the course of several years. To keep the resulting GIS database up-to-date, KPB encourages citizens to report dump sites via their [website](#). Other local governments that request that citizens



report illegal dump sites and illegal dumping activity include [Houston](#), [San Antonio](#), and [Philadelphia](#).

Actively Monitor/Conduct Surveillance

Known littering and dumping locations should be monitored actively. Litter/illegal dumping “hotspots” might be monitored with law

Photo 24: Illegal Dump Free PA enforcement patrols or surveillance cameras. Some KAB affiliates, like [PalmettoPride](#) and [Keep Pennsylvania](#)

[Beautiful](#) loan surveillance cameras to local enforcement agencies to help with this effort. Keep Pennsylvania Beautiful also has a camera loan/grant program in place. The City of Houston also relies on cameras to “catch” litterers in the act. Having adequate proof of the incident is critical to building a strong case, and often leads to the defender recommending that the defendant plead guilty and accept the penalty. This reduces court costs and can serve as an effective deterrent. Some communities do not have surveillance cameras in place, but post signs indicating that the area is under surveillance and indicating the potential fine for littering. This strategy has received mixed results.

Develop and Enforce Litter and Illegal Dumping Laws, Rules and Ordinances

There are a myriad of laws and ordinances that describe litter and litter-related crimes. There are state laws, administrative rules (e.g., enforceable by the state environmental and other agencies) and local ordinances. Most state laws that have to do with litter and litter-related crimes are enforceable at the local level. Litter-related crimes are generally enforced at the local level. State laws that often relate to litter and illegal dumping laws include:

- Litter (commercial/residential)
- Sanitation/health
- Public nuisance
- Water protection

Model Ordinance

KAB has developed a model ordinance for litter. See www.kab.org for more information.

And, to a lesser extent:

- Abandoned/junk vehicles
- Abandoned vessels/property
- Laws pertaining to specific types of waste (e.g., electronics, lead acid batteries, appliances, waste tires, hazardous waste, etc.)
- Laws pertaining to specific locations (e.g., state beaches)
- Administrative laws governing state agencies and those that are permitted by state agencies/use state agency land (e.g., fish and wildlife, environmental management, state parks, etc.)

In some states local ordinances cannot cover the same violations that state laws do. In others some laws at the local level must, by state law, be at least as strict as the state law. Local litter-related ordinances may include:

- Litter/commercial litter
- Solid waste (storage, collection, and transport, theft of service, stockpiling of waste, permitting of haulers)
- Marine debris/Littering of waterways
- Sign ordinances (particularly for temporary signs)
- Nuisance ordinances/laws
- Neglected property/vacant lots
- Abandoned vehicles
- Ordinances/laws regarding specific material types (e.g. waste tires)
- Abandoned vessels



Photo 25: The Whistler News.

Litter and illegal dumping are most often enforced via state and local law through local law enforcement and code enforcement officers. Local ordinances are municipal/county laws that, if violated, can usually result in **code violations** or **civil offenses**, or perhaps **misdemeanors**. It would be less common for a local ordinance violation to result in **felony** charges. Violations of state laws may be **civil offenses** or **criminal offenses**, including **misdemeanors** and **felonies**.

In addition to state-level criminal laws and local-level ordinances and codes, there are also state-level **administrative rules** and regulations that can be enacted by state agencies, such as departments of natural resources, forestry, fish and wildlife, state parks, etc. Officers of these agencies can

Who Enforces?

Typically enforcement of litter-related laws, even state laws, occurs at the local level. The name and authority of enforcement officers differs in different states, but might include peace officers, local police, sheriffs, sheriffs' deputies, fire marshals, constables, and other sworn law enforcement officers. Code enforcement officers can only enforce local codes.

typically enforce a state criminal law, but might prefer to use an administrative process if a license or permit is issued by the agency to the offending individual (e.g., a solid waste facility permit, a commercial fishing license, etc.), as this can be a swifter and meaningful penalty or deterrent.

Additional ordinances that are not typically part of litter or solid waste management ordinances and generally have a different primary purpose but can result in reduced litter include smoking bans and bans, deposits or fees on specific packaging types.

More detailed information about litter enforcement can be found in KAB's Litter and Illegal Dumping Enforcement Guide. See



Litter-Related Laws and Ordinances in My Community

1) In my community, the following laws and ordinances address litter and illegal disposal:

-

-

-

2) Are there local ordinances that could be clarified or made stronger? If so, how?

-

-

-

3) Are there some observed and/or potential forms of litter/illegal disposal that are not adequately addressed by state law or local ordinances? (If so, describe)

-

www.kab.org for more information.

Investigation

When a law enforcement officer receives information about a littering infraction or illegal dumping, they first investigate the site. Investigation of a crime scene often involves identifying the source of litter via receipts (retailers often have surveillance tapes and can assist with such an investigation), mail, prescription bottles, or serial numbers of larger items. Cases where surveillance photos or video are available lead to more convictions. Even when littered items are traced back to generators, the investigator will ask the generator if they are the owner of the item(s), and, if so, whether they have knowledge of how the material became illegally disposed. The person being investigated may confess, deny, or have another explanation as to how the litter ended up at the crime scene. Law enforcement officers must place safety first. Investigating a litter/illegal dumping crime scene involves:



Photo 27: Shaun Stanley/Durango Herald

- Assessing the site for potential hazards;
- Calling for backup if needed;
- Taking ample photographs and collecting relevant evidence;
- Interviewing neighbors, if applicable; and
- Following up on evidence, as needed.

Often the law enforcement officer will have a face-to-face conversation with the apparent violator, if identified. This often results in the person admitting their guilt, or may result in them indicating that they did not commit the crime, but they may be able to provide information about who they believe did.

More detailed information about investigating litter and illegal dumping crime scenes is provided in KAB's Litter and Illegal Dumping Enforcement Guide. See www.kab.org for more information.

Enforcement

Enforcement of litter and illegal dumping laws is critical to stopping littering and illegal dumping. When citizens repeatedly get away with such crimes, they believe the behaviors are acceptable and soon, others adopt this belief and behavior. With litter and litter-related laws, the primary goal is usually to remediate the situation and educate the violator to prevent future violations.

"Laws without enforcement are just good ideas." -- Abraham Lincoln

Who Enforces Litter Laws and Litter-Related Laws

While state law enforcement officers can enforce state litter and illegal dumping laws, such laws are most commonly enforced at the local level by local law enforcement officers, as authority to do so is typically provided within those laws. Entities that would enforce litter-related laws include:

- Local Code Enforcement Officers – Many litter, illegal dumping and other code enforcement violations are handled by local code enforcement officers, who typically are authorized to issue citations.
- Local Law Enforcement Officers – Local law enforcement officers are also commonly involved in enforcing litter-related state and local laws and ordinances.
- State Police Officers – Though not the most common type of law enforcement officer to enforce litter-related laws, state police would enforce violations they witnessed.
- State and Federal Agency Enforcement Officers – Enforcement officers at state and federal properties, e.g., campgrounds, parks, marinas, harbors, forests, and other federal and state properties. Typically authorized to enforce state or federal/administrative laws/rules.
- State Agency Administration – An administrative adjudication process can be used for facilities and businesses that are permitted by state agencies, such as solid waste management facilities or individuals having permits through state/federal agencies (e.g., fishing, hunting licenses).



