



**STUDY**  
Spring 2002



# Making Jacksonville A Clean City

A Report to the Citizens of Northeast Florida

# Scope of Study

Trash is a fact of life. When not properly disposed of, it becomes litter. Sometimes trash is blown by wind or pulled from receptacles by animals. In most cases, however, individuals produce litter. Litter, unlike trash, is not a fact of life that citizens must accept. It can be prevented.

This study reviews the current efforts to reduce litter on roadways, waterways, public, residential, and commercial properties. These efforts take three forms. First, litter is prevented by collecting residential waste efficiently and by raising public awareness. Second, enforcement of litter laws prevent litter. And third, when prevention efforts fail to keep trash in its place, litter is picked up. Litter must be picked up because it clogs storm drains, obstructs roads, endangers wildlife, and contributes to neighborhood blight.

A small percentage of citizens litter, but the cost of cleaning up after them is covered by all taxpayers. This study finds that taxpayers currently pay three times more for litter cleanup than for litter prevention. Increasing prevention efforts can help to reduce cleanup costs and prevent future littering. The study reviews some promising practices that might be used locally to prevent litter and improve enforcement of anti-litter laws.

Many public and private agencies are involved in litter prevention, enforcement, and cleanup. However, the community lacks a centralized effort to maximize litter reduction through coordinated prevention, enforcement, and cleanup efforts.

## Highlights

### *Major Problems*

- Although various public and private agencies are tasked with litter-reduction efforts, no overall plan currently exists for reducing litter. Current efforts emphasize cleanup, which is expensive, and neglect prevention which could reduce cleanup costs.
- City departments and divisions involved in litter prevention, enforcement, and cleanup work on a piece of litter control for which they are responsible. The efforts are not managed through a centralized organization concerned with litter.
- Although local law-enforcement personnel are responsible for enforcing litter laws, it is not their priority. Non-criminal offenses are frequent, and punishment rare. The lack of litter-law enforcement contributes to littering behavior.
- School and public bus stops are frequently littered because waste receptacles often are not available or are not frequently emptied.

### *Recommended Solutions*

- Develop a master plan that integrates prevention, enforcement, and cleanup efforts. Consolidate personnel and resources into a litter reduction department or division that implements the master plan.
- Establish a litter reduction department or division that consolidates prevention, enforcement, and cleanup efforts under an administrator whose decisions on budgets, programming, and expansion of services are based on a goal of creating a clean city.
- Provide citizens with opportunities to report litter violations to law enforcement. Develop a program that uses these reports to warn violators of penalties and encourages proper disposal of trash.
- Ensure that public bus stops are litter-free and clean, and train school-bus contractors in litter prevention.

# Table Of Contents

<b>FINDINGS</b>	<b>4</b>	<b>Costs of litter</b>	<b>17</b>
<b>Introduction</b>	<b>4</b>	Direct costs	17
<b>Definitions</b>	<b>4</b>	<i>Prevention</i>	17
		<i>Enforcement</i>	17
		<i>Cleanup</i>	17
<b>What is litter?</b>	<b>6</b>	Indirect costs	19
<b>What causes litter?</b>	<b>7</b>	<i>Economic</i>	19
Behaviors and attitudes	7	<i>Health and safety hazards</i>	19
<i>Ignorance</i>	7	<i>Quality of life</i>	19
<i>Irresponsibility and neglect</i>	7	<b>Barriers to reducing litter</b>	<b>19</b>
<i>Throw-away lifestyle</i>	7	Prevention	19
<b>Current efforts to reduce litter</b>	<b>8</b>	Enforcement	20
Prevention	8	Cleanup	20
<i>Litter awareness and education</i>	8	<b>Promising practices</b>	<b>21</b>
Schools	8	Prevention	21
Public agencies	9	Enforcement	21
Private nonprofit organizations	9	Cleanup	21
Waste collection	9	<b>CONCLUSIONS</b>	<b>22</b>
Waste receptacles	9	<b>RECOMMENDATIONS</b>	<b>24</b>
Collection practices	10	<b>REFERENCES</b>	<b>26</b>
		<b>RESOURCE PEOPLE</b>	<b>26</b>
Enforcement	12	<b>COMMITTEE MEMBERS</b>	<b>27</b>
<i>Private property</i>	12		
<i>Public property</i>	13		
Cleanup activities and maintenance	14		
<i>Private efforts</i>	14		
<i>Private efforts with public support</i>	15		
<i>Public efforts</i>	15		
<i>Cleanup in conjunction with enforcement</i>	16		
<i>Recent developments</i>	16		

## Mission Statement

Jacksonville Community Council Inc. is a nonprofit, nonpartisan, broad-based civic organization which seeks to improve the quality of life in Northeast Florida by positive change resulting from informed participation of citizens in community life, through open dialogue, impartial research, and consensus building.

