



## Iowa as a Litter-Free State

*Findings, Implications & Recommendations  
from the  
Statewide Litter Surveys*

*Prepared By*

***Keep Iowa Beautiful***

*with assistance from the*

***Iowa Department of Transportation***

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## INTRODUCTION

Keep Iowa Beautiful (KIB), in affiliation with Keep America Beautiful, is devoted to addressing the issues of littering and illegal dumping in our state and working toward the beautification of local communities and our state.

KIB believes that littering negatively impacts Iowa through:

- decreased sense of pride in our neighborhoods, communities and state;
- increased littering due to citizen apathy;
- decreased potential investment by new and existing businesses in our communities;
- increased expenditure of public dollars and resources in efforts of clean up that could be better spent in more positive ways;
- potential for health-related litter problems; and
- general impacts on the quality of our environment.

KIB further believes that Iowans should develop a “zero tolerance” to any form of littering. That kind of an attitude becomes contagious and rapidly builds a higher degree of pride in the quality of our state.

It is this collective set of beliefs that keeps KIB focused on identifying ways to reduce littering and illegal dumping in the state of Iowa. KIB, in partnership with private and public sector entities, coordinated a three-pronged approach to researching issues surrounding litter.

The research summarized in this report examines:

- current litter policies and practices of public organizations,
- the amount and makeup of litter along Iowa roadways, and
- the opinions of Iowans regarding litter and illegal dumping.

This report summarizes the results of three studies conducted during the past 18 months. It also identifies potential implications and actions connected to the results.

Keep Iowa Beautiful would like to recognize and thank those organizations providing financial support of the litter studies summarized in this report. They are:

Barker Lemar Engineering  
 Iowa Department of Natural Resources  
 Iowa Department of Transportation  
 Iowa Society of Solid Waste Operations  
 Keep Iowa Beautiful

## THE IMPACT OF LITTER

What opinion do you form when you see this?

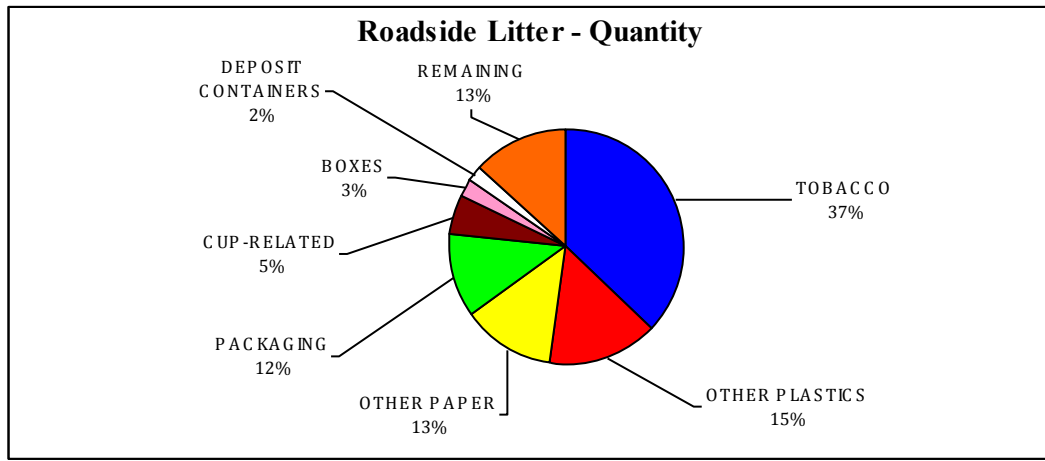


Would you form a different opinion if you saw this picture instead?