Photo 28: The Herald News

Putting a Stop to Litter Texas Style

In Texas, the Department of Transportation (TxDOT) uses a multi-pronged approach to litter cleanup and prevention: Don't mess with Texas® (DMWT), which implements statewide education and outreach programs, and supports the Adopt-a-Highway (AAH) program, and a grassroots partnership with Keep Texas Beautiful (KTB), which works with local affiliates to strengthen litter abatement programs. KTB and TxDOT first began working together in the late 1960s, sharing the common goals of making Texas roadways attractive and safe for motorists and encouraging tourism.

Don't mess with Texas: Texas takes its litter as seriously as its football. To mark the 30th anniversary of its iconic Don't mess with Texas litter-prevention campaign, the Texas Department of Transportation (TxDOT) and Dallas Cowboys gave away a new hybrid automobile during the final at-home Cowboys game in Arlington.

Over its 30 years, the Don't mess with Texas campaign has reminded Texans to put litter in a trash can instead of tossing it from their vehicles. It is estimated that nearly half a billion pieces of visible litter are disposed along state-maintained highways annually. In 2014 alone, Texas spent \$35 million in highway cleanup costs. According to the Texas Transportation Commissioner, "The Don't mess with Texas campaign has captured Texans' sense of pride in their state while also helping keep tons of litter off Texas roads." The phrase "Don't mess with Texas" is displayed on road signs on major highways, and in television, radio and in-print advertisements. The campaign is credited with reducing litter on Texas highways roughly 72 percent in its first 4 years. Beyond its immediate role in reducing litter, the slogan remains a Texas cultural phenomenon.

DMWT programs include the Don't mess with Texas Trash-off, a series of education programs for all school grades, Report a Litterer, Adopt-a-Highway, and Sponsor-a-Highway.

The Don't mess with Texas Trash-Off serves as Texas' signature event for Keep America Beautiful's Great American Cleanup, the nation's largest community improvement program, held annually from March 1 through May 31. Participants receive trash bags, volunteer giveaways, promotional items, and more. In 2015 the Trash-Off consisted of 235 events, with 27,848 volunteers and participants, 3,709 miles of highway cleaned, and 1.4 million pounds of litter collected.



Report a Litterer: A program to encourage reporting of litter from vehicles. Litterers can be reported through online or app reporting systems. Litterers are sent a DMWT litterbag along with a reminder to keep their trash off the roads.

Adopt-a-Highway: The first highway ever "adopted" was in Texas. The idea was conceived in 1963 by a TxDOT engineer, and finally came to fruition in 1985. Its goal was to decrease the cost of litter pickups and maintain the natural beauty of the state. To date, approximately 8,000 miles in Texas have been adopted through the program; saving approximately \$4 million a year in cleanup costs. The program is managed by 25 district coordinators.

Sponsor A Highway: Because of the success of its Adopt-a-Highway program, Texas has implemented a new statewide sponsorship program known as Texas Sponsor A Highway®. The program is available in five major Texas metropolitan areas, and allows a business to sponsor cleanup along busy highways in exchange for recognition via a sign.

Keep Texas Beautiful: KTB became a state affiliate of KAB in 1985, and is now recognized as one of its leading affiliates. KTB has expanded its reach by creating its own affiliate program modeled after KAB's, with more than 390 community affiliates — 66 of which are also certified as KAB affiliates. KTB partners through an annual contract with TxDOT to support its anti-litter and beautification programs such as Don't mess with Texas Trash-Off and the Governor's



Community Achievement Awards (GCAA).

Penalties

In order for enforcement to be effective, the penalty must be adequate. Effective penalties not only help ensure the impacted site is remediated, as appropriate, but also deter future violations.

Minimum and maximum penalties are stipulated by the law, and state law typically defines the maximum penalties for certain categories of crime (e.g., misdemeanors and violations, for example). Penalties will/may differ depending upon:

- the severity of the crime (e.g., quantity of material littered/dumped, potential for it to cause harm);
- whether the offender is a repeat offender;
- whether the area is environmentally sensitive; and
- whether the crime is personal or commercial in nature.

In addition to any of the penalties described below, the offender may also have to pay court fees.

Typically whether the crime is that of litter, illegal dumping, or some other crime is described in the law, although the enforcement officer might have a choice as to which offense to charge – e.g., a state or local law. Penalties typically include:

- Ticket – In some states littering can be a “ticketable” offense, and the offender can agree to pay the fine via mail, or appear in court to contest the charge.
- Fine – The law sets the range of fines possible for the charge, and the judge determines the fine.
- Probation – The offender must meet with a probation officer regularly, and meet other conditions prescribed by the court.
- Community Service – Community service hours may include cleanup of illegal dump sites or litter, which many see as more effective than payment of a ticket or fine. (See Text Box).
- Incarceration – Usually only an option for relatively serious violations.

Photo 29: The Native Angeleno.com

- Public Notification – Keep Pennsylvania Beautiful issues a press release quarterly to local papers across the state to share the names of litterers and illegal dumpers. In addition, through their illegaldumpfreeepa.org program posts pictures of convicted illegal dumpers, courtesy of KPB's surveillance cameras.
- Restitution – The court can mandate that the convicted offender repay cleanup costs and/or enforcement costs. Restitution may be in addition to other penalties.
- Remediation – Courts or enforcement officers may require defendants to clean up the property. With illegal dumping, this is often the primary goal.
- License/Permits Suspension or Revocation – In the case of administrative adjudication, the state environmental permitting agency can suspend or revoke a license if the facility has a litter/illegal dumping violation.
- Vehicle Confiscation – In El Paso County, Texas, upon the third violation offenders of litter-related crimes can have their vehicles impounded. In some cases this is achieved in one incident with multiple violations.

Franklin County Ohio's Environmental Court System

Franklin County Ohio has a Community Cleanup Crew pilot program in place that has resulted in 800 hours of community service being served in the County in 2015. Program staff indicates that many of those who spend time on beautification projects begin to internalize a sense of community pride, which will hopefully be a deterrent to future violations. Some that served time even sought additional community service opportunities after they had served their required hours. In Franklin County individuals are on probation while they serve their community service time, and sometimes for some time after. This also serves as a deterrent, as a second offense would result in a more severe penalty.

Other Tools

Other tools can be used to ensure the property is cleaned and the affected site is

- Injunction – An injunction is a writ or order requiring a person to refrain from a particular act. It may be granted by the court in which the action is brought, or by a judge thereof, and when made by a judge it may be enforced as an order of the court.



Photo 30: DEHSART

- Lien – A lien is a qualified right of property that a creditor has in or over specific property of its debtor, as security for the debt or charge or for performance of some act. A judge may order that an illegal dump be cleaned up, and a lien be placed on the property to pay for the costs of the cleanup.

