



2013 STATEWIDE LITTER SURVEYS

Public Opinion Litter Survey Roadside Litter Characterization Study Assessment of Existing Litter Control and Beautification Efforts

Findings, Implications and Recommendations June 2014 – Final

INTRODUCTION

Keep Iowa Beautiful (KIB), in affiliation with Keep America Beautiful (KAB), continues to address the issues of littering and illegal dumping in our state. The mission of Keep Iowa Beautiful is to empower Iowans to make Iowa the cleanest and most attractive state in the nation by:

- Assisting communities and organizations in enhancement, clean up and beautification projects.
- Conducting marketing research studies that will help identify the reasons “why people litter” and “show a general lack of respect for land and property.”
- Provide anti-littering, community enhancement and beautification education programs.
- Increase public awareness of the costs of littering and community cleanliness.
- Encourage regional groups and communities to become a Keep Iowa Beautiful affiliate and/or partner members.

KIB strongly believes that litter, like other visual negatives, is a symptom of a deeper problem in society—a lack of pride and respect.

Littering and illegal dumping negatively impacts Iowa through:

- A decreased sense of pride in our neighborhoods, communities and state.
- Increased littering due to citizen apathy.
- Potential decreased investment by new and existing businesses in our communities.
- Increased expenditure of public dollars and resources in the efforts of cleanup that could be better spent in more positive ways.
- Potential for health-related litter problems.
- Overall impact on the quality of our environment.

PROJECT OVERVIEW

The initial Statewide Litter Survey was conducted in 2001-2002, more than 12 years ago.

Keep Iowa Beautiful, in collaboration with the Iowa Department of Transportation (DOT) and the Iowa Department of Natural Resources (DNR) commissioned a comprehensive research study in 2013 to assess the current litter situation in Iowa.

The overall objectives of the 2013-2014 Statewide Litter Survey was to gather current data and information to benchmark, comparing results to the 2001-2002 Litter Survey assessing:

- current attitudes and behaviors toward littering
- physical makeup and extent of litter on Iowa's roadways
- fiscal impact of litter among public sector entities

The research summarized in this report examines:

- The opinions of Iowans regarding the types of litter discarded and the seriousness of litter along Iowa roadways.
- Roadside litter characterization study to better understand and obtain objective information about roadside litter/the makeup and amount of litter along Iowa roadways.
- The fiscal impact of litter across Iowa/annual costs of litter control and abatement efforts across Iowa.

The following report summarizes the results of the three studies conducted during the past 12 months. It also identifies potential implications and recommendations based on the findings of the research studies summarized in this report.

2013 – 2014 research partners:

■ **Public Opinion Litter Survey**

Essman/Research
Des Moines, IA

■ **2013 Roadside Litter Study**

BARKER LEMAR ENGINEERING CONSULTANTS
West Des Moines, IA

■ **Assessment of Existing Litter Control and Beautification Efforts**

Franklin Associates, A Division of ERG
Prairie Village, KS

KEY FINDINGS

Roadside Litter Assessment

- Overall, litter is less of an issue today than in 2001-2002.
 - The amount of litter observed and collected decreased in 2013 compared to the 2001-2002 study results.
 - Although packaging, tobacco-related products, other plastics, and the other paper litter categories account for the majority of litter found along Iowa roadways, there was a notable decrease in the pieces of collected litter from 2001 to 2013.
 - The number of potential deposit containers increased in 2013.

| Litter Category | 2013 Total Pieces Collected | 2001 Total Pieces Collected | Difference in Total Pieces Collected | Percent Difference in Total Pieces Collected |
|------------------|-----------------------------|-----------------------------|--------------------------------------|----------------------------------------------|
| Packaging | 213 | 268 | (55) | (21%) |
| Tobacco Products | 362 | 647 | (285) | (44%) |
| Other Plastics | 224 | 336 | (112) | (33%) |
| Other Paper | 184 | 441 | (257) | (58%) |

Fiscal Impact of Littering

- The estimated fiscal impact of litter across Iowa in 2012 is similar to the estimated costs of clean-up from 2002 (adjusted to 2012 dollars).

| Statewide Cost of Litter | 2002 Estimated Annual Costs (2012 dollars)* | 2012 Estimated Annual Costs (2012 dollars) |
|--------------------------|---------------------------------------------|--------------------------------------------|
| State Total | \$17,106,730 | \$17,533,640 |