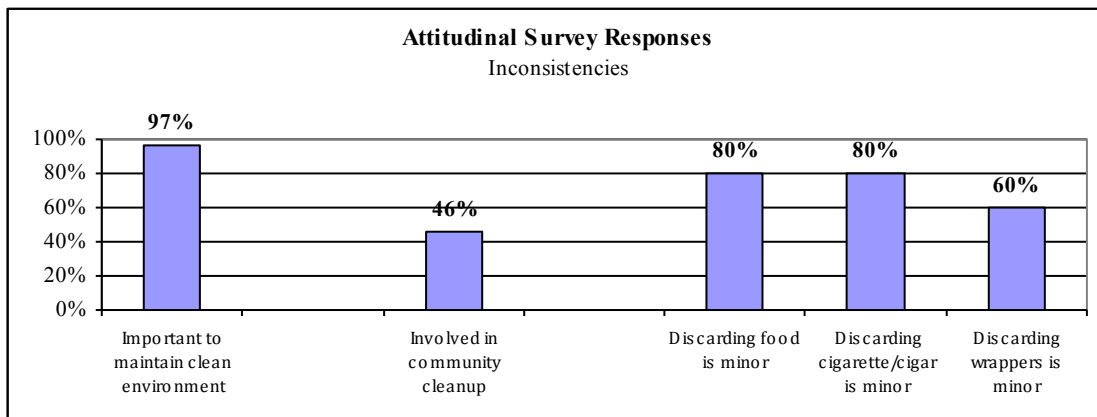


## KEY FINDINGS

- A total of \$13.5 million of public funds were spent on litter-related costs in Iowa in 2001.
- Funds are focused almost exclusively on collection; with almost no time, effort or dollars spent on enforcement, education or public awareness.
- There are an estimated 190 million pieces of litter along 114,000 miles of Iowa roadways, with the highest concentration of litter along high traffic volume roadways.
- Tobacco-related materials accounted for more than one-third of all litter found along Iowa roadways, while deposit designated beverage containers represented only 2 percent.



- Traffic volume and commercial development are key predictors of litter; in other words, the higher the traffic volume and the more commercial the area, the higher the litter levels.
- Iowan’s believe enforcement is the key to litter reduction.
- Nearly 97 percent of Iowans agreed to some extent that it is important to maintain a clean environment, yet:
  - just under half indicated they were involved in efforts to clean up their communities; and
  - a majority felt that discarding food, cigarette and cigar butts and containers, and candy and other food wrappers was a “minor thing.”



## FINDINGS FROM EACH STUDY

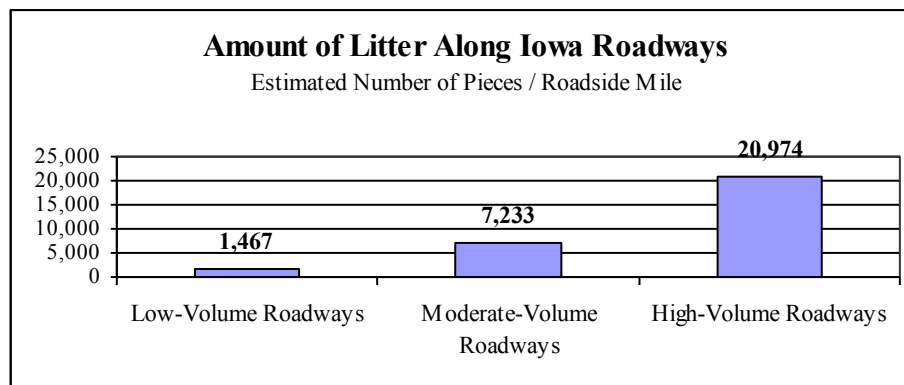
### Physical Assessment of Litter

In 2001 Barker Lemar Engineering Consultants (Barker Lemar) conducted the *2001 Roadside Litter Characterization Study*, which was a physical assessment of litter along Iowa roadways. Consisting of 150 sites, a stratified random sample was created taking population, traffic count and urban/rural status into account.

In this assessment, litter was collected if it was ½ inch square or larger. This resulted in the collection of 22,585 pieces of litter from 657,401 square feet of roadside area.

The highlights of the findings from that report are listed below.

- It is estimated that there are more than 190 million pieces of litter along 114,000 miles of roadway in Iowa.
- Traffic volume and commercial development are key predictors of litter.
  - There is almost five times the litter along medium traffic volume roadways than along low traffic volume roadways;
  - there is almost three times the litter along high-traffic-volume roadways than along medium-traffic-volume roadways;
  - communities with more than 10,000 people have mixes of low to heavy litter; and
  - communities of 10,000 or less appear to have very little to moderate levels of litter.