Ensure Cases Are Adjudicated Effectively

In order to uphold well thought-out litter and illegal dumping laws, and to support the hard work of law enforcement officers in investigating violations and developing evidence, cases must be adjudicated effectively. Cases should be heard in a timely manner, and be given the attention they deserve from the judicial entity involved.

Judicial Options for Litter-Related Crimes

The jurisdiction in which a crime is adjudicated is based on the offense charged. Some states allow the crime to be tried in either the location where the crime occurred, the location where the accused lives, or the state capital. Typically litter-related crimes and illegal dumping cases are adjudicated, at least initially, in the lower court, unless the violation is egregious.

There are specialized and alternative forums for adjudicating litter-related cases (environmental/code enforcement). Some options are described below.

- Environmental Courts – Environmental courts hear environmental cases only. While no two environmental courts are structured exactly alike, environmental courts generally have a dedicated judge that focuses on environmental cases. This allows for the judge to develop some expertise in environmental laws and issues and allows for proper attention to be given to environmental issues.
- Specialty Prosecutors -- Another option for districts/municipalities that do not have an adequate caseload to justify establishment of an environmental court is to have one or more specially trained prosecutors that prosecute environmental cases. This allows the prosecutors to develop in-depth knowledge of the existing state and local laws and focus on developing strong cases for violations of environmental crimes.
- Specialty Docket -- Communities that do not have adequate caseloads to establish specialty prosecutors or environmental courts

Why Are Litter Crimes Not Always Enforced Adequately?

- Lack of information about the crime (or late notification, when evidence is gone)
- Lack of knowledge on behalf of code or law enforcement officers regarding what constitutes a crime
- Lack of interest on the part of law enforcement officers, prosecutors or judges regarding litter/illegal dumping crimes
- Inadequate resources to investigate and enforce crimes
- Lack of political will to enforce litter-related crimes
- Lack of resources to adequately identify, investigate and prosecute/abate litter-related crimes



Photo 31: Mass.gov

may try to schedule environmental cases such that they are heard on the same day, so that the judge can hear all of the cases in a similar context. This may also help expedite the hearings.

- Alternative Adjudication -- Some communities, have alternative forums for the adjudication of codes violations, such as volunteer citizens that serve on a special board or magistrate to adjudicate cases.

Clean Up Litter and Illegal Dumps

Because litter begets litter, and often other anti-social behaviors including other crimes, and because illegal dumps can pose a health and safety hazard, it is critical to clean up litter and illegal dumps as soon as possible. Cleanup of public roadways, waterways, and other public spaces such as parks, recreation areas, and other public lands is always the responsibility of the jurisdiction. Litter along federal highways is the responsibility of local or state governments.

Ideally roadway litter cleanup will take place before lawn cutting, to avoid further spread of debris. However, if the grass/vegetation leading to the litter and surrounding the litter is too high, this may not be possible.

Many private businesses and other private property owners take responsibility for cleaning litter on their own property in a timely fashion, which is the ideal.

When the property owner cannot be located or lacks resources to clean the property, the local government must initiate cleanup.

If an entity has benefitted financially from illegal dumping, they can be held financially responsible for cleanup of the property. An example would be a fly-by-night "tire recycler" who is paid to remove waste tires from a collection site and then, rather than having the tires processed, illegally dumps them into a ravine.

If the property owner is a victim, he may still be held liable for the cleanup if the violator is not identified and brought to justice. This is largely determined by law and availability of



alternative funding/cleanup efforts. Most local ordinances hold property owners responsible regardless of how the litter or illegal dump came to be.

Local governments or organizations like KAB affiliates will often conduct cleanups on private or publicly owned property, when the property owner is unable or

Photo 32: Kentucky.com

unwilling to clean up the property. Cleanups may be done with staff, volunteers, those serving community service hours, or with prison/work furlough laborers.

When planning a cleanup project, breaking the project into smaller tasks, so that required supplies and human resources can be considered. An Example is found in Table 3.

Table 3: Sample Cleanup Project Task Management Matrix

Priority	Task	Number of Volunteers Needed	Supplies Needed	Who Will Provide Supplies
1	Cut down weeds and grass to access litter	3	<ul style="list-style-type: none"> • Work gloves • Cordless weed wacker • Safety vests and rakes • Trash bags 	<ul style="list-style-type: none"> • Volunteers • Rental • Borrowed from Highway Dept. • Donated by hardware store
2	Pick up scattered paper and household waste	6	<ul style="list-style-type: none"> • Work gloves • Trash bags • Safety Vests 	<ul style="list-style-type: none"> • Volunteers • Hardware store • Highway Dept.
Etc.				
Based on Keep Arizona Beautiful's 10 Steps to Organizing an Illegal Dump Cleanup				

State and local governments often manage or work with Adopt-A-Highway and Sponsor-A-Highway Programs to ensure roadways are cleaned regularly. Similar programs are in place for other types of locations, such as "Adopt-a-Spot" and "Adopt-A-Waterway." [Palmetto Prideways](#), a joint program with SC DOT and the SC Department of Corrections, provides South Carolina businesses with an opportunity to sponsor highways cleaned by the South Carolina Department of Inmates Services.

Organizations and agencies aside from state and local highway departments that clean litter are described below.

KAB Affiliates – There are over 1,200 affiliate and partner organizations to KAB. These affiliates and partners help organize litter cleanups, with the help of volunteers. KAB affiliates are also proactive with conducting education and outreach to help stop litter in their communities. Keep Pennsylvania Beautiful has developed [Guidelines for Illegal Dump Cleanups](#), which may serve as a helpful tool for local governments and other KAB affiliates. [Florida](#), [North Carolina](#), [Ohio](#), and [Tennessee](#) Departments of Transportation provide helpful safety and registration information (brochures and videos) about their Adopt-A-Highway programs, as does South Carolina's [PalmettoPride](#).



Photo 33: Keep Wakulla County Beautiful

Environmental Organizations – Environmental organizations like The Audubon Society, The Sierra Club, The [Ocean Conservancy](#) and The Surfrider Foundation organize cleanups at beaches and other locations.

Other Volunteers/Organizations – Often with the assistance of KAB affiliates, or on their own, other volunteer organizations such as scouts, sororities and fraternities, and others, volunteer to conduct cleanup activities. Through the Adopt-a-Highway, Sponsor-a-Highway and Adopt-a-Spot programs, which are often organized through KAB affiliates and state highway departments, corporations and organizations can receive recognition on a sign for providing volunteers to regularly clean a section of highway or a specific location. Organizations are asked to sign an [agreement](#) and make a minimum one-year commitment (some states, like [North Carolina](#) request a multi-year commitment).

