

# Littering Facts

## *Attitudes toward litter*

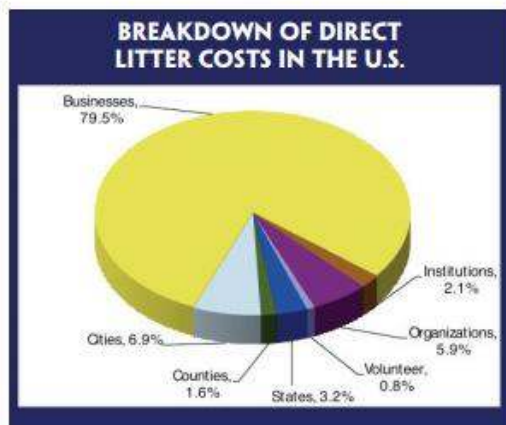
Research has shown that the main factor in littering is attitude. People feel its okay to litter in these situations:

- where litter is cleaned up periodically, such as shopping centers, parking lots, or theaters;
- where they feel no sense of ownership, such as in public parks, on city streets, or around rented homes;
- where there is already an accumulation of litter, such as at illegal dump sites or where litter is trapped.

## *Seven Main Sources of Litter*

The seven main sources of litter all result from:

- commercial and business trash
- construction site material
- household trash
- loading dock refuse
- loose material (hauled by uncovered trucks)
- motorists
- pedestrians



### **THE COST OF LITTER IS SUBSTANTIAL**

Litter clean up costs the U.S. more than \$11.5 billion each year, with businesses paying \$9.1 billion. Local and state governments, schools, and other organizations pick up the remaining costs.

### **The indirect costs of litter are also considerable.**

- The presence of litter in a community decreases property values by 7%.
- Of homeowners surveyed, 40% believe that litter reduces home values by 10% to 24%.
- 55% of realtors think that litter reduces property values by about 9%.
- 60% of property appraisers would reduce a home's value if it was littered.

# LITTER IN AMERICA

Results from the nation's largest litter study

## KEY FINDINGS: LITTERING BEHAVIOR

Littering Behavior in America\*, new research from Keep America Beautiful, reports on three nationwide studies—behavior observations, intercept interviews, and a national telephone survey. These explore how frequently people litter, the individual and contextual variables that contribute to littering, and the effectiveness of various approaches to reduce littering.

In the 2009 national survey, the first since 1969, 15% of individuals self-reported littering in the past month. In 1969, 50% admitted littering. While self-reported littering rates have declined in the past 40 years, individual littering—and litter—persists.

### LITTER IS PRIMARILY THE RESULT OF INDIVIDUAL BEHAVIORS.

- **About 85% of littering is the result of individual attitudes.** Changing individual behavior is key to preventing litter.
- Nearly one in five, or **17%, of all disposals observed in public spaces were littering.** The remainder (83%) was properly discarded in a trash or recycling receptacle.
- **Most littering behavior—81%—occurred with notable intent.** This included dropping (54%), flick/flip of the item (20%), and other littering with notable intent (7%).

**Table 8. Frequencies of Litter Disposal Strategies for General Litter**

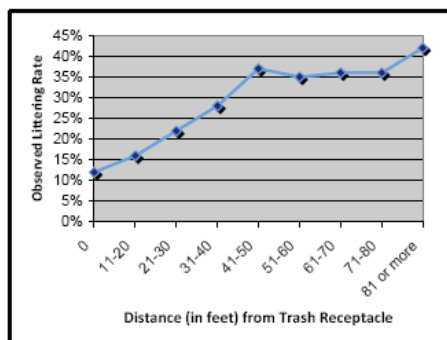
	Frequency	Percentage
Drop: Intent †	183	54%
Flick/Flip †	68	20%
Drop: No Intent	42	12%
Shoot & Miss †	8	2%
Placed item on table, bench, or ledge †	21	6%
Inch Away †	8	2%
Wedge †	4	1%
Sweep †	3	<1%
90°ers †	2	<1%
Blew away	3	<1%
<b>TOTAL</b>	<b>342</b>	<b>100%</b>

Note: † designates littering that occurred with notable "intent."