- Tobacco-related items and candy/snack-related items account for 48 percent of the pieces of litter along Iowa roadways.
- Non-beverage or fast food-related plastics, other paper, and candy and snack packaging accounted for 42 percent of the area covered in litter along Iowa roadways.
- Deposit-designated beverage containers represents only 2 percent of all litter collected along Iowa roadways.
  - 50% was aluminum cans
  - 44% was glass
  - 5% was plastic

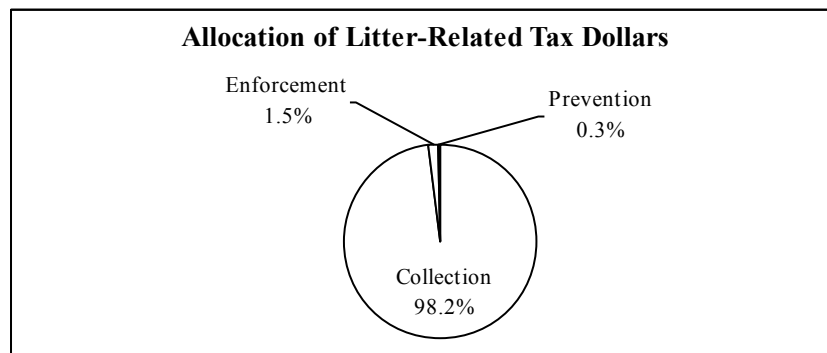
## Survey of Policies and Practice

In 2001 Franklin Associates Ltd. (Franklin) conducted the *Assessment of Existing Litter Control and Beautification Efforts in Iowa*. It was a survey of costs for litter control on federal, state, and local government lands in Iowa, as well as a review of current litter-related legislation in Iowa and surrounding states.

Entities contacted as part of the survey included: school districts, cities, counties, solid waste planning area boards, universities, state conservation officers, state wildlife units, the Iowa Highway Patrol, the Iowa Department of Transportation, and other public entities.

The highlights of the findings from that report are:

- Time and money spent on litter by public sector entities is primarily focused on collection, not enforcement or prevention.
- Total annual litter-related cost in Iowa was \$13.5 million in 2001.
  - Less than \$200,000 was spent for litter enforcement in 2001. Less was spent on litter prevention in 2001.
  - Cities spent between \$1.49 and \$1.85 per resident on litter-related items in 2001.
  - Three out of five small cities under 1,000 reported spending no money on prevention, collection and enforcement.
  - Public schools and universities often spend more on litter programs, per student, than communities do.



- With the exception of Adopt-A-Highway volunteers, most public sector-supported litter collection is done by staff.
- Litter education programs are extremely limited:
  - one out of four students are educated about litter.
  - one out of nine cities has a litter prevention program.
- Approximately 200 litter warnings and convictions occurred in 2001.
- Iowa fines for littering are among the lowest when compared to adjacent states.
- There is no clear cut or comprehensive program for litter prevention.

