

# *Environmental Resources Planning, LLC*

*Innovative Solutions to Environmental Challenges*

## **White Paper: Effective Litter Prevention Strategies**

### **Understanding the Problem**

Litter is perhaps the most frustrating of all environmental problems. Motorists and pedestrians, spillage from trash and recycling collection vehicles, open-top recycling bins and overfilled receptacles<sup>1</sup> add litter to our roadways every day: items that can later become stormwater trash or marine debris.

The major components of litter by count are: paper\* (20 percent), vehicle debris (17 percent), fast food related (16.5 percent), construction and industrial debris (13 percent), beverage-related (11.5 percent), snack packaging (5 percent), home items (5 percent), paper and plastic bags and wraps (4.5 percent), tobacco-related<sup>†</sup> (3.5 percent) and other items (4 percent).<sup>2</sup>

### **Why Certain Strategies Are Ineffective**

At times, efforts to address the problem of litter lead to legislation and regulations restricting the use of just its minor components, which do not lead to meaningful reductions in overall litter.<sup>3</sup> When such restrictions are publicized, typically the focus is solely upon the banned items, while attention is diverted from the underlying cause and major components of litter. This leads to misleading findings. For example, a specific item in litter may be reduced, while a replacement item ends up creating the same litter problem because the underlying behavior is unchanged.

Material and product bans do not address underlying littering behaviors, which are component neutral.<sup>4</sup> Banned items are likely to be replaced by items that present similar litter-related issues<sup>5</sup> and may have unintended consequences as well. For instance, banning plastic straws disregards the unique needs of some disabled consumers and could deprive them of products they rely on.<sup>6</sup>

### **Effective Litter Abatement Strategies**

In lieu of outright bans or taxes on specific items of litter, there are a number of different strategies that have proven effective in changing littering behavior and reducing the incidence of litter in our communities. The more effective strategies are explored below.

#### **Replace Open-Top Recycling Bins with Closed-Top Recycling Carts**

Closed-top recycling carts reduce wind-blown litter caused by open-top recycling bins.<sup>7</sup> One study showed that switching to closed-top carts could reduce a city's litter cleanup costs by more than \$250,000 each year.<sup>8</sup>

#### **Encourage Municipal Code Enforcement**

Code enforcement officers ensure that building codes and land use ordinances are followed properly; such enforcement helps keep our communities safe and appealing. Litter, illegal dumping, and failure to maintain properties, fall within their purview. When problems occur, officers can communicate, educate and when necessary enforce standards. Without their important support, litter can be a factor leading to community decline.<sup>9</sup>

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\* Includes discarded paper from business, home, school, newspapers and flyers, but excludes cigarette butts.

† Excludes cigarette butts, which would otherwise dwarf all other components of litter.

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## **Use Properly Sized and Maintained Dumpsters**

Using trash or recycling dumpsters that are inadequately sized can cause overflowing and spillage. In many areas, it is against the law<sup>10</sup> for drivers to haul overfilled dumpsters.<sup>11</sup> While such prohibitions limit road-side debris, an unintended consequence is that they delay proper disposal and extend opportunity for overflow spillage from the dumpster. Spillage of openly exposed containers can also constitute stormwater violations.<sup>12</sup>

## **Properly Contain Garbage and Trash in Bags and Lidded Containers**

Unbagged garbage and trash can become a source of litter and public health problem if a container is knocked over and spillage occurs during collection.<sup>13</sup> Bagging garbage and trash helps to prevent this type of litter.<sup>14</sup> The same problems can result from the use of unlidded trash containers, which increase the likelihood that loose trash becomes litter.<sup>15</sup>

## **Ensure Proper Maintenance of Construction Debris**

Careless cleanup practices and abandoned debris at construction sites are a known source of litter.<sup>16</sup> Using proper fencing and cleaning up after construction activities each day are important deterrents to litter. Language in private-public contracts requiring daily clean-up of construction sites and penalties for the failure to do so will reduce this form of litter.

## **Encourage Enforcement by Law Officers**

Consistent enforcement of litter laws helps residents, businesses and tourists understand that the well-being of the community is a high priority. Litter enforcement helps deter more serious crimes<sup>17</sup> and enhances overall community safety.<sup>18</sup>

## **Minimize Trash and Recycling Collection Vehicle Spillage**

Industry-wide, the key objective when collecting trash and recycling is to do so with a minimal amount of time. Overemphasizing such haste leads to an overall increase in litter.<sup>19</sup> During the manual collection of trash and litter, spillage of items can occur. Ensuring that both private and public haulers pick up any spilled items is critical to reducing this source of litter in both commercial areas and residential neighborhoods.