Cover design, concept study layout and supporting graphics by Kristin Jackson.

# Findings

**Findings represent the information received by the committee. They are derived from published materials, from facts reported by resource people, and from a consensus of the committee's understanding of the opinions of resource people.**

## Introduction

Each year, Jacksonville's citizens pay to remove 2 million pounds of litter from roads, beaches, and rivers. This does not include litter on residential and commercial properties, parks, or the undocumented litter picked up by individuals and groups. Taxpayers' money and volunteer efforts are used to clean up litter. Some may believe that litter in Jacksonville is not a problem, while others may think it creates a trashy city. Regardless of one's viewpoint, litter does cost citizens. City and Florida governments together spend \$1.5 million annually to pick up litter in Jacksonville. But the social costs of litter go far beyond money. Accumulated litter sends the message that residents don't care about their neighborhood and may not intervene when they see littering. Law-enforcement personnel identify litter as a significant factor in tipping a neighborhood toward decline.

The production of waste cannot be avoided, but litter can be. Debris such as styrofoam cups in the St. Johns River, piles of cigarette butts on highway medians, and plastic bags caught in trees can be prevented.

Litter causes and worsens existing public-health and public-safety problems. Improper disposal of biomedical wastes and hazardous materials pose public-health risks, and large debris, including piles of tire retreads, can pose public-safety risks by obstructing highways. Litter puts Jacksonville's wildlife at risk. Birds die when their feet tangle in discarded fishing line, and turtles die when they eat plastic bags. The environment, specifically the St. Johns River, is harmed because litter pollutes waterways. In addition, litter contributes to visual pollution, marring the natural beauty of Jacksonville. City leaders work toward making Jacksonville a safe, attractive, and clean place where families want to stay and corporations want to relocate. The 2005 Super Bowl, scheduled for Jacksonville, provides an opportunity to expose the city to the world. A favorable impression on visitors attending and watching the Super Bowl depends, in part, on the face Jacksonville presents to the world.

Anti-litter campaigns, volunteer cleanups, expansion of City services for picking up litter, and other efforts are currently underway. Evaluating these efforts is necessary to clean up Jacksonville and prevent future littering.

Trash that is properly handled is not a concern in this study. The study did not examine landfills or the amount of trash produced in Jacksonville. However, waste collection, both commercial and residential, is included in the study because insufficient and inefficient collection creates litter. Some efforts to pick up litter are part of efforts to improve neighborhoods; this aspect of cleaning up the

city includes landscaping and renovation. Beautification, while an important dimension of community pride, is not a focus of this study. The examination of litter includes drainage systems, illegal dumping, and hazardous waste regulations. It does not, however, include recycling. Abandoned shopping carts are not the same as litter, but this report includes them because carts in the wrong place contribute to visual blight in Jacksonville. Two specific items that are nuisances and are often considered trash—abandoned vehicles and dead animals—are not addressed in this study.

## Definitions

**Several terms used in this report are defined here to clarify their meaning throughout.**

- **Litter** is any item of waste that is out of its proper place for disposal.
- **Trash** consists of items disposed of because they are no longer perceived as useful or desired.
- **Solid waste** is waste from residential and commercial sources that is neither wastewater nor sewage. This study considers eight specific types of solid waste.
  - **Residential garbage** is waste that normally accumulates from normal living in a household.
  - **Commercial/industrial garbage** is waste that accumulates from working in a commercial or industrial facility.
  - **Special wastes** are those for which a special governmental regulation has been written concerning their disposal because of their negative environmental impact as litter. These include tires, motor oils, biomedical waste (e.g. hypodermic needles and syringes), and construction or demolition debris.
  - **Hazardous wastes** are those that are flammable, corrosive, toxic, or are included in a list of four hundred materials defined by the Florida Department of Environmental Protection (DEP) as hazardous. Citizens do not come into contact with most of the listed hazardous wastes.
  - **Household hazardous waste** includes paint, paint thinners, rechargeable batteries, photographic chemicals, pool chemicals, thermometers, antifreeze, pesticides, lawn and garden chemicals, varnish, gunpowder, ammunition, fireworks, and car-care chemicals.
  - **Major Appliances** includes refrigerators, water heaters, washers, dryers, and other household appliances.
  - **Yard waste** includes grass, limbs, palm fronds, leaves, and other plant materials.