### THE COMMUNITY ENVIRONMENT ALSO INFLUENCES LITTERING BEHAVIOR.

- **A strong contributor to littering is the prevalence of existing litter.** About 15% of littering is affected by the environment, or existing litter.
- **Trash receptacles are widespread, while ash receptacles are less common.** Of the sites observed, 91% had trash receptacles (including dumpsters), but only 47% had ash receptacles. And even fewer had recycling containers (12%).
- **Most littering occurs at a considerable distance from a receptacle.** At the time of improper disposal, the average estimated distance to the nearest receptacles was 29 feet. The observed littering rate when a receptacle was 10 feet or closer was 12%, and the likelihood of littering increased steadily for receptacles at a greater distance.
- **Individuals under 30 are more likely to litter than those who are older.** In fact, age, and not gender, is a significant predictor of littering behavior.

Figure 2: Observed Littering Rate by Distance to Receptacle



**MORE ON REVERSE SIDE...**



\* The 2009 National Visible Litter Survey and Litter Cost Study was prepared by MidAtlantic Solid Waste Consultants for Keep America Beautiful, Inc. Research reports and an executive summary can be downloaded at [www.kab.org/research09](http://www.kab.org/research09). Keep America Beautiful, Inc. 2009 national litter and littering behavior research were conducted through a grant from Philip Morris USA, an Altria Company. Wm. Wrigley Jr. Company Foundation sponsored the creation of these fact sheets. All contents Copyright 2010 Keep America Beautiful, Inc. — [www.kab.org](http://www.kab.org). January 2010

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## CIGARETTE BUTT LITTERING

**The most frequently littered items are cigarette butts.**

Tobacco products are roughly 38% of all U.S. roadway litter and comprise nearly 30% at “transition points”. Here are more facts about cigarette butt littering:

- A focused observation of smokers revealed a **65% littering rate**. Both the availability of ash receptacles and the amount of existing litter affected the littering rate.
- **Cigarette butt litter was more strongly influenced by the environment than was general litter.** A full 38% of cigarette butt littering was due to the environment, and 62% to individual behavior.

Table 6. Type and Frequency of Disposed Objects

	Proper	Improper	% Littered
Cigarette Butt	146	194	57%
Combo/Mixed Trash	325	12	4%
Paper	251	20	7%
Beverage Cup	180	5	3%
Napkin/Tissue	110	9	8%
Beverage Bottle: Plastic	100	5	5%
Food Remnants	65	16	20%
Food Wrapper	85	14	14%
Beverage Can	59	8	12%
Food Container	57	1	2%
Plastic Bag	38	2	5%
Beverage Bottle: Glass	11	0	0%
Unknown	116	10	8%
Other	77	46	37%
<b>TOTAL</b>	<b>1,620</b>	<b>342</b>	<b>17%</b>

## PREVENTING LITTER REQUIRES CHANGING INDIVIDUAL BEHAVIOR— AND THE ENVIRONMENT

**Make proper disposal convenient and accessible.** Provide sufficient trash, ash, and recycling receptacles. There is a special need for more ash receptacles.

**Ensure consistent and ongoing clean-up efforts.** Littered environments attract more litter. Decrease the amount of existing litter.

**Use landscaping, improving the built infrastructure, and ongoing maintenance** to set a community standard and promote a sense of personal responsibility not to litter. Communities that make an effort to “beautify” result in lower rates of littering behavior.

**Make the most of awareness and motivational campaigns.** Use messaging that highlights social disapproval for littering and a preference for clean, litter-free communities. Messages that show littering as common undermine littering prevention. And keep the focus on individual responsibility.





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## KEY FINDINGS: CIGARETTE BUTT LITTER

Cigarette butts are the most frequently littered item. Tobacco products comprise 38% of all U.S. roadway litter and 30% at "transition points," places where smokers much discontinue smoking before proceeding. As part of Keep America Beautiful's 2009 Littering Behavior in America\* research, specific data was gathered about cigarette butt littering. This included observations of smokers at recreation areas, bars/restaurants, retail, and medical/hospitals.

### THE OVERALL LITTERING RATE FOR CIGARETTE BUTTS IS 65%.

This is slightly higher than the 58% rate found in the general littering observations.