## Survey of Litter-Related Opinions of Iowans

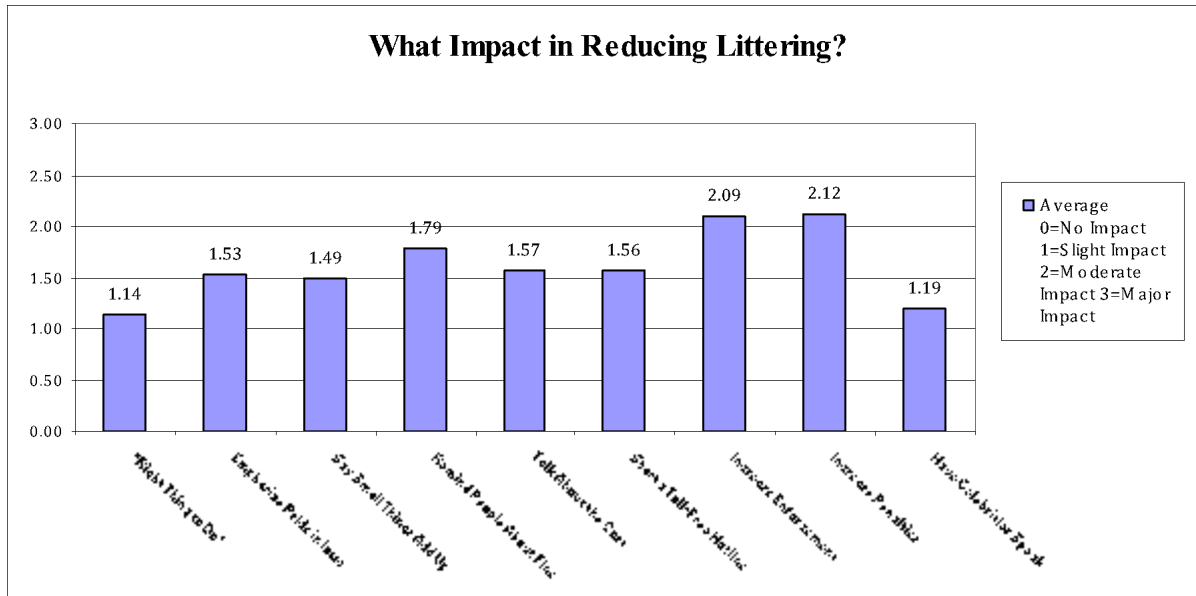
In 2001 the Iowa DOT, in collaboration with KIB, conducted a mail survey of Iowans. The survey was sent to a representative sample of Iowa households, with 2,217 of 4,742 (46.75 percent) deliverable surveys being returned by the public.

The survey focused on asking Iowans about three litter-related topics: litter and littering along Iowa roadways; littering behaviors; and litter and dumping in local communities.

The highlights of the findings from that report are listed below.

- Respondents from urban areas see litter as a more serious issue.
- The primary sources of litter in communities identified by respondents are:
  - motorists (identified by three out of four respondents);
  - uncovered vehicles (identified by one out of two respondents); and
  - teenagers (identified by one out of two respondents).
- A total of 60 percent of all respondents felt that litter along the roadways entering their communities was a problem.
- There are things that can be done to reduce litter and dumping in communities:
  - increase enforcement of litter and dumping rules and regulations; and
  - provide better access to disposal sites.
- A comparison of perceptions about litterers and self-reported littering behavior show similar results. Those who litter are likely to be younger, male, and drive pickups.
- Only one percent of respondents reported they, or someone they were with, had received a ticket or warning for littering.
- Littering behavior (food/organic material, cigarettes, other food and candy wrappers, paper) is often seen as a minor thing.
  - A total of 80 percent of an estimated 1.1 million Iowans who discarded as litter food/other organic material within the past two years thought it was a minor thing.
  - A total of 80 percent of an estimated 520,000 Iowans who discarded as litter cigarette/cigar butts or containers within the past two years thought it was a minor thing.
  - A total of 60 percent of an estimated 690,000 Iowans who discarded as litter other food/candy wrappers within the past two years thought it was a minor thing.
  - A total of 45 percent of an estimated 810,000 Iowans who discarded as litter paper within the past two years thought it was a minor thing.
  - In comparison, a total of 32 percent of an estimated 375,000 Iowans who discarded cans/bottle within the past two years thought it was a minor thing.
- Even though a majority feel discarding some types of litter is a minor thing, the vast majority of Iowans (nearly 97 percent) feel it is important to maintain a clean environment.

- There are things that can be done to reduce littering behavior:
  - increase penalties and enforcement of existing litter rules and regulations;
  - remind people of the fines for littering; but
  - on the other side, having celebrities speak out against littering or telling people not littering is the right thing to do will have little impact on littering behavior.



## COMMON THREADS

Though focused on different aspects of litter, there are several threads that run through the three reports. The table on the following page summarizes the findings of the studies.