- **Construction and demolition debris (C&D)** includes roofing shingles, wood, steel, concrete, plaster and other materials produced in constructing or demolishing structures.
- **Littering** is the illegal placement of trash where it does not belong.
- **Dumping** is a form of littering that involves large amounts of litter. Mattresses, industrial and commercial wastes, tires, furniture, and major appliances become dumped litter when they are disposed of in vacant lots, waterways, parks, or other open spaces.

This report references several public and private organizations involved in litter prevention and removal, as identified in **Table 1**.



Acronym		Jurisdiction	Responsibilities
<b>Public</b>			
Solid Waste and Resource Management Department	SWARM	City of Jacksonville	Waste collection
Sheriff's Office	JSO	City of Jacksonville	Enforcement
Jacksonville Transportation Authority	JTA	City of Jacksonville	Bus-stop cleanup
JEA	JEA	City of Jacksonville	Enforcement
Public Works Department	DPW	City of Jacksonville	Street sweeping, trash cleanup downtown cleanup of medians and interchanges
Clean It Up, Green It Up Division		City of Jacksonville	Education and cleanup of neighborhoods and vacant lots
Health Department	DCHD	Duval County	Enforcement of bio-medical waste laws
Property Safety Division	PSD	City of Jacksonville	Enforcement of property codes
Department of Transportation	FDOT	Florida	Cleanup roadways
Interagency Special Investigations Unit	ISIU	Northeast Florida	Investigation of illegal dumping
St. Johns River Water Management District	SJRWMD	Northeast Florida	Education
Department of Environmental Protection	DEP	Florida	Monitor and regulate hazardous waste disposal
Marine Enforcement Division of Florida Fish and Wildlife Conservation Commission		Duval County	Enforce laws on waterways
Florida Highway Patrol	FHP	Florida	Enforce laws and ensure safety on highways
<b>Public/private partnership</b>			
Keep Jacksonville Beautiful	KJB	City of Jacksonville	Education and cleanup
Keep Florida Beautiful	KFB	Florida	Education and cleanup
<b>Private</b>			
JaxPride		Duval County	Beautification and visual pollution prevention



# What is litter?

Data available on the quantity and type of litter are limited. Data come from agencies that document the amount of litter removed through maintenance efforts and volunteer cleanups. Research studies suggest that cans, beer bottles, cigarette butts, and snack packaging are commonly found on roads. Cigarette butts are a frequent litter item.

Data available on litter in Jacksonville and Northeast Florida are found primarily in research studies on the frequency and type of litter items found on roads. No data are available concerning litter in waterways, neighborhoods, or parks. However, resource people reported that nearly all trash on roads in Duval County eventually ends up in the St. Johns River, most of it through the storm sewer system. This means that trash dumped from cars, falling off of unsecured loads, and flying out of pickup-truck beds eventually finds its way into the River. Some data exist from agencies and organizations that remove litter because they weigh it before disposal.

The Florida Litter Study, conducted by the Florida Center for Solid and Hazardous Waste Management, surveys 670 sites across the state. The Center conducted studies on roadside litter in 1994, 1995, 1996, 1997, and 2001. The study documents the quantity and types of trash found on state highways. The 2001 survey shows that, among large trash, which is anything larger than four square inches, cans, cups, and bottles represent nearly 25 percent of all roadside litter. People drop these items on the road from their cars. Among small trash, 25 percent is cigarette butts, another item that people frequently throw from cars. See **Table 2** for more detail.

Table 2: Litter reported in Florida Litter Surveys			
	1996	1997	2001
Percentage of total number of large items			
Plastic and foil	31	32	30
Paper	27	25	24
Cans, cups, bottles	26	25	24
Vehicle/tire debris	10	12	17
Construction debris	6	6	5
Percentage of total number of small items			
Plastic	29	29	36
Cigarette butts	24	25	25
Glass	22	19	16
Paper	14	12	14
Metal	4	6	5
Miscellaneous	7	9	4

Sources: Florida Litter Study 1996, 1997, 2001, Florida Center for Solid and Hazardous Waste Management

## SEVEN PRIMARY SOURCES OF LITTER

- Residential curbside garbage
- Dumpsters used by business
- Loading docks
- Construction and demolition sites
- Trucks with unsecured loads
- Pedestrians
- Motorists

This list is in no specific order. The magnitude of litter produced by each source is not known.