*2002 litter survey results expressed as 2012 dollars by multiplying 2002 estimated costs by CPI (Consumer Price Index) inflation value 1.2762. http://www.bls.gov/data/inflation_calculator.htm

Public Opinion among Iowans

- Nearly all Iowans in 2001 (97%) and in 2013 (96%) “agree” to some extent that it’s important to maintain a clean environment.
 - 52% say litter is a problem in their community (primarily in the urban locations).
 - Only 35% say they are involved in efforts to clean up their community.
- Fast food containers/wrappers, tobacco products and paper continue to be a moderate/major problem along Iowa’s roadways.
 - In 2013, 56% of Iowans who discarded cigarette/cigar butts or containers, 31% who discarded fast food containers/wrappers, and 30% who discarded paper thought it was a “minor thing.”
- In 2013, more than half (53%) of the Iowans also say that cans and bottles (glass or plastic) are a moderate/major problem on the roadways.
 - 32% of Iowans who also had discarded cans and bottles (glass or plastic) believe their littering was a “minor thing.”
- Iowans believe increasing the penalties for littering and increasing the enforcement of anti-litter laws could have a significant impact on reducing littering and illegal dumping.

COMMON THEMES

Although the three independent surveys focused on different aspects of litter, there are common themes that emerged throughout the three reports:

1. The physical assessment and the opinions of Iowans regarding litter along Iowa roadways are similar.
 - a. Packaging, tobacco-related products, plastic, papers, and beverage containers are the most prevalent types of litter on Iowa's roadways.
 - b. Per the Public Opinion survey, more than 30% of Iowans see this type of littering as a "minor thing."
2. Litter is connected to "traffic" in both the urban and rural areas.
 - a. The physical assessment and the public opinion survey reinforce the connection between "motorists" and "littering."
3. The public opinion survey supports the efforts aimed at increasing the enforcement of rules and regulations.
4. The majority of public dollars are spent on litter collection, with little emphasis on enforcement, education or prevention.

METHODOLOGY

■ Public Opinion Litter Survey

- In 2001, a Public Opinion Litter Survey was conducted by Direct Mail. The Iowa DOT in collaboration with KIB conducted the mail survey.
 - A total of 5,000 surveys were mailed to a representative sample of Iowa households.
 - A total of 4,742 surveys had a deliverable address.
 - 2,217 (46.75 percent) of the surveys were returned.
 - As an incentive, a copy of the Iowa 2001 Transportation Map was included with the survey.
- In 2013, Essman/Research conducted a Public Opinion Litter Survey via an online survey, using online research panels.
 - A monetary cash incentive was provided to each respondent in exchange for fully completing the 2013 Litter Survey.
 - Sampling
 - A total of 18,263 email invitations were sent to Iowans encouraging their participation in the 2013 Litter Survey.
 - To effectively control the demographic quotas (gender, age and county), the email invitations were distributed to Iowans in random groups of 3,000.
 - A total of 1,234 Iowans completed the online survey, resulting in a response rate of 7%.
 - Statistical Validity
 - Based on the total number of returns (1,234) and a 95 percent confidence level, the results generalized across the entire sample carried an error rate of +/- 2.7 percent.

■ Roadside Litter Survey

- In 2001, BARKER LEMAR Engineering Consultants conducted a statewide Roadside Litter Characterization Study; a physical collection and assessment of litter along Iowa roadways. BARKER LEMAR established and implemented systemic site selection and verification methodologies and collected and sorted litter from 151 locations that met the site selection criteria requirements.
- BARKER LEMAR categorized the 151 sites by two main categories of urban or rural.
 - The urban sites were further subdivided by high, medium, and low traffic volumes (separated by natural breaks).
- In 2013, BARKER LEMAR performed similar litter collection and selection services for 15 of the previously sampled sites. The data collected allowed comparisons to be performed to measure changes in quantity and types of litter, and to determine potential causes for identified changes.
 - Using the site category percentages from 2001, BARKER LEMAR allocated a representative number of sites to be sampled for the 2013 study.