Tools for Cleanup Events:

Tools for cleanup events are provided in the Appendices. They include:

Appendix B: Sample Volunteer Registration Form

Appendix C: Sample Permission to Enter Form

Appendix D: Steps to Organize a Cleanup Event

When cleaning up a site, safety is always the first priority. It is important to:²³

- Closely supervise younger volunteers at all times.
- Wear bright safety vests at all times.
- Wear work gloves while removing or handling any trash.
- Bag all trash that will fit into bags and secure tops. Stack or load larger items as designated. Use buckets for broken glass and small, sharp objects.
- Do not fill trash bags to capacity to avoid splitting and overexertion. Be careful of sharp and protruding materials.
- Do not work near operating equipment.
- Do not work during inclement weather.
- Face oncoming traffic at all times and stay away from the edge of the roadway.
- Remove only items that are clearly visible and recognizable and do not reach into hidden areas.
- Take care when removing tires and heavy items from steep slopes to prevent these items from escaping and rolling downhill. Restrict other volunteers from working below during removal.
- Do not remove any suspicious or hazardous substances such as chemical and toxic materials in containers, drug paraphernalia, and Methamphetamine lab-related materials. Notify the appropriate agency of the suspected substance(s) and location.
- Animal carcasses will only be handled by designated volunteers or staff, and bagged as trash or left on site.
- Be alert for snakes, rodents, and ticks, and avoid noxious weeds and insect nests.
- Avoid overexertion and heat problems by drinking plenty of water and taking breaks.
- Ensure all volunteers have applied sunscreen and bug spray.
- Have a first aid kit readily available.
- Ensure cell phones are available and work at the site.

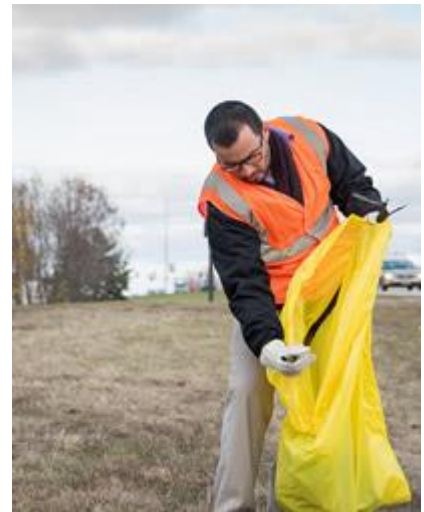


Photo 34: MO DOT

Adopt-A-Highway and Sponsor-A-Highway

Adopt-A-Highway programs tend to be on secondary roadways and involve volunteer groups doing the cleanup themselves. A color log sign provides recognition for the organization's efforts.

Sponsor-A-Highway programs tend to be programs that sponsor cleanups on busier state or interstate highways. To ensure safety, a professional third-party is paid to conduct the cleanup activities, and the sponsor pays for the effort.

²³ Based on: Keep Arizona Beautiful, "10 Steps to Organizing an Illegal Dump Cleanup."

Review of Enforcement of Litter and Illegal Dumping Laws:	True	False
1) Litter and illegal dumping only ever result in fines or tickets. Jail/prison is never a penalty		
2) It can be challenging to obtain ample evidence for prosecuting a littering violation without surveillance camera footage.		
3) Local law enforcement officers and code enforcement officers often need to work together.		
4) Having violators serve community service hours is one of the simpler types of penalties to impose.		
5) Two reasons littering laws might not be enforced adequately include:		

6) A benefit of environmental courts is:		

7) A benefit of having a special prosecutor is		

Collaboration – Success through Teamwork

Why Collaborate?

Preventing and cleaning up litter and illegal dumps, developing strong ordinances and enforcing those ordinances all require the resources of multiple entities. Effective collaboration among different groups and agencies can help use expertise and resources efficiently to stop litter. An expert in collaboration defines collaboration as "the sharing of information, the changing of activities, the dividing of resources, and the improvement of the capacity of another for the benefit of all and to achieve a common goal." ²⁴ Another describes collaboration simply as "two or more people working together to create something or achieve the same goal." ²⁵



Photo 35: Keep Pennsylvania Beautiful

Effective collaboration requires entities to

²⁴ Chris Huxham, Creating Collaborative Advantage, 1996.

²⁵ Jacob Morgan, The Collaborative Organization, 2012.

agree on a common goal, and work effectively toward achieving that goal. That work requires defining roles and responsibilities that all involved are comfortable with.

Examples of KAB National Partnerships

On a national level, KAB has successfully established relationships with public and private entities including corporations, educational organizations, government agencies, non-profits, industry associations and others. These partnerships have provided financial support, sponsorships, in-kind donations and employee engagement, which have allowed KAB to work toward fulfilling its mission.

Potential Reasons to Collaborate at the Local Level

Local governments and KAB affiliates could potentially collaborate with numerous groups and individuals in order to work toward stopping litter and illegal dumping in the community. Examples of activities that other organizations might wish to help with include:

- Develop a litter prevention program or KAB affiliation
- Develop a litter prevention awareness or education campaign
- Identify litter "hot spots"/sources of litter
- Clean up litter/illegal dumps
- Enhance waste collection infrastructure to avoid litter/illegal disposal
- Enhance awareness of existing waste management programs
- Review/enhance litter-related ordinances
- Establish (or consider establishing) an environmental court
- Assess the effectiveness of existing programs/campaigns
- Assess the impacts of litter
- Work with surrounding communities to harmonize programs/share resources and ideas
- Make the public aware of cleanup activities
- Make public officials, judges, prosecutors and/or law enforcement

KAB has developed a Collaboration Guide to help KAB affiliates, local governments, and others in collaborating successfully to stop litter. See www.kab.org for more information.

Tips for Effective Collaboration

Choose participants carefully
Choose a well-respected and skilled leader/champion
Ensure everyone is clear on and supports goal/purpose of group
Solicit support from community leaders/elected officials
Ensure roles and responsibilities are clearly defined
Ensure meetings have a purpose – not used to accomplish what can be done outside of meeting
Establish a timeframe in place for reaching goal(s)
Summarize major meeting points in writing, approve of minutes, to minimize miscommunication.
Be accountable – Who does the group report to?
Keep shared vision/purpose in forefront
Tout successes

officers aware of the importance of stopping litter and illegal dumping.

Potential State and Local Entities to Collaborate With

- State agencies (e.g., DOTs, environmental protection and management agencies, law enforcement agencies)
- Local (city and county) agencies/departments and governmental entities
 - Law enforcement
 - Code enforcement
 - District/local judges and prosecutors
 - Sanitation/solid waste department
 - Storm water department
 - Marine/lake/harbor management agencies, as appropriate
 - Elected officials and other leadership
- Industry associations (e.g., law enforcement associations, recycling associations, retail associations, restaurant associations)
- Non-profit entities (e.g., environmental groups, scouting groups)
- Counterparts in other communities
- Media outlets
- Public/citizens
- Schools

Roles and Responsibilities/Authority

To select entities to work with and determine roles, responsibilities and authority, consider:

- Missions of organizations
- Current efforts of organizations and how they fit (or conflict with) the identified effort
- Resources and talents these organizations and individuals can potentially contribute (financial, equipment, skills, labor hours) toward the effort
- Observed ability of organizations to accomplish tasks/successfully move forward with past efforts
- Dynamics among potential collaborative group members



Photo 36: Sustainable Sanitation Alliance via Wikimedia Commons

When selecting members of the team, keep in mind that organizations are not monolithic. It may be appropriate to have more than one person present from the same organization, if they contribute different skills and experience.