## **Properly Secure Tarps and Loads on Collection Vehicles**

Trash and recyclables are transported by a variety of vehicles such as dump trucks, rear-end loaders and self-haul vehicles. Ensuring that these loads are secured properly prevents litter and injuries. Each year unsecured loads are responsible for 440 deaths, 10,000 injuries and 51,000 incidents, along with the littered debris these incidents cause along our roadways.<sup>20</sup> Each state has specific regulations for covering loose loads on trucks<sup>21</sup> to prevent loose materials from blowing, spilling or dropping from vehicles.<sup>22</sup> Loose tarps that flutter do not adequately protect a truck's load from becoming blown litter.<sup>23</sup> Law-enforcement agencies nationwide are now supporting the "Secure Your Load" campaign.<sup>24</sup>

## **Routinely Cite Pedestrian and Motorist Litterers**

Motorists and pedestrians are still considered the major source of intentional litter along roadways and within recreational areas. Issuing citations with fines and publishing the names of those

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receiving citations will deter other violators, help prevent repeat offenders and, along with court-ordered litter cleanups, will reduce this form of littering.<sup>25</sup>

### **Identify and Address Illegal Dumping**

Illegal dumping is the intentional disposal of sizeable amounts of waste on public or private property. It can constitute a misdemeanor or felony, depending on the quantity and type of material illegally disposed, and whether the person is a repeat offender.<sup>26</sup> A study of 6,500 illegal dump sites yielded an average cleanup cost of about \$619 per ton.<sup>27</sup> Enforcement of existing statutes sends a message to potential violators that they may get caught and face financial and criminal consequences.<sup>28</sup>

### **Effectively Service Litter Receptacles**

Ensuring that litter receptacles are serviced as needed helps prevent the accumulation of litter from overfilled receptacles. This problem can be reduced by providing a sufficient number of receptacles, monitoring areas where events could overload capacity, and reminding the public to use them appropriately.<sup>29</sup> Newer “smart receptacles” have sensors that remotely identify containers that are approaching capacity, thus allowing resources to be allocated more efficiently. This saves time, decreases costs and prevents litter from overflowing.<sup>30</sup>

### **Create Dedicated Long-Term Funding Mechanism**

New Jersey’s Clean Communities Program was created from a litter tax levied on the sale of litter generating products.<sup>31</sup> The revenues from this tax provided litter program grants of \$19.3 million to its cities and counties in 2018 and funds the Clean Communities Council.<sup>32</sup> This Council coordinates statewide litter abatement efforts with New Jersey’s cities and counties, as well as entities such as the Departments of Environmental Protection, Transportation and Corrections. Using a deeply rooted and integrated statewide network, New Jersey has achieved a 53 percent reduction in litter since 2004.<sup>33</sup>

### **Establish Public/Private Partnerships in the Retail Food Industry**

Partnering with product manufacturers as well as the commercial establishments that sell food service items found in litter is an effective litter reduction strategy. For example, in Honolulu, Hawaii’s restaurants and businesses organized a grassroots campaign promoting best practices for litter prevention.<sup>34</sup> This commitment includes training of employees as active supporters who then help raise customer awareness about how to handle foodservice packaging after use. This has resulted in a reduction of litter throughout Honolulu.<sup>35</sup>

### **Establish Public/Private Partnerships for Neighborhoods**

Using another grassroots approach, the East Kensington Neighborhood Association in Philadelphia had local artists design trash containers representing the history of the neighborhood.<sup>36</sup> Each one was sponsored by a local business which also takes responsibility for emptying the container regularly. This initiative has helped reduce litter through a mutually beneficial relationship between local businesses and the neighborhoods in which they are located.

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## **Design a Focused Litter Prevention Campaign**

Texas is unique among states in that it has continuously supported a high-profile litter abatement campaign ("Don't Mess with Texas") which began in 1986. This consistency has resulted in a high level of campaign awareness.<sup>37</sup> In addition, the Don't Mess with Texas anti-litter campaign has helped achieve a 34 percent reduction in litter.<sup>38</sup>

## **Procure Campaign Spokespersons**

Using high-profile local celebrities helps a litter abatement campaign to reach its intended audiences. Texas has featured Kelly Clarkson, Eva Longoria, Matthew McConaughey, Willie Nelson, LeAnn Rimes and George Strait among others to support its "Don't Mess with Texas" litter abatement campaign.<sup>39</sup> Males between the ages of 18 and 34, those most likely to litter, tend to identify with and are influenced by these types of celebrities.<sup>40</sup>

## **Target Education Efforts**

Providing litter education to students as part of a science curriculum helps to establish positive attitudes and behavior. A change in attitude can then become instilled in parents and family as well.<sup>41</sup> Educational intervention with children regarding the impacts of marine litter resulted in children becoming more engaged in efforts to reduce marine litter.<sup>42</sup>

## **Encourage Regular Cleanups**

Litter cleanups by community organizations improve a neighborhood's appearance, discourage littering and help build ties to a variety of social groups within the community.<sup>43</sup> Along with Adopt-a-Highway programs, they save states, counties and local governments much needed resources. For example, volunteers in Minnesota spent 239,000 hours collecting litter on their own, saving the state over \$6 million.<sup>44</sup>

## **Use Beautification to Discourage Littering**

Targeted planting of trees, bushes or flowers discourages littering by enhancing the visual appearance of an area.<sup>45</sup> This form of beautification also provides economic and social benefits to communities.<sup>46</sup>

## **Conclusion - Understanding Unique State or Community Litter Issues**

A major key to litter reduction lies in understanding the unique dynamics of a community. No one-size-fits-all approach tends to work. Instead, effective litter prevention strategies depend on a combination of community demographics, socio-economic factors, geography, available funding and the success of private-public partnerships. Without a change in the behavioral component of littering, legislative restrictions will have limited effectiveness in reducing the incidence of litter within our communities.

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