Source: Keep America Beautiful

The 2001 Litter Study surveyed ten sites in Duval County during 2001. Researchers found that a large percentage of litter was cans and beer bottles. Paper and plastic-snack packaging was also a frequently found type of litter.

Table 3: Pounds of trash reported removed in 2001 in Duval County	
Cleanup activity	Pounds of trash removed
Neighborhood cleanups, Adopt-a-Road program, beaches cleanups, and St. Johns River Celebration	322,160
Adopt-a-Highway	28,381
Highways cleaned by FDOT*	1,600,000
Total	1,950,541

\*Data are for 2000  
Sources: Jacksonville Clean It Up, Green It Up Division and Florida Department of Transportation

# What causes litter?

Individuals produce litter when they do not know how or where to dispose of trash or when they refuse to dispose of it properly. Some individuals also neglect their responsibility to clean up litter on their own property, including their cars, boats, and yards. The American throw-away lifestyle with its fast food and multiple packaging contributes to the litter problem. The convenient availability of waste receptacles also determines how much litter is produced.

## Behaviors and attitudes

### Ignorance

Knowledge about proper waste disposal is not directly taught to residents, and many do not know important rules.

- Many do not know the laws concerning waste disposal. For example, flipping a cigarette butt is littering, which carries a \$100 fine in Duval County.
- Residents may not understand the waste-collection services available to them. They do not know that they can put out a mattress, four tires, and other large items for their waste hauler and that by calling 630-CITY they can schedule pickup at no cost. As a result, some residents frequently dump items illegally that they could otherwise leave out for pickup.
- Disposal practices may be misunderstood. Although many residents assume that storm water is treated before reaching rivers and streams, it is not, and environmentally dangerous items and fluids, such as motor oil and paints, drain through the storm sewer system directly into the St. Johns River.

### Irresponsibility and neglect

Many citizens do not care what happens to the waste they throw away. For instance, some business owners try to avoid landfill-tipping fees by illegally dumping waste in vacant lots, in open spaces, or along roadways. Resource people noted that roofing businesses, contractors, tree services, and others can increase profits by avoiding the fees for depositing waste in the landfill. Also, many smokers empty their ashtrays on the road or flip cigarette butts out the window.

In Duval County, 33.2 percent of the surface area is either under water or wetlands. Since large quantities of trash accumulate in wetlands and in waterways, it is less visible to residents. This "out of sight/out of mind" situation contributes to a lack of caring about proper trash disposal.

Other residents may simply neglect to take the steps necessary to dispose of their trash properly. They may place it in the back of their pickup truck—an appropriate place. But once on the highway, the waste can fly out the back, and, although the driver is not intentionally littering, he or she contributes to the litter problem. Research on roadside litter in Texas suggests that 50 percent of it, including food wrappers, cups, and other debris, come from pickup trucks. Large items such as household furniture can fall off of trucks, potentially causing traffic delays and even injury or death.



Similar neglect occurs when residents put out household waste in plastic bags for collection. Dogs, raccoons, cats, and other animals frequently tear into such bags, seeking food and spreading litter. Also, illegal signs, such as those posted on telephone poles, can disintegrate due to weather and litter sidewalks and roads.

## Throw-away lifestyle

The disposable lifestyle of Americans uses items once and then throws them—and their packaging—away. This is most common with food. Many children and adults eat while driving or waiting for a bus. Their fast food comes in disposable plastic bags, styrofoam boxes, plastic cups, and foil. Research done in Texas found that persons who eat fast food at least twice a week are most likely to litter. Jacksonville citizens are mobile, whether taking the bus to work, driving children to activities, or spending a weekend in a boat on the St. Johns River. This mobile lifestyle produces quantities of waste in places where receptacles are few.

The mobile, throwaway lifestyle relies on extensive packaging. For example, a food item purchased at a convenience store may come in a plastic wrapper, which is then put in a paper or plastic bag, both of which are immediately discarded. Similarly, a cup of coffee includes a lid, a cup, and maybe a napkin, stirrer, and sweetener/cream containers, all delivered inside a paper bag. The purchaser either disposes of these properly or they become litter. If thrown on the road, they may end up in the St. Johns River, where volunteers find great quantities of litter, much of it styrofoam cups.