### Types of Litter

Both the physical assessment and the opinions of Iowans match: tobacco, candy/snack related items, plastics and paper are the most prevalent types of litter. Unfortunately, these are also the types of litter seen as “minor” by a majority of Iowans.

### Sources of Litter

Litter is closely connected to traffic and urban areas. Both the physical assessment and the attitudinal survey reinforce the connection between motorists and littering.

### Effort

Both the policy and attitudinal survey support that efforts are aimed at “after the fact” attempts to deal with litter. The bulk of monies is spent on collection, with little to no emphasis on enforcement, education or prevention.



## Common Threads Across the Three Reports

	<b>Information Source</b>		
	<b>Physical Assessment</b>	<b>Policy &amp; Practice Survey</b>	<b>Attitudinal Survey</b>
<b>Magnitude of Problem and Resources</b>	<p>More than 190 million pieces of litter along 114,000 miles of Iowa roadway.</p> <ul style="list-style-type: none"> <li>• Tobacco- and candy/snack-related items account for nearly half of the pieces of litter.</li> <li>• Plastics, paper and candy/snack packaging account for over 40% of the area covered in litter.</li> </ul> <p>Deposit designated beverage containers represented only 2% of all litter collected along Iowa roadways.</p> <ul style="list-style-type: none"> <li>• 50% was aluminum cans</li> <li>• 44% was glass</li> <li>• 5% was plastic</li> </ul>	<p>\$13.5 million spent on litter</p> <p>With the exception of Adopt-A-Highway volunteers, most public sector supported litter collection is done by staff.</p>	<p>Littering behavior is seen as a minor thing. Within the past two years, an estimated:</p> <ul style="list-style-type: none"> <li>• 1.1 million Iowans discarded food/organic material - 80% thought it was minor.</li> <li>• 520,000 Iowans discarded cigarette/cigar-related items - 80% thought it was minor.</li> <li>• 690,000 Iowans discarded food/candy wrappers - 60% thought it was minor.</li> <li>• 810,000 Iowans discarded paper - 45% thought it was minor.</li> </ul> <p>Most serious litter problem along the roadways:</p> <ul style="list-style-type: none"> <li>• fast food containers / wrappers;</li> <li>• paper; and</li> <li>• diapers, plastic bags or other plastic items.</li> </ul>
<b>Location / Sources</b>	<p>Traffic volume and commercial development are key predictors of litter.</p> <ul style="list-style-type: none"> <li>• Close to 5 times the litter exists along medium traffic roadways than low traffic.</li> <li>• Close to 3 times the litter exists along high traffic roadways than medium traffic.</li> <li>• Communities of +10,000 have low to heavy litter, while those 10,000 or less have very little to moderate levels of litter.</li> </ul>		<p>Litter is a more serious issue in urban areas.</p> <p>Primary sources of litter in communities are:</p> <ul style="list-style-type: none"> <li>• motorists;</li> <li>• uncovered vehicles; and</li> <li>• teenagers.</li> </ul> <p>60% of Iowans say litter along roadways entering their community is a problem.</p> <p>Perception and self-report data agree; litters tend to be:</p> <ul style="list-style-type: none"> <li>• younger;</li> <li>• male; and</li> <li>• pickup drivers.</li> </ul>
<b>Collection, Enforcement, Prevention</b>		<p>Time and money spent on litter by public sector entities is primarily focused on collection, not enforcement or prevention.</p> <ul style="list-style-type: none"> <li>• Less than \$200,000 was spent in 2001 on enforcement, even less spent on prevention.</li> <li>• 3 out of 5 small cities under 1,000 spend \$0 on collection, prevention and enforcement.</li> <li>• Approximately 200 litter warnings and convictions occurred in 2001.</li> </ul> <p>Litter education programs are extremely limited.</p> <p>Iowa fines for littering are among the lowest when compared to adjacent states.</p>	<p>There are things that can be done to impact littering behaviors:</p> <ul style="list-style-type: none"> <li>• increase penalties for littering;</li> <li>• increase enforcement of existing rules and regulations; and</li> <li>• remind people of the fines for littering.</li> </ul> <p>Littering and dumping in communities can be reduced by:</p> <ul style="list-style-type: none"> <li>• increased enforcement of litter and dumping rules and regulations; and</li> <li>• providing better access to disposal sites.</li> </ul> <p>Only 1% reported a ticket or warning about litter in past 2 years.</p>