- When a cigarette butt is littered, dropping with intent is the most frequent behavior or strategy (35%), followed by "flick/fling" (27%), and "stomp" (27%).
- Most cigarette butts are littered on the ground (85%), 37% into bushes/shrubbery, 25% on or around trash receptacles, and 15% into planters.

Table 10. Frequencies of Litter Disposal Strategies for Cigarette Butt Litter

	Frequency	Percentage
Drop with Intent	122	35%
Flick/Fling	94	27%
Stomp	92	27%
Other	17	5%
Bury	9	3%
Wedge	6	2%
Shoot & Miss	3	1%
TOTAL	343	100%

Table 4. Frequencies of Where Cigarette Butts were Littered in Observation Locations

	Frequency	Percentage
Ground	110	85%
Bushes/Shrubbery	48	37%
On or around trash receptacles	32	25%
Planters	20	15%
Other	6	5%

### CIGARETTE BUTT LITTERING IS MORE INFLUENCED BY THE ENVIRONMENT THAN GENERAL LITTERING. ONE OF THE STRONGEST PREDICTORS OF CIGARETTE BUTT LITTERING IS THE NUMBER OF ASH RECEPTACLES.

- 38% of cigarette butt littering is associated with the physical environment, including the number of ash receptacles. The presence of ash receptacles, either as stand-alone, or integrated into a trash can, correlates with lower rates of cigarette butt littering.
- For every additional ash receptacle, the littering rate for cigarette butts decreases by 9%.
- At the time of improper disposal, litterers were an average of 31 feet from an ash receptacle. While trash receptacles are widespread (at 91% of observed sites), ash receptacles are less common, with only 47% of observed sites having an ash only or ash/trash receptacle.
- Of smokers who work, 41.8% report that they do not have receptacles for cigarette butts at their work location.

MORE ON REVERSE SIDE...



\* The 2009 National Visible Litter Survey and Litter Cost Study was prepared by MidAtlantic Solid Waste Consultants for Keep America Beautiful, Inc. Research reports and an executive summary can be downloaded at [www.kab.org/research09](http://www.kab.org/research09). Keep America Beautiful, Inc. 2009 national litter and littering behavior research were conducted through a grant from Philip Morris USA, an Altria Company. Wm. Wrigley Jr. Company Foundation sponsored the creation of these fact sheets. All contents Copyright 2010 Keep America Beautiful, Inc. – [www.kab.org](http://www.kab.org). January 2010

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## ANOTHER STRONG PREDICTOR OF CIGARETTE BUTT LITTERING IS THE AMOUNT OF EXISTING LITTER.

- **Smokers are more likely to litter if the environment contains any type of litter, not just cigarette butts.** More littered environments encourage more littering.
- **Medical/hospital sites have the highest littering rates,** followed by recreation areas, bars/restaurants, and then retail locations and city centers.

Table 14. Place of Disposal for Cigarette Butt Litter

	Frequency
Pocketed	2
Trash can	8
Ashtray	26
Ground	7
Field Strip	5
Personal Ashtray	2
Cigarette Pack	1

## 63% OF CIGARETTE BUTT LITTERING IS ATTRIBUTABLE TO INDIVIDUAL MOTIVATIONS.

- **Younger adult smokers are more likely to litter cigarette butts than older smokers,** although there is no correlation with gender.
- **Only 14% of current smokers report owning a pocket ashtray,** and 28.1% report that they do not have a receptacle for cigarette butts in their car.
- **77% of individuals in an intercept survey report that they thought cigarette butts were litter.** When asked how they disposed of their cigarette butts when outside, most report using an ashtray. Others report using a trash can or dropping the butt to the ground.

These key research findings indicate that that the most effective ways to address cigarette butt littering include **increasing the availability of ash receptacles and portable ashtrays, decreasing the amount of existing litter through clean-up activities, and educating the public with motivational messages that target individual responsibility and obligation.**



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## KEY FINDINGS: THE COSTS OF AMERICANS LITTERING

The 2009 National Visible Litter Survey and Litter Cost Study\* documents the direct and indirect costs of litter to communities, schools, and businesses. While visible roadside litter is down 61% since 1969, litter, and littering behavior, remains a persistent and costly problem.