## Insufficient collection and receptacles

The frequency and thoroughness of waste collection contributes to the amount of litter on roads, in waterways, and in neighborhoods. For example, a missed stop in a residential or commercial area may cause a dumpster to overflow. When bus-stop receptacles overflow, riders may drop their waste near the receptacle, not in it. In parks, when a receptacle overflows, litter piles up and animals spread it around. The same problem exists in residential areas when collection services do not haul the entire pile of trash. By the time the next pickup occurs, litter accumulates.

The size, type, location, and number of receptacles provided in private and public areas contribute to litter. When waste is easily disposed of, persons generally will dispose of it properly. Cigarette butts require a special receptacle for smokers. Fearing fire, many smokers avoid throwing recently lit cigarette butts into waste cans, throwing them on the ground instead.

## Current efforts to reduce litter

Many trash-reduction efforts are already underway in Duval County. Efficient waste collection and public education efforts seek to prevent improper disposal of waste. Law enforcement efforts seek to deter litter by holding citizens and businesses accountable for littering and illegal dumping. Various public and private efforts clean up litter already strewn on roadways, waterways, and properties.

Laws seek to prevent litter by ensuring sufficient waste collection and cleanup of sewer and drainage systems. Laws also mandate litter awareness and provision of resources for the reduction of litter. Other laws enforce the proper disposal of waste whether it is hazardous waste, a load in a truck, or waste carried by an individual in their car.

## Prevention

The Jacksonville community seeks to prevent litter through public awareness and effective waste collection. Various City agencies and their franchised haulers collect garbage and empty receptacles. Public awareness efforts, conducted by various privately and publicly-funded agencies focus on changing citizen behavior.

## Litter awareness and education

### Schools

The **Duval County Public Schools** conduct a Clean Campus program in partnership with the Duval County Council of Parent Teacher Associations (PTA). Volunteers from the Council of PTA visit schools and grade them for cleanliness and recycling efforts. The goal is for each school to participate. Of the 150 Duval County schools, half participated in 2001.

The **Jacksonville Sheriff's Office**, in partnership with Clean It Up, Green It Up, a division of the Jacksonville Neighborhoods Department, educates public and private elementary-school children about littering. School Resource Officers show students large photos that illustrate violations of littering laws. The frequency of these sessions and the number of students reached was not reported. Clean It Up, Green It Up provides a brochure to all students taking driver education within the Duval County Public Schools. The brochure explains litter prevention within the context of students' new responsibilities for driving and car maintenance.

**Table 4: Laws that prevent litter**

Activity	Law/Code	Agency Responsible	Effect on Trash
Waste collection	Jacksonville Ordinance Code 382.401	SWARM, Property Safety Division	Guidelines for efficient disposal by residents and efficient collection by haulers
Litter awareness	Solid Waste Management Act	Keep Florida Beautiful	Establishes Keep Florida Beautiful, a state-funded private agency for anti-litter education and cleanups
Reducing litter	Florida Litter Law 403.413	JSO, Florida Highway Patrol, DEP	Prohibits littering and defines penalties according to weight of litter
Reducing litter	Jacksonville Litter Law	JSO, Health Dept. (SWARM is responsible for enforcement but cannot issue citations)	Prohibits littering
Reducing litter in waterways	Florida Litter Law 403	Marine Enforcement Division of Florida Fish and Wildlife Conservation Commission	Prohibits littering in waterways
Improper disposal of biomedical waste	Florida Statute 381	Duval County Health Department, DEP	Prohibits improper disposal of materials containing pathogens
Preventing unsecured loads	State Uniform Traffic Code 316, Part 5 (520, 510, and 525)	FDOT, JSO, Florida Highway Patrol	Prohibits vehicles from carrying excess loads
Reducing litter in yards and vacant property	Jacksonville Ordinance Code 518.202	Property Safety Division	Defines residents' responsibilities for maintaining private property
Routine maintenance of streets and drainage system	Jacksonville Ordinance Code 748	Department of Public Works	Clean up trash in sewers and drainage ditches
Cleaning up property - safety violations	Jacksonville Ordinance Code 518.202	Neighborhoods Department	Clean and mow properties found in violation of nuisance codes