Litter Sample Sites for 2001 and 2013 by Category

| Category Type | 2001 Number of Sites | 2013 Number of Sites |
|------------------------|-------------------------|-------------------------|
| Urban – High Traffic | 14 | 1 |
| Urban – Medium Traffic | 24 | 2 |
| Urban – Low Traffic | 78 | 7 |
| Rural | 35 | 5 |
| Total Sites | 151 | 15 |

■ Assessment of Existing Litter Control and Beautification Efforts

- In 2001, Franklin Associates conducted a litter control cost analysis among public sector entities across Iowa to determine the fiscal impact of litter across Iowa.
- In 2013, Franklin Associates repeated the assessment among the public sector entities to determine the fiscal impact of litter across Iowa by gathering information on the annual cost of litter control and abatement efforts across Iowa; comparing the current costs to the costs estimated in 2002.
 - Litter control cost analysis
 - A total of 1,763 surveys were sent to public entities across Iowa including school districts, universities, federal, state, county and city staff as well as solid waste planning area commissions. Follow up emails and telephone calls were made to all public sector entities to encourage participation.
 - A general survey format was developed first and then the survey forms were tailored specifically to apply to each surveyed organization.
 - The survey forms were similar in style and format to the 2002 surveys. Although the 2002 surveys were all distributed by U.S. mail, the 2012 effort used three surveying techniques – U.S. mail, electronic mail, and telephone.
 - Examples of litter costs that were listed in the survey included picking up litter, cleaning up illegal dumping, operational and administrative costs for dealing with litter and law enforcement pertaining to litter.

- Some samples of costs that were not included in this study were routine solid waste collection, painting, mowing, general maintenance, spill cleanup, vegetation control, recycling costs, and hazardous waste removal.
- In addition to the costs of litter, the surveys asked participants to estimate the percentage of litter collected that is recycled.

| Public Sector Entities Surveyed | Number of Surveys Distributed | Number of Responses | Statewide Population Base Represented by the Responses |
|-----------------------------------------------|-------------------------------|---------------------|--------------------------------------------------------|
| School District | 348 | 34 | 15% |
| Cities | 946 | 110 | 35% |
| Counties | 297 | 62 | |
| -County Facilities/Buildings | | | 21% |
| -County Owned Roads/Ditches | | | 40% |
| -County Conservation Land | | | 30% |
| Solid Waste Planning Area | 45 | 13 | 26% |
| Special Schools and Universities | 5 | 5 | |
| State Conservation Districts | 6 | 5 | |
| State Historical Sites | 10 | 9 | |
| Iowa State Fairgrounds | 1 | 1 | |
| State Parks, Preserves and Recreational Areas | 65 | 8 | |
| State Forests | 10 | 3 | |
| State Wildlife Management Areas | 17 | 3 | |
| National Guard Armories | 1 | 1 | |
| Iowa Department of Transportation | 1 | 1 | |
| Iowa Highway Patrol | 1 | 1 | |
| National Fish and Wildlife Refuges | 6 | 4 | |
| National Parks | 1 | 1 | |
| Corps of Engineers | 3 | 2 | |
| Total | 1,763 | 263 (15%) | |

DETAILED FINDINGS FOR EACH STUDY

Public Opinion Litter Survey

- Essman/Research, an independent marketing research firm in Des Moines, Iowa, conducted the 2013 Statewide Public Opinion Litter Survey. The purpose of the 2013 Online Litter Survey was to gather statistical data to benchmark to the 2001 Direct Mail Litter Survey and assess current attitudes and behaviors toward littering.
 - A total of 18,263 email invitations were sent to Iowans encouraging their participation in the 2013 Litter Survey.
 - A total of 1,234 Iowans completed the online survey (7% response rate).
- Demographics of the Iowans surveyed:
 - Gender
 - Female 55%
 - Male 45%
 - Age
 - Less than 25 11%
 - 25 – 39 27%
 - 40 – 64 42%
 - 65 and older 20%
 - Geography
 - Urban counties 60%
 - Rural counties 40%
- Seriousness of the Litter Problem in Iowa
 - Overall, 65% of Iowans say that fast food containers/wrappers are, and continue to be, a moderate to a major problem along Iowa's roadways.
 - Although cigarette/cigar butts or containers were considered a less serious litter problem in 2001, in 2013, 63% of Iowans believe that tobacco products are a moderate or a major problem on the roadways.
- Primary Sources of Litter in the Community
 - The research findings in 2013 were fairly consistent with the 2001 research results – 76% of Iowans say that “motorists, littering from their vehicles” is the primary source of litter in their community.
 - Motorists, littering from vehicles **76%**
 - Teenagers hanging out 46%
 - Uncovered vehicle/trucks 41%
 - Pedestrians 40%
 - Illegal dumping 35%
 - Uncovered/overflowing public receptacles 30%

- Nearly all of the Iowans surveyed in 2001 and 2013 “agree” that it’s important to maintain a clean environment.
 - 56% of Iowans agreed to some extent that litter is a problem along the roads entering their community.
 - 52% agree that litter is a problem in their community.
 - However, only 35% of the respondents say they are involved in efforts to clean up their community.