Timeframe of Effort

The timeframe of collaborative efforts depends upon the project or effort being undertaken. Some communities have formed litter or illegal dumping task forces that are relatively long-term in nature – others are much more targeted, discrete collaboration efforts. Examples of collaborative efforts working to abate and clean up litter and illegal dumping include:

- Keep Horry County Beautiful has communicates and cooperates with many entities to help stop litter including:
 - Recently the Horry County Council agreed to do away with warnings for litter, and have law enforcement officers more strictly enforce litter violations;
 - Coordinates regularly with Horry County Solid Waste Authority (SWA), Horry County Environmental Services Department, Waccamaw Riverkeeper, Keep North Myrtle Beach Beautiful Committee, Stormwater Advisory Committees of the City of Conway, and Horry County, SCDOT "Adopt-a-Highway" Coordinator, PalmettoPride to conduct litter abatement and education and outreach activities; and
 - Works with the Horry County School Board and the Horry County Solid Waste Authority to conduct environmental education in the county's schools, including the importance of not littering.
- Keep Philadelphia Beautiful is working to develop a new consortium to focus on anti-litter strategies in Philadelphia. KPB is establishing an advisory committee of people who "are on the ground in different neighborhoods" to learn more about the challenges being faced. KPB is partnering with the Commerce Department, the Streets Department, the Philadelphia Association of CDCs and the Philadelphia chapter of the Local Initiative Support Coalition (LISC). The long-term coalition aims to share resources, challenges and best practices while also looking to the future for a concrete joint project spearheaded by KPB.
- In Louisiana, the Louisiana Aquatic Litter Alliance worked, with leadership and staff support from the Department of Environmental Quality, developed a comprehensive guidance document for local governments to implement litter control programs in municipalities and parishes. The document, entitled the [Louisiana Local Government Litter Ordinance Template and Handbook](#), was convened under the auspices of the U.S. EPA's National Trash Free Waters Program. The effort involved input from local governments.
- The South Carolina Litter Association has teamed with several other organizations, including PalmettoPride, Representative Gilda Cobb-Hunter, Governor Nikki Haley, Keep the Midlands Beautiful, state and local law enforcement agencies and waste management companies to launch an annual Zero Tolerance for Litter campaign, which is a month-long event held every April. The goal is to bring awareness about the importance of stopping litter, and strengthen enforcement efforts.

- In Franklin County, Ohio, the Community Cleanup Crew program, which sentences many litter and illegal dumping violators with community service hours, has ongoing collaboration with:
 - Community leaders and law enforcement, to develop a rapport with citizens to help them develop a sense of community pride and understanding that law enforcement monitors the community, as well as to identify projects that could be done through the Community Cleanup Crew program; and
 - Non-profit organizations, such as Habitat for Humanity and Keep Columbus Beautiful to identify cleanup and other property improvement opportunities that can be done by those needing to serve community service hours.
- In the City of Houston, Texas, resources and expertise are shared across jurisdictions and agencies. Examples include:
 - The City's Law Enforcement Office includes offices for a U.S. EPA agent and two Texas Game Wardens, and two TCEQ criminal investigators. They tend to "catch up" on an ad-hoc basis, but are easy to find when resources or expertise are needed for a specific investigation. The group often eats lunch together on a regular basis, when informal but useful conversations take place.
 - As needed the city law enforcement officers will work with utility departments, the fire department (for chemical and hazardous wastes) and the code enforcement office. As a result of the collaboration that takes place, the District Attorney's office is comfortable working on cases from all agencies.

Funding Litter Prevention, Abatement and Enforcement Efforts

In general, funding for litter cleanup is provided by state governments. This funding may come from taxes specifically designed to address litter, environmental funds, or funds dedicated to properly managing certain material types at the end of their useful life. States may distribute funds to local governments based on a formula (e.g., road miles, population, or a combination), or via grants for litter cleanup and prevention efforts. Sources of funding for litter prevention, litter cleanup, and illegal disposal cleanup include:

Litter Taxes -- There are eight states that have enacted litter taxes. In most cases these taxes are paid by businesses that sell "frequently littered" items such as beverages, fast food or snacks, and are based on a portion of gross receipts. The degree to which funds raised for litter are truly dedicated to litter cleanup, education, etc., varies from state to state and over time, depending upon the state's financial health.



Photo 37: Keep America Beautiful

KEEP AMERICA BEAUTIFUL

State Highway Departments – Most state highway departments have some budget for litter cleanup. They may use this budget to clean highways directly, or through paid or volunteer third parties, including inmates. State highways often help manage Adopt-A-Highway and Adopt-A-Sponsor programs.



Photo 38: onthemongahelariver.blogspot.com

Other Environmental Taxes/Fees – Some states and counties have environmental fees that are charged on the disposal of trash, some of which is used to fund environmental programs, including litter programs. Wake County, North Carolina, for example, charges a flat fee on the property tax bill that covers certain programs and services, including litter-related education and outreach.

Advance Disposal Fees/Advance Recycling Fees -- Many states charge advance disposal fees (also called advance recycling fees) on certain product types (such as tires and household appliances), which helps fund recycling or management programs at the end of the program's useful life. In some cases, such as in the case of scrap tires, some of these funds are also used to clean up illegal tire piles.

General Fund – Some states receive revenues from the general fund (which is often generated through income and/or sales taxes), in order to combat litter.

Other Foundations/Grants – In some areas local and regional foundations provide generous assistance for litter abatement and cleanup activities. The [Alice Ferguson Foundation](#), for example, supports programs and provides resources to clean up to the Potomac Watershed.

Corporate Sponsorships – Several companies have provided funding to support litter and illegal dumping cleanup. Examples are provided on the KAB website, as well as various KAB affiliate websites.

In-Kind Donations – Local businesses are often willing to provide in-kind donations, including trash bags, vests, disposal services, dumpsters, publication of outreach, etc. If possible, acknowledge their generosity on your website and in press releases.

Disposal Fees – Some local governments and solid waste districts own landfills and are able to charge disposal fees on solid waste beyond landfill tipping fees, in order to clean up illegal dumps and/or clean up litter and conduct education and outreach.

In addition, some volunteer organizations, including KAB and KAB affiliates, receive contributions from corporate sponsors as well as non-profit partners, and some also receive state or local-level funding. Foundations also exist which may be potential sources of funding for affiliates and local governments seeking funding.