## IMPLICATIONS

Information from these research projects, in conjunction with information and approaches from other states, regions and areas, serve as the basis for the following general implications and specific recommendations. These may not contain all potential actions, but represent a fairly comprehensive listing.

It becomes clear that:

- To continue in the current mind set in regard to litter and illegal dumping is to resign our communities and the state to the position of “trash collector.” If the goal is to change the patterns of littering and illegal dumping, there is a desperate need to expand efforts and support beyond collection into 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 to changing littering behavior – the “stick.” It will also be important that there be recognition for those doing the “right thing” in prevention and reduction – the “carrot.” This teaming of “what not to do” with examples of “what to do” will help bring clarity to the goals and mission of groups like KIB.
- Though litter exists everywhere, the highest density of litter exists in urban areas and along high volume traffic roadways. Until adequate resources exist to address the entire problem, focus should be given to these areas.
- Service learning 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.
- “An ounce of prevention” may certainly be worth a “pound of cure.” It is obvious from the data that Iowa has not invested in that “ounce of prevention.”

## SPECIFIC RECOMMENDATIONS

This section of the report identifies specific recommendations based on the findings of the studies summarized in this report and what is known about initiatives at the local state and national level.

**National Level** – In conducting these studies several needs have been identified in terms of efforts that can be addressed at the national level. These include:

- setting national standards for conducting statewide litter surveys to assure comparability of basic data from state to state and region to region;
- initiating a national litter survey to reflect regional / state differences as well as urban / rural differences. (A national baseline survey can set a benchmark for measuring efforts to change behavior patterns.);
- re-evaluating the Keep America Beautiful litter index to reflect urban / rural differences;
- designing an assistance program by the Federal Highway Administration to accelerate litter reduction;
- considering the provision of a funding mechanism for the litter reduction element of the storm drainage program / planning by the Environmental Protection Agency; and
- consideration of federal funds to assist in litter reduction programs across the nation at targeted areas of need.

**State Level (General)** – The implications from these studies also touch on efforts that could be addressed at the state level. These could include:

- producing materials for tourism/highway travel that contain anti-litter messages (Agencies include DOT, Department of Natural Resources, Tourism [Department of Economic Development], the State Fair and the Board of Regents);
- instituting a review of state contracts with a focus on litter prevention by including anti-littering provisions;
- instituting “litter-free” concepts at all state-owned facilities with a particular focus on waste receptacle and loading dock areas;
- showing encouragement and support for the enforcement community through a “Governor’s Initiative” for accelerated efforts in litter enforcement and prevention;
- re-evaluating current litter laws to reflect the severity of littering (The existing law is a \$35 penalty regardless of volume or hazardous nature of the material.);
- considering legislative action to ensure a litter citation tracking program is instituted to measure effectiveness of enforcement efforts;
- dedicating legislative financial support for newly developed litter abatement efforts and initiatives such as public education, awareness programs and other initiatives that will encourage reduction may be required; and
- accelerating and assisting in developing statewide illegal dumping prevention/enforcement efforts.

**State Level (Specific)** – The following recommendations aimed at specific agencies and entities are, in KIB’s opinion, ways in which each could directly address one or more of the implications taken from these studies.

#### Department of Transportation

- Review and align signage guidelines.
  - Message should reflect statewide enforcement theme.
  - Location should be based on litter survey factors.
  - Ensure consistency of litter theme on signs at entryway to the state.
- Review Adopt-a-Highway program.
  - Marketing of roadways near urban areas.
  - Marketing plan to cities and counties to develop similar programs.
- Initiate a statewide litter prevention program.
- Review contract/vendor conditions regarding litter prevention and cleanup.
- Include test questions pertaining to litter rules and regulations in drivers training and licensing materials.