■ **Impact on Reducing Litter**

- As reported in 2001, the actions that carried a consequence were typically rated higher, or potentially having the greatest impact (moderate or major) on reducing litter.
- In 2013, the top three actions that would have the greatest impact (moderate or major) on reducing litter on Iowa’s roadways include:
 - Increasing the penalties for littering (75%)
 - Increasing the enforcement of anti-litter laws (73%)
 - Reminding people there is a fine for littering (64%)

| Potential Actions that could have a Moderate or Major Impact in Reducing Litter | 2013 |
|----------------------------------------------------------------------------------------|-------------|
| Increasing the penalties for littering | 75% |
| Increasing the enforcement of anti-litter laws | 73% |
| Reminding people there is a fine for littering | 64% |
| Telling people it costs millions of dollars each year to pick up litter | 52% |
| Calling the Iowa toll-free hotline to report littering from a vehicle | 50% |
| Reminding people that even small items contribute to the litter problem | 48% |
| Presenting a message that emphasizes pride in Iowa | 48% |
| Having celebrities speaking out against littering | 28% |
| Telling people not to litter is the “right thing to do” | 27% |

Roadside Physical Assessment of Litter

- BARKER LEMAR Engineering Consultants conducted the 2013-2014 Roadside Litter Characterization Study; a physical assessment of roadside litter along Iowa's roadways.
 - A total of 15 sites were randomly selected for the 2013 survey. The 15 sites included a representative sample for the type of sites sampled in 2001-2002. The sites included two main categories of urban and rural. The urban sites were subdivided by high, medium and low traffic volumes.
 - Individual litter pieces ½ square inch or larger were counted and individually recorded. A standard measurement of ½ square inch for cigarette filters/butts was used to speed the classification process.
 - BARKER LEMAR collected several key independent variables while on site including:
 - grass height
 - location of a stop sign or stop light
 - location of a barrier such as a fence, row crop, ditch, building, bushes/weeds, etc.
 - location of a convenience store or fast-food type restaurant
 - location of nearby school or park
 - The “brands” of products collected at the 15 sites were not captured during the sorting phase.
 - If deposit language was visible on the container, beverage containers were designated as either deposit or no-deposit containers.
- BARKER LEMAR noted a decrease in the amount of litter observed and collected in 2013.
 - The expansion of community recycling programs (curbside and drop-off recycling, programs available at municipal solid waste landfills, education initiatives, creation of the litter hotline, and litter regulation enforcement) were suggested as motivators contributing to the decrease in litter.

Notable differences between 2013 and 2001 by litter category.

| Litter Category | 2013 Total Pieces Collected | 2001 Total Pieces Collected | Difference in Total Pieces Collected | Percent Difference in Total Pieces Collected |
|------------------------|------------------------------------|------------------------------------|---------------------------------------------|-----------------------------------------------------|
| Packaging | 213 | 268 | (55) | (21%) |
| Tobacco products | 362 | 647 | (285) | (44%) |
| Other Plastics | 224 | 336 | (112) | (33%) |
| Other Paper | 184 | 441 | (257) | (58%) |

- BARKER LEMAR did notice an increase in the number of beverage containers that could potentially be “deposit containers” between the 2001 and 2013 study.
 - Of the additional beverage containers litter collected in 2013, 29% of the pieces could be considered deposit containers.
 - The Containers/Boxes litter category also saw an increase in the number of litter pieces collected between 2001 and 2013.
- Based on the physical assessment of litter observed and collected in 2013, it's estimated that 20-30% of the litter material collected could have been recycled through traditional curbside or drop-off recycling programs.