### BREAKDOWN OF DIRECT LITTER COSTS IN THE U.S.

**Litter clean up costs the U.S. more than an estimated \$11.5 billion each year.**

- Businesses pay \$9.1 billion of clean up costs, or about **80%**.
- States, cities, and counties together expend \$1.3 billion on litter abatement. **Litter removal is often a hidden cost within employee expenses or other projects which makes it difficult to determine the actual cost to local governments.**
- Educational institutions spend approximately \$241 million dollars annually for litter clean up. **Similar to local governments, litter costs are often not included as a budget line item, making it difficult to determine the time spent on cleanup in hallways, cafeterias, and sports facilities.**
- Many communities depend on volunteers to clean up litter, a trend that will likely grow.
- Continuing population growth—about 3.5 million/year—will strain litter abatement efforts. Even if litter is reduced on a per capita basis, more people will tend to result in more litter.
- As the U.S.—along with state and local governments—struggles economically, budget cuts may reduce tax-funded litter clean-up programs.

### THE INDIRECT COSTS OF LITTER ON QUALITY-OF-LIFE ARE CONSIDERABLE.

Indirect costs include the degree to which litter reduces the value of real estate, deters a customer from entering a business, or a new employer from locating to a community. To measure these impacts of litter, the 2009 study surveyed homeowners, realtors, and business development officials.

- **93% of homeowners say a littered neighborhood would decrease their assessment of a home's value and influences their decision to purchase a property.** And 40% estimated that litter would reduce a home's value by 10% to 24%.
- 36% of business development officials say that **litter impacts a decision to locate to a community.**
- 55% of realtors think that **litter reduces property values by about 9%.**
- 60% of property appraisers **would reduce a home's value if it was littered.**
- **The presence of litter in a community decreases property values by a little over 7%,** according to the National Association of Home Builders pricing model.

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## LITTER HAS COSTLY ENVIRONMENTAL CONSEQUENCES.

- The environmental outcomes of litter can have economic impacts. This includes lost tourism revenues, expenses for repairing vehicles, boats and ships, restoration of ecosystems, wildlife injury, and eventually the cost to human health.
- Debris may be carried by storm drains into local waterways, with potential for serious environmental contamination. Wind and weather, traffic, and animals all move litter into gutters, lawns and landscaped areas, alleyways, and parking structures.

DIRECT COSTS OF LITTER	
ENTITY TYPE	COST (IN MILLIONS)
States	\$ 363
Counties	\$ 185
Municipalities	\$ 797
Businesses	\$ 9,128
Educational	\$ 240
NGOs	\$ 769
<b>TOTAL</b>	<b>\$ 11,482</b>





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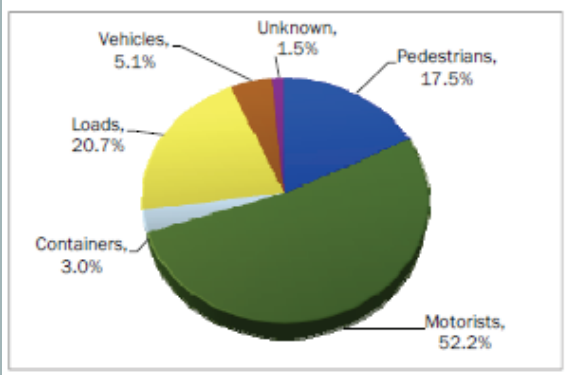
## KEY FINDINGS: SOURCES OF LITTER

Keep America Beautiful's 2009 National Visible Litter Survey and Litter Cost Study\* identifies individuals as the primary source of litter. Motorists and pedestrians are littering on roads and highways, in downtown business districts, recreational areas, and beaches.

### LITTER ON ROADS AND HIGHWAYS IS THE RESULT OF INDIVIDUAL ACTIONS.

- **Motorists and pedestrians contribute a combined nearly 70% of litter over 4 inches.** Along roadways and highways, motorists generate 52.2% of litter and pedestrians 17.5%.
- **Motorists not properly securing truck or cargo loads, including collection vehicles, represent 20.7% of roadway litter 4 inches-plus.** Vehicle debris and improperly secured containers, dumpsters, trash cans or residential waste/recycling bins represent another 8.1% of litter over 4 inches.