Local governments and KAB affiliates seeking additional funds or other resources might consider exploring the following potential options:

- Grants from state DOTs or environmental management agencies
- Grants from KAB affiliates (if a local government)
- Grants from solid waste districts (particularly if strong revenue sources exist, such as per-ton disposal fees)
- Grants/sponsorship from recycling organizations
- Grants/sponsorship from local governments (such as community development block grants)
- Corporate partnerships (many KAB affiliates are successful in receiving funding/establishing partnerships with grocery chains, environmental businesses, tourism-related businesses and fast food organizations)
- In-kind contributions (press, advertising/marketing, garbage collection/disposal/container use/bags, equipment, signs)

Funding Litter Abatement in My Community:

- 1) Litter and illegal dumping education and outreach in my community is generally done by:

- 2) Funding is generally through the following:

- 3) The following businesses/organizations provide donations:

- 4) It might be possible to obtain additional funding from the following governmental agencies or departments:

- 5) Additional local companies and private organizations that might want to contribute to litter prevention or cleanup costs include:

- 6) Additional local companies and organizations that might be interested in contributing in-kind services include:

Assessing Litter/Program Success

Tracking information about roadside litter and illegal dumping can provide valuable information to state and local governments about litter and materials management education and outreach that is still needed, and can point to specific types of programs that may be lacking to manage materials.

Number of Illegal Dump Sites — Many states and counties track the quantity and location of illegal dump sites so that they can be monitored and remediated, and so that overall program success can be tracked. This can be accomplished by drive by surveys (as is done by [Keep Pennsylvania Beautiful](#), with the assistance of citizens and local governments) or with the assistance of aerial photography.

Roadside Litter Surveys — Roadside visual litter surveys are conducted periodically to measure the quantity (and type) of litter along roadsides. Athens-Clarke County Georgia has residents assist with this effort, by having them, along with county staff and KACB board members, rank the state of litter (on a scale of 1 through 4) in Athens-Clarke County.

Annual Cleanup Costs — Tracking the amount spent on annual cleanup can be an indicator of the progress being made, as long as it's not a result of declining standards. The City of Houston spent \$6 million per year cleaning illegal dump sites when they began their program 18 years ago. These days, annual cleanup costs average \$1 million per year, due to having "caught up" on the abatement of legacy dumps.

Citizen Surveys — Some governments have conducted citizen or stakeholder surveys to try to gauge how large of an issue litter is. While it can be helpful to obtain citizen perspective, there are data and accuracy limitations with this type of "perception" and "self-behavior" reporting.

		Average for Road	Average for District			Average for Road	Average for District
ONE	Belmont Road	1.7	1.9	SIX	Fowler Mill Road	1.9	2.0
	Main Street, Winterville	1.5			Tallassee Road	2.2	
	Old Lexington Road	1.9			Cleveland Road	2.0	
	Beaverdam Road	2.0			Jimmy Daniel Road	2.1	
	Lexington Highway	2.5			Atlanta Highway	2.2	
	Barnett Shoals Road	1.6			Mitchell Bridge Road	1.8	
TWO	Fourth Street	2.6	2.2	SEVEN	Baxter Street	1.7	1.7
	Gaines School Road	1.8			Riverbend Road	1.9	
	Lexington Highway	2.2			West Lake Drive	1.3	
	Olympic Drive	2.2			South Milledge Drive	1.8	
	Peter Street	2.1			Macon Highway	2.0	
	Winterville Road	2.6			South Milledge Avenue	1.6	
THREE	Broad Street	2.1	2.1	EIGHT	Cedar Shoals Drive	2.3	1.8
	Hawthorne Avenue	2.1			Cedar Creek Drive	1.5	
	Baxter Street	1.7			Whitehall Road	2.0	
	Kathwood Drive	2.4			East College Station Road	1.7	
	Prince Avenue	1.7			Research Drive	1.5	
	Vincent Drive	2.5			Whit Davis Road	1.8	
FOUR	College Station Road	1.7	1.8	NINE	Athena Drive	2.1	2.1
	Oconee/Oak Street	2.3			Barber Street	1.7	
	Barnett Shoals Road	2.3			Danielsville Road	2.2	
	South Milledge Avenue	1.3			Highway 29	2.0	
	East Campus Road	1.4			Hull Road	2.1	
	Lumpkin Street	1.8			MLK Jr. Parkway	2.3	
FIVE	Jefferson Road	2.2	2.3	TEN	Jennings Mill Road	1.8	1.6
	Lavender Road	2.5			Timothy Road	1.4	
	Newton Bridge Road	2.5			Timothy Road	1.4	
	Highway 441	2.1			West Lake Drive	1.3	
	Nowhere Road	2.1			Epps Bridge Road	1.8	
	Whitehead Road	2.2			Atlanta Highway	1.7	

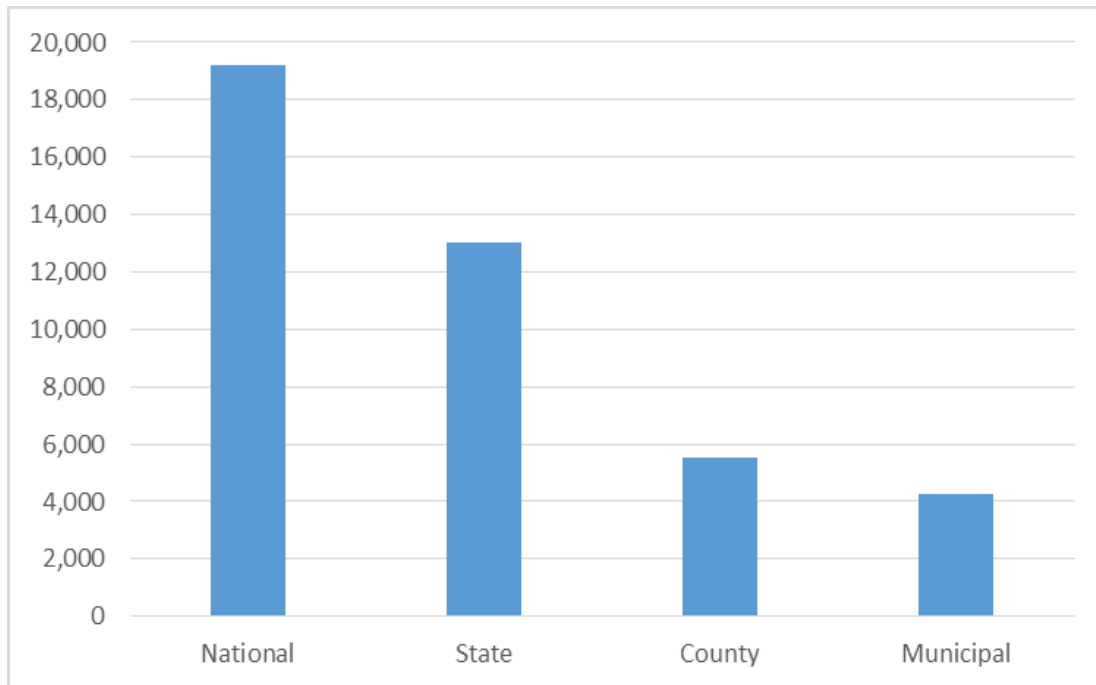
Photo 39: Keep Athens-Clarke County Beautiful

Appendix A – In-Depth Information

This Appendix provides information that is referred to throughout the curriculum, but is more in-depth in nature.

Figure A-1 shows the total count of litter (large and small) per mile of roadway in the U.S., by type of road, per the 2009 KAB litter survey study.