| TOTALS SUMMARY (All 15 Sites Collected in 2013) | | | | | | | |
|------------------------------------------------------------|------------------------------------------|----------------------------------|---------------------------------|----------------------------------|---------------------------------|--------------------------------------------|-------------------------------------------|
| Category | Sub Category | 2013 Total Pieces | 2013 Total Grams | 2001 Total Pieces | 2001 Total Grams | Difference in Total Pieces* | Difference in Total Grams* |
| Beverage Container | Beer | 33 | 426 | 32 | 214.5 | 1 | 212 |
| | Wine/Liquor | 2 | 142 | 0 | 0 | 2 | 142 |
| | Soda | 27 | 381 | 21 | 311.6 | 6 | 69 |
| | Juice | 4 | 85 | 1 | 11.4 | 3 | 74 |
| | Milk | 5 | 266 | 1 | 15.5 | 4 | 251 |
| | Sports drink | 3 | 69 | 0 | 0 | 3 | 69 |
| | Tea | 1 | 39 | 1 | 27.8 | 0 | 11 |
| | Water | 14 | 90 | 1 | 16.4 | 13 | 74 |
| | Vegetable/health | 0 | 0 | 1 | 13.1 | (1) | (13) |
| | Broken plastic beverage Container | 14 | 58 | 0 | 0 | 14 | 58 |
| | Broken metal beverage Container | 3 | 32 | 0 | 0 | 3 | 32 |
| | Broken glass beverage Container | 33 | 81 | 50 | 217.5 | (17) | (137) |
| Cup Related | Plastic Cups | 41 | 70 | 42 | 89.4 | (1) | (19) |
| | Polystyrene foam cups | 79 | 75 | 48 | 18.7 | 31 | 56 |
| | Paper | 2 | 17 | 52 | 23.7 | (50) | (7) |
| | Plastic lids | 6 | 10 | 15 | 31.3 | (9) | (21) |
| | Straws | 6 | 4 | 18 | 8.3 | (12) | (4) |
| Bags | Plastic and Paper Bags | 2 | 0 | 3 | 48.1 | (1) | (48) |
| Containers/Boxes | Corrugated cardboard boxes | 250 | 1539 | 3 | 5.8 | 247 | 1533 |
| | Paperboard boxes | 3 | 22 | 8 | 45.9 | (5) | (24) |
| | Paper beverage casing | 0 | 0 | 0 | 0 | 0 | 0 |
| | Polystyrene foam clam shell | 0 | 0 | 0 | 0 | 0 | 0 |
| | Plastic clam shell | 0 | 0 | 0 | 0 | 0 | 0 |
| | Jars/bottles/boxes | 0 | 0 | 0 | 0 | 0 | 0 |
| | Non-beverage cans | 0 | 0 | 0 | 0 | 0 | 0 |
| | Aerosols/pump | 0 | 0 | 2 | 246.1 | (2) | (246) |
| | Lids | 0 | 0 | 0 | 0 | 0 | 0 |
| Packaging | Candy wrappers/snacks (paper or plastic) | 212 | 165 | 92 | 25.6 | 120 | 139 |
| | Plastic | 1 | 0 | 58 | 90.4 | (57) | (90) |
| | Paper | 0 | 0 | 17 | 33.5 | (17) | (34) |
| | Plastic/paper/foil/combo | 0 | 0 | 101 | 33.4 | (101) | (33) |
| | Foil | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | |
|---------------------------------------------------------------------|-----------------------------------------|-------------|--------------|-------------|----------------|--------------|-------------|
| Tobacco | Cigarette filters/butts | 331 | 118 | 566 | 148 | (235) | (30) |
| | Cigar filters/butts | 1 | 1 | 0 | 0 | 1 | 1 |
| | Packaging | 30 | 38 | 81 | 50.1 | (51) | (12) |
| | Dip/chew/snuff | 0 | 0 | 0 | 0 | 0 | 0 |
| Fast Food Extras | Condiment packages | 12 | 6 | 16 | 3.4 | (4) | 3 |
| | Utensils | 8 | 22 | 2 | 5.2 | 6 | 17 |
| | Straw related packaging plastic/paper | 10 | 2 | 20 | 0.6 | (10) | 1 |
| | Fast food wrappers/bags | 20 | 162 | 17 | 79.97 | 3 | 82 |
| Organics | Miscellaneous | 10 | 60 | 2 | 38 | 8 | 22 |
| Biological | Bio-hazardous/human waste | 0 | 0 | 1 | 177.7 | (1) | (178) |
| Medical | Medical supplies/ veterinarian supplies | 0 | 0 | 4 | 5 | (4) | (5) |
| Other Plastic | Bottle lid/cap | 12 | 26 | 4 | 11.4 | 8 | 15 |
| | Plastic plate | 0 | 0 | 0 | 0 | 0 | 0 |
| | Stretch/shrink style industrial film | 79 | 174 | 0 | 0 | 79 | 174 |
| | Small pieces of undetermined source | 76 | 1182 | 179 | 165.6 | (103) | 1016 |
| | Foamed Packaging | 57 | 73 | 153 | 186.9 | (96) | (114) |
| Other Rubber not Tires | Other rubber not tires | 0 | 0 | 2 | 0.9 | (2) | (1) |
| Other Metal | Metal/Foil/Aluminum Pieces | 20 | 344 | 28 | 3024.5 | (8) | (2681) |
| | Bottle caps/tabs | 3 | 6 | 7 | 28.6 | (4) | (23) |
| Other Paper | Towel/napkin | 3 | 7 | 47 | 10.3 | (44) | (3) |
| | Lottery | 0 | 0 | 15 | 2.9 | (15) | (3) |
| | Plate/tray | 10 | 23 | 0 | 0 | 10 | 23 |
| | Food wrap | 0 | 0 | 0 | 0 | 0 | 0 |
| | Small pieces of undetermined source | 171 | 203 | 379 | 543.7 | (208) | (341) |
| Demolition/ Construction Related | Miscellaneous | 99 | 3101 | 83 | 2658.7 | 16 | 442 |
| Vehicle | Vehicle related not tires | 20 | 878 | 95 | 241.1 | (75) | 637 |
| Tires | Inner tubes/ retreads/rims/caps | 6 | 842 | 2 | 3.1 | 4 | 839 |
| Textiles | Miscellaneous | 18 | 685 | 6 | 496.6 | 12 | 188 |
| Glass | Miscellaneous | 76 | 628 | 159 | 991.53 | (83) | (364) |
| Total | | 1813 | 12152 | 2435 | 10401.8 | (622) | 1750 |
| * = () indicates the 2001 survey result is higher than 2013 result. | | | | | | | |