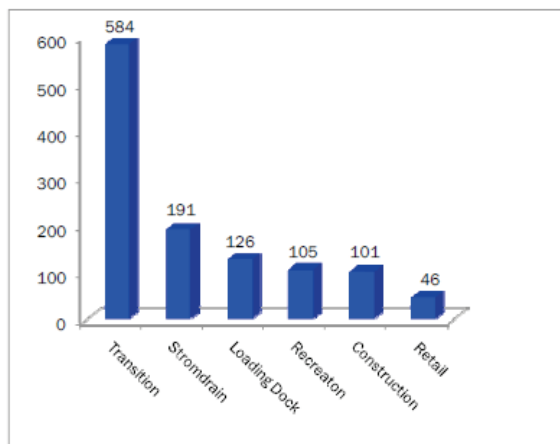
Figure 3-8 Sources of 4-inch-plus Litter on All U.S. Roadways



### ALONG U.S. ROADWAYS CIGARETTE BUTTS, DISCARDED IMPROPERLY BY MOTORISTS AND PEDESTRIANS, ARE THE MOST FREQUENTLY IDENTIFIED ITEM.

- **Tobacco products comprise roughly 38% of ALL U.S. roadway litter** in overall aggregate analysis. Paper (22%) and plastic (19%) are the next largest percentages of litter on roads and highways.
- **Packaging litter comprises nearly 46% of litter 4 inches and greater.** This includes fast food, snack, tobacco, and other product packaging. And 61% of beverage containers 4 inches or greater on U.S. roadways are soft drink and beer containers.

Figure 3-38 Comparison of Litter Incidence by Non-roadway Area (items per 1,000 sq.ft.)



**MORE ON REVERSE SIDE...**



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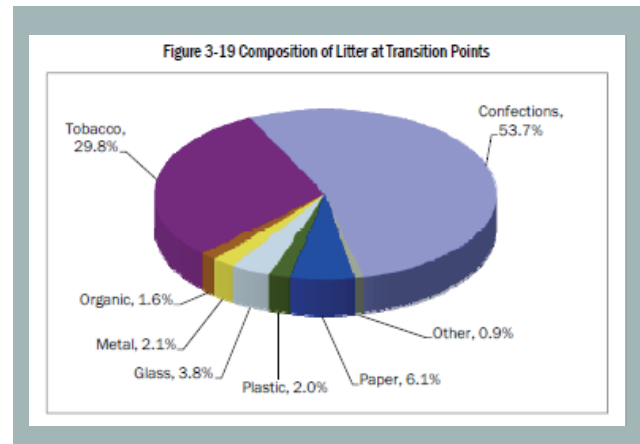


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## OFF THE ROADS, MOST LITTER IS IMPROPERLY DISCARDED AT "TRANSITION POINTS."

- About 95% of litter at transition points is from pedestrians. These are areas where individuals consuming a food or tobacco product are required to discard the product before entering.
- Virtually all litter—97%—found at transition areas are small items. Confection litter (candy, chocolate, gum, etc.) is the most predominant at 53.7%, and tobacco products second at 29.8%.



## STORM DRAINS, LOADING DOCKS, RECREATION AREAS, CONSTRUCTION SITES, AND RETAIL DISTRICTS ARE ALSO AREAS WHERE LITTER COLLECTS—MOSTLY SMALLER ITEMS LIKE CIGARETTE BUTTS, CONFECTION, AND PAPER.

- **After transition points, storm drains are the most littered.** Cigarette butts, confection, and other litter accumulate in or around storm drains, located primarily in gutters and designed to drain excess rain from paved streets, parking lots, etc.
- **85% of litter at loading docks is from workers loading and unloading goods.** Areas behind retail and other businesses are littered predominantly with cigarette butts, but also metals, plastic, and paper.
- **People litter both large and small items at recreational areas.** The source of most litter at parks, beaches, and open areas where people congregate for leisure activities is pedestrians—98.5%. Small items, which represent about half the litter, are cigarette butts and confection, while larger litter is most commonly food-related.
- **The primary source of litter at active residential and commercial construction sites is workers (69%).** They improperly dispose of trash from snacks, meals, smoking, etc. Most construction site litter is smaller items (93%), including cigarette butts, small pieces of paper, plastic, and confection.
- **High-traffic locations are a draw for a variety of items littered by shoppers.** Strip malls, shopping centers, and convenience stores all attract packaging litter, cigarette butts, and confection.