Figure A-1: Pieces of Litter per Mile of U.S. Roadway – by Road Type

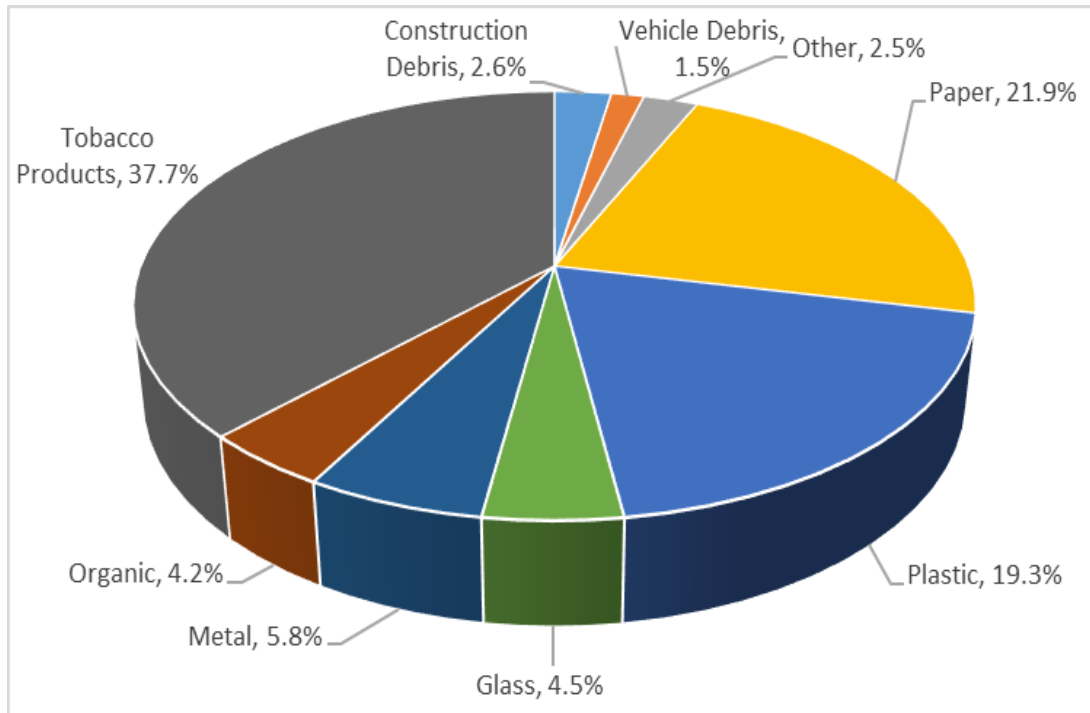


As the graph above shows, national roadways have a high density of litter, due to their heavy use and limited access. However, total quantity of litter by roadway type is largely driven by the number of miles of each type of roadway.

Because there are many more miles of county roads (3,562,828) in the U.S. than other types, especially national (93,216), county roads are a greater source of litter, overall, than other types of roadways (a total of 19.8 billion items) than national roads (1.8 billion items). Second for overall quantity of litter is state roads (19 billion items), followed by municipal (10.6 billion items). Understanding the density of litter and the type of road helps KAB and other organizations better understand how to combat litter.

Figure A-2 provides a visual breakout of the 2009 visual litter study results, by litter count.

Figure A-2: Roadside Litter Types (All Sizes)



Context Clues

Examples of context clues used in the 2009 KAB Litter Study include the following assumptions/inferences for sources of roadside and non-roadside litter:

- Cigarette butts on national highways were reasoned to be from motorists because there is no meaningful pedestrian traffic, nor are other sources likely contributors;
- Fast food wrappers and packaging found on the street next to a fast food restaurant with an overflowing container would suggest the overflowing container as the most likely source;
- Spillage of papers on an exit ramp headed toward a recycling facility suggests that a recycling collection vehicle (i.e., an unsecured load) would be the most likely source; and
- Snack packaging found at a corner where there was a traffic light, but no bus stop, suggests that motorists would be the most likely source.

Appendix A – In-Depth Information

Table A-1 summarizes the quantity, types, and apparent generator types of litter for each of the non-roadway sources of litter examined in the 2009 KAB litter survey study.

Table A-1 Summary of Non-Roadway Litter Study Results

Site Type	Quantity of Litter per 1,000 Square Feet	Top Three Litter Items (Count)	Top Three Generator Types
Transition Points	584	Confection (174) Cigarette Butts (91) Vehicle Debris (13)	Pedestrians, Shoppers (97.8%) Motorists (3.3%) Containers (0.6%)
Storm Drains	191	Cigarette Butts (57) Confection (31) Other Paper (18)	Pedestrians (57.2%) Motorists (32.4%) Unsecured Loads (5.3%)
Loading Docks	126	Cigarette Butts (33) Metal/Foil Packets (16) Wood Pallets (14)	Workers (85.1%) Containers (6.0%) Unknown (5.7%)
Recreational Areas	105	Cigarette Butts (34) Confection (21) Other (14)	Pedestrians (98.5%) Uncovered Containers (1.0%) Unknown (0.3%)
Construction Sites	101	Cigarette Butts (34) Other Paper (15) Other Plastic (9)	Workers (69.3%) Unknown (28.7%) Unsecured Loads (16%)
Retail Sites	46	Cigarette Butts (17) Confection (15) Other Paper (5) Paper/Fast Food Svc. (5)	Pedestrians/Shoppers (80.4%) Unsecured Loads (16.6%) Containers (2.0%)

Data Source: 2009 KAB National Visible Litter Survey and Litter Cost Study, MSW Consultants

Note: Confection means "any type of candy, chocolate, gum or other sweet preparation containing sugar or artificial sweetener as its principal ingredient." The source "containers" means litter came from overflowing or open trash/recycling containers.

Definitions

Code Violations – Code violations refer to violations of a local government's code ordinances. These ordinances are usually enforced by code enforcement officers, but can typically be enforced by local law enforcement officers as well.

Infraction/Violation – An infraction (or violation in some states) is a general name for a criminal offense that is less severe than a misdemeanor. Often infractions are paid with community service hours, probation, or fines.

Misdemeanor -- In criminal law, a misdemeanor is a general name for criminal offenses of every sort, punishable by indictment or special proceedings, which do not in law amount to

Appendix A – In-Depth Information

the grade of felony. Misdemeanors are typically punishable by fine, probation, community service hours, up to one year in jail, or a combination of those penalties, but not imprisonment.

Felony – A felony is a more serious breach of law than a misdemeanor, with a potential penalty of a year or more in prison and/or a fine.

Criminal Offense – A criminal offense can result in jail time. Within criminal offenses there are misdemeanors and felonies. Also, those convicted of criminal offenses have a criminal record.

Civil Offense – Civil offenses generally cannot result in jail or prison time. In general, most states treat a littering offense of a small quantity or a first-time offense as a civil offense, and the offender therefore cannot be sentenced to jail.