Assessment of Existing Litter Control and Beautification Efforts in Iowa

- Franklin Associates, A Division of ERG, conducted the Assessment of Existing Litter Control and Beautification Efforts in Iowa; surveying the public sector entities throughout Iowa on the costs of litter control on federal, state and local government lands.
 - Public sector entities included: school districts, universities, federal, state, county and city staff as well solid waste planning area commissions.
 - Each survey included two information sections:
 - Program information section
 - Contained questions about staff and hours used to deal with litter, staff hourly wages, the existence of a litter prevention program, and recycling program. Volunteer time for picking up litter was also included.
 - Annual budget information section
 - Information on the amount of money budgeted, spent and needed for litter prevention, collection and/or enforcement was requested.
 - The public sector surveys were analyzed in terms of the existence of a litter education program, a recycling program, monetary value of the litter control programs, litter control budget and actual amount spent.
- The estimated fiscal impact of litter across Iowa in 2012 similarly compares with the estimated costs from 2002 (adjusted to 2012 dollars).

| Statewide Cost of Litter | 2002 Estimated Annual Costs (2012 dollars)* | 2012 Estimated Annual Costs (2012 dollars) |
|--------------------------|---------------------------------------------|--------------------------------------------|
| State Total | \$17,106,730 | \$17,533,640 |

*2002 litter survey results expressed as 2012 dollars by multiplying 2002 estimated costs by CPI (Consumer Price Index) inflation value 1.2762. http://www.bls.gov/data/inflation_calculator.htm

- In 2012, \$17.0 million (97 percent) was spent on litter collection at Iowa public facilities (including school districts, cities, counties, and various state entities), while over \$523,000 was spent on litter collection at national facilities (national fish and wildlife refuges, national parks, and corps of engineers).
 - The annual cost estimate for cities with populations over 10,000 comprises 23 percent of the statewide cost estimate.
 - The counties and school districts comprise 18 and 19 percent of the statewide cost estimates, respectively.
 - The Iowa Department of Transportation costs accounts for 12 percent of the statewide cost.
 - Collectively these four public sector entities account for over 70 percent of the statewide costs of litter.
- Based on the Franklin Associates assessment, litter costs are typically not identified as a budgetary cost category.
 - Most respondents, especially on the local level, had no measurement tools and relied on best estimate responses.
 - Although counties typically identify illegal dumping as a separate cost, other litter costs are combined in general building maintenance, grounds keeping, and solid waste collection costs.