#### Department of Natural Resources

- Develop a litter prevention program.
- Review contract/vendor conditions regarding litter.
- Investigate the expansion of water quality, storm drainage, solid waste planning needs to encompass litter content.
- Develop and assist in initiating an illegal dumping prevention program.
- Develop a statewide tarping program for trash/waste/debris haulers.

#### Department of Public Safety

- Develop and implement a tracking system for litter citations/warnings.
- Develop/support/promote litter enforcement programs.

#### Department of Public Health

- Initiate a specific program on litter prevention targeted to smokers.
- Consider a program targeting a prevention program on hazardous waste and litter and their impact on health.

#### Attorney General’s Office / Department of Justice

- Conduct a review and evaluation of the court system and treatment of litter and environmental laws.
- Promote and support a public service program for criminal offenders.

#### Department of Economic Development

- Initiate an award / recognition program – along with KIB, DOT and others – for litter cleanup work.
- Promote “litter free” concepts to the business community.

#### Department of Corrections

- Consider the use of prisoners in litter/clean up and improvement programs.

### Department of Education

- Initiate and support a “litter free” school program.
- Initiate and support litter education and service learning programs.

### Department of General Services

- Institute a process for contract and vendor evaluation.
- Develop waste vendor controls – to include receptacle covering.
- Develop anti-smoking litter programs to reduce litter levels around building entrances and exits.

### Law Enforcement Academy

- Incorporate litter penalty and illegal dumping issues in training.

### Board of Regents

- Initiate and support “Litter-Free Campus” programs.
- Institute litter prevention and cleanup contract/vendor provisions.
- Develop and implement event/festival litter control guidelines.
- Develop and deliver anti-litter messages at events – printed into programs, displayed on electronic billboards, etc.

**County and City Level** – The following recommendations aimed at counties and cities are actions they can consider that would address one or more of the implications taken from the findings of this report.

- Initiate the inclusion of specific litter prevention and clean up provisions in contractor / vendor contracts.
- Initiate and support a penalty signage program that utilizes the statewide theme for penalties.
- Consider implementing a “This is a Litter-Free County or City – litter laws strictly enforced” program.
- Initiate “adopt” programs for roads, parks, waterways, etc.
- Initiate a county/city recognition program for those individuals/businesses or organizations that are going the extra step in doing the “right thing” in litter and illegal dumping abatement.

**Private Sector** – The private sector is a key partner in the effort to reduce littering and illegal dumping. The recommendations listed below are ways in which the private sector can become more active supporters of community and state efforts to reduce littering and illegal dumping.

- Branding of anti-litter theme on materials/products by companies showing their support for building pride in a more beautiful Iowa.
- Develop and support of litter clean up/promotion programs.
- Contracting/vendor services contract adjustments to include anti-litter provisions and to prevent illegal dumping.
- Convenience/fast food industries need to re-evaluate packaging, education, public awareness, and disposal services regarding litter.
- Association of Business and Industry support of litter awareness/recognition of programs that encourage litter abatement; encouragement of creative member initiatives in this area should be both recognized and facilitated.
- Tobacco suppliers and vendors need to initiate anti-litter programs targeted at their customers; support of other litter abatement efforts is encouraged.
- Beverage suppliers and vendors need to support and initiate anti-litter programs.
- Grocery industry needs to initiate and support an anti-litter program.
- Statewide organizations like the League of Cities, Iowa State Association of Counties, AARP of Iowa, Iowa Association of County Conservation Boards and many other entities need to support, initiate, and endorse litter prevention programs.
- Private educational institutions in Iowa should consider
  - Initiating and supporting “Litter Free Campus” programs
  - Implement litter prevention and clean up provisions for contracts and vendors
  - Develop and implement litter-free event/festival control guidelines
  - Infuse anti-litter messages into media for events – printed into event programs, programmed into electronic billboards, etc.
- Building contractors are encouraged to initiate litter control efforts around buildings and new home construction sites.