Administrative Rules – Administrative rules and regulations are those that are developed and enforced by administrative agencies of government. Government agency action can include rulemaking, adjudication, or the enforcement of a specific regulatory agenda. Administrative law is considered a branch of public law. Examples of agencies with rules include state environmental agencies and agencies that manage state-owned lands such as forests, parks and campgrounds.

Sample Volunteer Registration Form

Name: _____
Organization: _____
Address: _____
City: _____ ZIP: _____
Home Phone: _____ Cell Phone: _____
E-Mail Address: _____
Cleanup Location: _____
Cleanup Date: _____

NOTICE

The undersigned, recognizing and assuming all risks of accident and injury, hereby agrees that the following sponsors and volunteers:

Will not be liable or legally responsible for any injury sustained by the participant, or for loss or damage to the property owned or in the possession of the participant during, or as a result of, participation in this cleanup project at the above location whether such personal injury or property damage is caused by the negligence of the sponsors or their respective employees, officers, agents or otherwise.

Signature

Parent/guardian if signatory is < 18 years of age

Witness/Date

Thank you for volunteering!

KAB provides this form as a general sample. Actual use of this form does not constitute approval, ownership, endorsement, or sponsorship of any person or event for which this form may be used. Be aware that this form may have legal, financial, and/or other implications. If you are not sure of the use of any form, consult with an appropriate professional.

Source: Keep Pennsylvania Beautiful

Appendix C – Sample Permission to Enter Form

Sample Permission to Enter Form

I (Name) _____, being owner of a property situated at (Address or description of property location) _____ in (Municipality) _____ do hereby grant permission to (Group or Individual's name) _____ represented primarily by (Name of organizer) _____ and the volunteers recruited by this group and/or organizer for a cleanup on my property. By granting permission, I do, with intent to be legally bound, hereby release (Group's name) _____ and their volunteers from any liability and do not assume liability for actions incurred during the cleanup held on _____ (Date) _____ with an alternate date on (Alternate date) _____

Signature of property owner

Date

Printed name of property owner

Signature of group representative

Date

(OPTIONAL) Also, I do hereby grant this group and recruited volunteers to enter my property henceforth to help maintain this property as a refuse-free property and to remove any trash as may be deemed necessary by them.

Signature of property owner

Date

Printed name of property owner

Signature of group representative

Date

Source: Keep Pennsylvania Beautiful

KAB provides this form as a general sample. Actual use of this form does not construe approval, ownership, endorsement, or sponsorship of any person or event for which this form may be used. Be aware that this form may have legal, financial, and/or other implications. If you are not sure of the use of any form, consult with an appropriate professional.

Steps to Organize a Volunteer Illegal Dump Cleanup Event

- 1) Survey the site, noting the types and quantities (to the best of your ability) of materials on waste on the site. Take photos to document.
- 2) Build a community team and decide upon a date for the event. Solicit donations, assistance from organizations/businesses.
- 3) Obtain permission to enter site. (See Appendix C for a sample permission form).
- 4) Assess site for cleanup. This includes walking through site with owner, understanding equipment needed to clean site, gaining understanding of availability of cell service at site, assessing whether road will need to be closed, whether signs and safety detail needed, where roll-off or other container will be sited, etc.
- 5) Obtain volunteers, communicate expectations with them, including what to wear for safety and comfort (brimmed hat, work gloves, work boots or heavy-soled shoes, long pants, sunblock, mosquito repellent, long-sleeved shirt, safety vest, sunglasses).
- 6) Ensure for proper recycling and disposal of items on site.
- 7) Obtain cleanup supplies – At a minimum this will include gloves, buckets, trash bags, other containers for waste, if needed, safety vests, first aid kit, and may include other needed equipment to access and/or improve the site.
- 8) Hold cleanup event – Be sure to start with instructing volunteers about safety and their duties. Be sure everyone knows where to find supplies as well as cell phone, water, first aid kit. Assign leaders. At end of event, be sure all volunteers accounted for.
- 9) Take care of post cleanup responsibilities – this includes estimating quantity and types of waste, ensuring its proper disposal, contact media to describe event, thank volunteers.
- 10) Conduct long-term maintenance of site. Consider adoption programs, installing physical deterrents (such as boulders) and increased monitoring.

Remember – Safety is of primary importance!

**Be sure volunteers wear proper safety gear, and are warned of potential hazards.
Be sure a first aid kit is on site. Ask volunteers if they have health**

Appendix E – Additional KAB Resources

Beautify Communities – Resources to help communities learn more about and address the issue of blight.

<https://www.kab.org/resources/beautify-communities>

Cigarette Litter Prevention Program – Resources to better understand the issue of cigarette litter, the importance of addressing it, and tools to prevent it.

(Created with the sponsorship of Reynolds America, Inc., The Santa Fe Natural Tobacco Company, and Phillip Morris USA, an Altria Company).

<https://www.kab.org/cigarette-litter-prevention>

Community Impact Grants – Information about grant opportunities provided through corporate sponsors.

<https://www.kab.org/resources/community-impact-grants>

Education – Information about litter and recycling education and programs for youth.

<https://www.kab.org/our-programs/education>

How to Be A Good Neighbor – A Guide for Food Service Establishments. (Created in partnership with the Foodservice Packaging Industry (FPI) and the National Restaurant Association (NRA).

https://www.kab.org/sites/default/files/EndLittering_ForAffiliates-Businesses_A_Guide_to_Reducing_and_Managing_Litter_o.pdf

Litter Resources – Fact Sheets – Includes Littering in Pedestrian Areas, Littering Behavior, Sources of Litter, Costs of Littering, Cigarette Litter.

<https://www.kab.org/resources> (Scroll to "End Littering.")

Litter Webinar Slides – "The What, Why and Where of Litter.....Next Steps." KAB Webinar Series, April 26, 2010. Steve Stein, ER Planning and Wes Schultz, Action Research.

http://www.erplanning.com/uploads/Litter_in_America_Webinar.pdf

Recycling Resources – Provides information about the benefits of recycling, specific recycling events and contests (e.g., America Recycles Day, Recycle-Bowl and RecycleMania) as well as tips to design recycling spaces at work and in public spaces.

<https://www.kab.org/resources/improve-recycling>

Student and Leader Learning Guides – Tools that provide guidance for students and educators incorporating experiential learning to help students learn while being good stewards.

<https://www.kab.org/our-programs/education/student-and-leader-learning-guides>

Waste in Place – An educational resource kit KAB makes available for grades K through 6. The kit teaches children to be good stewards of the environment through experiential learning.

<https://www.kab.org/our-programs/education/waste-place>

Youth Advisory Council – Provides information about a leadership development program for a select group of high-school students.

<https://www.kab.org/our-programs/education/youth-advisory-council>

References and Resources

Curriculum References and Resources

In developing this curriculum, the project team drew heavily on work that had been done by KAB, KAB affiliates, and conducted many interviews with KAB affiliates, law enforcement officers, prosecutors, and others who work tirelessly in their communities to stop litter. We appreciate their contributions and insights. KAB has also conducted a literature review to identify more recent studies in the field of blight. Please see www.kab.org for more information.

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