Iowa Statewide Cost Estimates for all Entities Surveyed

| Entity Name | 2002 Estimated Annual Costs (2012 dollars)* | 2012 Estimated Annual Costs (2012 dollars) |
|----------------------------------------------------------|------------------------------------------------|-----------------------------------------------|
| School Districts | \$4,257,400 | \$3,078,320 |
| Cities | | |
| Population under 1,000 | \$472,700 | \$331,120 |
| Population between 1,000 & 10,000 | \$1,636,980 | \$1,428,050 |
| Population over 10,000 | \$2,702,860 | \$3,993,550 |
| Counties | \$2,800,880 | \$3,338,070 |
| Solid Waste Planning Area Roads, Ditches and Fence Lines | \$410,810 | \$590,160 |
| Special Schools and Universities | \$285,230 | \$141,200 |
| State Conservation Districts | \$30,600 | \$32,820 |
| State Historical Sites | \$84,100 | \$88,770 |
| Iowa State Fairgrounds | \$11,610 | \$45,560 |
| State Parks, Preserves and Recreational Areas | \$1,277,990 | \$1,339,930 |
| State Forests | \$10,720 | \$24,170 |
| State Wildlife Management Areas | \$102,730 | \$218,100 |
| National Guard Armories | \$158,250 | \$209,280 |
| Iowa Department of Transportation | \$2,351,650 | \$2,056,740 |
| Iowa Highway Patrol | \$95,550 | \$85,240 |
| National Fish and Wildlife Refuges | \$100,560 | \$147,540 |
| National Parks | \$96,990 | \$46,670 |
| Corps of Engineers | \$219,120 | \$338,350 |
| State Total | \$17,106,730 | \$17,533,640 |

*2002 litter survey results expressed as 2012 dollars by multiplying 2002 estimated costs by CPI (Consumer Price Index) inflation value 1.2762. http://www.bls.gov/data/inflation_calculator.htm

GENERAL IMPLICATIONS

Many Iowa communities suffer from problems of image and appearance. This is critical for what is called the “first impression with new visitors.” That first impression does not allow a second chance to change people’s minds. The image of a community is based on the degree of pride that a community has in how it appears - the facilities, the roads and streets, the homes, the entryways and the very vitality of its residents.

- To change behaviors and the patterns of littering and illegal dumping, there must be expanded efforts and support in the areas of enforcement and prevention.
- There is a need to raise the awareness of the public concerning the impacts of littering. This must include not only the costs and penalties of littering, but also how even “minor” littering negatively impacts their community and the state. We need to become intolerant of littering, at any level; from a cigarette butt to a candy wrapper – it is all litter. One cigarette butt or candy wrapper may not seem to be a problem, but when thousands litter it becomes significant and intrudes into our quality of life.
- It is critical that enforcement play a larger role in the fight against littering and illegal dumping. This should involve both increased enforcement of existing rules and regulations as well as a focused effort to enhance and expand rules, regulations, contracts and legislation in areas where prevention and cleanup can be incorporated.
- Enforcement has been identified as a key motivator for changing littering behavior. It will also be important that there be recognition for those doing the “right thing” in prevention and reduction. The teaming of “what not to do” with examples of “what to do” will help bring clarity to the goals and mission of Keep Iowa Beautiful.
- Enhanced service programs should be conducted in public and private schools and integrated with economic development and citizen involvement that focus on litter prevention, beautification and cleanup efforts. These programs are essential to changing behavior patterns.

2013 – 2014 SPECIFIC RECOMMENDATIONS

This section of the report identifies specific recommendations based on the findings of the three litter studies summarized in this report.

- *High litter levels are a symptom of the level of respect or pride that citizens have in their communities and countryside.*

The 2013-2014 Statewide Litter Survey recommendations are actionable initiatives which can be implemented at the state, county and local level.

The top three recommendations include:

— Enforcing the criminal penalties for litter violations

- Incentive for counties and communities to support enforcement of litter laws.
 - A percentage of the fines collected should be distributed back to the governmental unit (city or county) where the violation/citation occurred; the balance should go directly towards programs tailored to prevent littering and for developing additional programming for elementary schools.

States with Littering Penalties/Incentive for counties and communities to support enforcement of litter laws.