## Public agencies

**Clean It Up, Green It Up** distributes seven publications detailing ways to reduce trash:

- A general brochure on sources of trash;
- Neighborhoods Cleanup Planning Kit;
- Clean Business Program brochure for staff training and awareness (23 businesses currently participate);
- Adopt-A-Road brochures with volunteer commitments and costs to businesses;
- Litter-Free Event brochure encouraging youth to organize volunteer cleanups associated with outdoor concerts and athletic events;
- Driver Education brochure offering tips on reducing vehicular littering to students in the Duval Public Schools' Driver Education program; and
- Don't Throw Away Our River brochure encouraging litter prevention by youth.

The **St. Johns River Celebration**, a single-day cleanup event that heightens awareness about marine debris.

In 2000, the Jacksonville **Mayor's Office** began an anti-litter advertising campaign, "Don't Trash Jacksonville," in print, on radio, and television. The campaign targets males 18 to 25 years old because national surveys have identified them as littering most frequently. After the first year of the campaign, an opinion poll found that four out of five young people surveyed were aware of the campaign. The campaign's impact on littering behavior will be studied in future opinion-poll research.

**SWARM** and its franchised haulers distribute information about proper waste disposal to each residence annually. This information is also distributed at neighborhood-association meetings, Earth Day celebrations, and other community events. The "Team in Green" public information campaign educates youth on residential waste-collection regulations and procedures. The "Team in Green" campaign is found on the City's website at [www.coj.nt/tig](http://www.coj.nt/tig).

**DEP** distributes public-information materials to auto-repair shops and other "small quantity generators" of hazardous wastes. DEP offers a Small Quantity Generator Handbook for use in workshops sponsored by trade associations, educational facilities, and businesses. It also gives the handbook to facilities during routine inspections and complaint investigations and mails it to individuals requesting information on hazardous waste.

The **St. Johns River Water Management District** organizes volunteers to perform informational presentations with residents concerning water-quality and water-resource management. The Watershed Action Volunteer program uses students and residents to teach others about the importance of keeping litter and motor oil out of the storm-sewer system. Volunteers place permanent reminders near storm drains in their neighborhoods.

## Private nonprofit organizations

**JaxPride, A Coalition for Visual Enhancement, Inc.** educates

residents on how to clean up and beautify their neighborhoods. The Neighborhood Inventory of Visual Pollution program raises awareness of the visual-pollution problems in communities, demonstrates solutions, and facilitates their implementation. For example, if a neighborhood convenience store has an overflowing dumpster, residents learn how to approach the storeowner and work with the business to reduce trash.

The **TrashBusters** program is a youth-empowerment project targeting youth in Springfield. The program asks young people to identify areas of Springfield which need cleanup, document and categorize those areas, brainstorm solutions, and publish their findings in a community newsletter. Youth decide which areas most need waste receptacles, paint 55-gallon drums, and place them in the identified areas.

## Waste collection

**Proper collection and disposal of waste keeps waste in its place. A first step toward keeping trash in its place is putting it in a receptacle, such as a bag, can, or dumpster.**

## Waste receptacles

### Residential

In Jacksonville, residents of single-family to quadruplex homes are required to place their waste in a bag or can with a tight-fitting lid for collection. Most residents in apartment complexes and condominiums place their waste in bags and throw it in communal dumpsters. Keeping waste in its place before collection services haul it away is mostly an individual effort; residents supply their own cans and bags.

### Non-residential

Resource people reported that the most effective tool for preventing cigarette-butt litter is to provide special receptacles for them. Some shopping centers provide regular trash receptacles in addition to cigarette-butt receptacles. A large shopping center may provide 9 to 12 receptacles.

Most commercial properties contain their waste in a dumpster. Resource people reported that property managers for shopping centers generally provide one dumpster for two or three tenants. The hauler and the business owner agree on a particular size of dumpster and the frequency of pickup. If the dumpster is not adequate, the hauler may suggest a larger size or more frequent pickup.