✓ **Massachusetts ***

- **Fifty percent of the fine imposed is deposited in the Conservation Trust.**

Whoever places, throws, deposits or discharges or whoever causes to be placed, thrown, deposited or discharged, trash, bottles or cans, refuse, rubbish, garbage, debris, scrap, waste or other material of any kind on a public highway or within 20 yards of a public highway, or on any other public land, or in or upon coastal or inland waters, or within 20 yards of such waters, or on property of another, or on lands dedicated for open space purposes, including lands subject to conservation restrictions and agricultural preservation restrictions shall be punished by a fine of not more than \$5,500 for the first offense and a fine not to exceed \$15,000 for each subsequent offense; provided, **however, that 50 percent of the fine imposed shall be deposited in the Conservation Trust established in section 1 of chapter 132A and the court may also require that the violator remove, at his own expense, the trash, refuse, rubbish, debris or materials.**

✓ **South Dakota ***

- **Twenty percent shall be paid to any person who provides information that leads to the conviction of the offender.**

In addition to the penalties provided, any violation that involves littering with an aggregate weight of more than five pounds is punishable by a fine not to exceed one thousand dollars, of **which twenty percent shall be paid to any person who provides information that leads to the conviction of any person for an offense that is subject to the provisions of this section.** In addition, the court shall order the person who has been convicted to gather and dispose of litter in the area for a length of time to be determined by the court.

— **Increase the litter penalty**

- Increased littering penalties.
 - The current fine in Iowa is \$70. The current Iowa penalty is not viewed as a deterrent. Recommendation: increase Iowa's litter penalty from \$70 to \$250.
 - ▲ Fines range from \$20 in Colorado and up to \$30,000 in Maryland. In more serious cases, offenders may be subject to imprisonment, with sentences ranging from 10 days in Idaho to six years in Tennessee. Laws in Maryland, Massachusetts, and Louisiana also provide for suspension of a violators' driver's license in certain cases.
- *Note:** Maryland has surprisingly strict litter control laws that are designed to protect both public and private property. Signs are posted along the highways that threaten harsh fines for throwing trash out of a vehicle. The litter law is broken down into three different degrees with maximum punishments that depend on the weight or volume of the debris or trash. Dumping less than 100 pounds or 27 cubic feet has a maximum jail sentence of 30 days and a fine of \$1,500. Between 100 and 500 pounds, or 27 to 216 cubic feet could result in a maximum jail sentence of 1 year and a hefty fine of \$12,500. A conviction for littering more than 500 pounds or 216 cubic feet could result in up to 5 years in jail and a \$30,000 fine. Any alleged dumping for commercial gain will also have the 5-year jail maximum and the highest fine.
- Require community service hours (removal of litter/litter clean-up efforts) as an additional consequence for littering.
 - Publish the names (first/last name, city and county) of all litter violations on the Keep Iowa Beautiful website.

***Source:**

<http://www.ncsl.org/research/environment-and-natural-resources/states-with-littering-penalties.aspx>

— Enhance roadway adoption programs

- Adoption of community roadways.
 - Increased marketing efforts for the Adopt a Highway Programs and other adoption programs – how can residents/communities/organizations quickly learn about and get involved in adoption programs?
 - Create financial incentives/rewards for maintaining a clean environment; offering financial incentives or rewards could encourage more lowans to get involved in community clean-up efforts.
 - ▲ Golden Bottle Program was recommended as a possible “financial reward” for individuals/communities to get involved in community clean-up efforts.
 - Develop partnerships with grocery stores, convenience stores and other community businesses to “adopt roadways” within the local community as well as the roadways leading into the community; encouraging store employees to get actively involved with community clean-up efforts.

Other recommendations include:

— Increase litter education within all Iowa school districts

- Changing behaviors is critical and most difficult.
 - Discarding cans, bottles, candy wrappers, etc. is not a “minor thing” or insignificant.
- Continued emphasis on litter prevention, beautification or “Sense of Pride” education programs for elementary school children.
 - Accelerate the Teachers Going Green and Clean and Green Programs within all Iowa school districts (elementary schools).
 - Create “family-oriented” litter prevention programs, activities or contests for K-6 students. Important to involve students and parents in the activity or contest.
- Reward “good behavior.”

— **Increase public awareness regarding the fiscal impact/overall cost implications of littering**

- Enhanced marketing efforts.
 - Stress the facts
 - ✓ The cost of litter is substantial. Litter has a number of negative consequences, including substantial costs to businesses and government, and reduced property values.
 - ▲ **\$17 million dollars was spent in 2012** on litter collection at Iowa's public facilities (including school districts, cities, counties and various state agencies).
 - ▲ It is estimated that the cost implications to the private sector facilities is at or close to that level as well.
 - ✓ Repetitive and continuous messaging focused on the \$17 million dollars associated with littering. Developing a consistent set of messages to be used across various media and litter prevention communications.
- All Iowans pay for litter clean-up.
 - Re-enforce individual community costs.
 - The costs for clean-up efforts are likely passed on to consumers through increased product prices and/or increased service or product fees.