### Roadways

The **JTA** has 6,500 bus stops in Duval County and has placed a waste receptacle at some but not all of them. The JTA does not inventory its receptacles and cannot document the number available. The criteria for placing a can at a bus stop includes the presence of a shelter and bench, having 150 or more daily passenger trips from that stop, and having a fast-food restaurant and/or convenience store located nearby. Each bus has a receptacle

located near the driver. Riders are not allowed to carry open edibles onto a bus. When riders produce a lot of trash at a bus stop near a convenience store or restaurant, the JTA may approach the owner for assistance. The JTA will provide a receptacle, in addition to the one at the bus stop, if the owner will agree to empty it regularly. At one time, 55-gallon drums were used as receptacles. However, some residents used the cans to dispose of household garbage, so JTA started using smaller containers. These fill up more quickly, but resource people reported that fewer residents leave garbage in them.

The Duval County Public Schools do not require bus contractors to provide receptacles in their buses. However, students are not allowed to eat on the bus. School-bus stops do not have receptacles, partly because bus stops move from year to year, and many are located on private property.

Parks

The **Department of Parks, Recreation and Entertainment** places waste receptacles in City parks. Currently 1,467 waste receptacles are located in 296 of the City's 321 parks, including boat ramps.

Collection practices

The efficiency with which waste is collected and moved from residential and non-residential properties to the landfill impacts the amount of litter in Jacksonville neighborhoods and commercial areas. Responsibility for efficient collection is two-fold because customers must properly containerize waste and haulers must properly dispose of it.

Private properties

Residential

SWARM provides waste-hauling services to all occupied properties with single-family through quadruplex homes, three times each week: once for residential garbage; once for yard waste; and once for recycleables. The City also collects tires and major appliances if residents call 630-CITY to request a free pickup. A household hazardous waste-collection facility on the Westside is open six days a week. Residents can leave paint, batteries, oils, and

other hazardous materials there. Remote Household Hazardous Waste collection events are held in each City Council district. SWARM advertises these events in *The Florida Times-Union* and on the SWARM website at [www.coj.net/Pub/RECYCLE/hazardous.htm](http://www.coj.net/Pub/RECYCLE/hazardous.htm).

City crews collect household waste, recyclables, and yard waste for the 50,000 homes within the boundaries of the core city as well as 6,500 homes on the south side of the River (the City of Jacksonville before consolidation). Private haulers franchised by the City perform these services in the rest of Duval County.

Local law governs the disposal of waste at homes:

- Household waste must be placed in a bag or can; if a can is used, it needs a tight-fitting lid;
- Yard waste includes grass clippings, leaves, shrub trimmings, palm fronds, and tree limbs. Limbs must be cut five feet or shorter and cannot be larger than six inches in diameter. Residents must stack yard waste in parallel piles in front of their residence. Leaves may be placed in bags or cans; and
- Recycleables must be placed in a blue bin provided by the City or next to the blue bin in another container. These include plastic bottles and jugs, glass bottles and jars, metal and aluminum cans, newspapers, magazines, brown paper bags, corrugated cardboard, and telephone books. The City provides an additional blue bin to residents who request one as long as supplies allow.

When a hauler misses a residential stop, volume exceeds the maximum allowed for pickup, or a hauler lets some trash fall out on the ground, the waste left behind quickly becomes litter.

The prevention of litter on private residential properties is also a matter of individual responsibility. Homeowners and residents decide what kind of container to use for their waste and how securely it confines the waste until collection. They also decide whether to pick up litter that blows onto their property.

SWARM operates a pilot project using "tipper" cans in three low-income neighborhoods: 29th and Chase, Springfield, and part of East Jacksonville. "Tipper" cans are specially designed for greater labor efficiency in residential collection. The pilot program provides the cans to residents and requires them to use these cans. As a result, residents in these neighborhoods do not put out their trash in plastic bags, as is common in low-income areas. According to resource people, the three pilot neighborhoods are cleaner than they were before the program began.

Condominium associations and apartment complex managers must purchase residential waste-hauling services from private companies, since the City does not serve them. Thus, these residents can make choices about the level of service they purchase, including:

- Frequency of collection (number of pickups per week);
- Items to be collected (appliances, hazardous wastes, and yard waste or just household waste); and
- Size of the container used (usually dumpsters). The choices made influence whether waste becomes litter. For example, if a dumpster overflows, the apartment or condominium manager might or might not request a larger container or more frequent pickup.

Table 5: Franchised waste-collection haulers		
Hauler	Collection area	Number of homes
Browning Ferris Industries	Westside, Neptune Beach, Atlantic Beach, parts of Clay County	70,000
Waste Management Company	Southside	67,000
Southland Waste Systems	Northside	60,200

Sources: Browning Ferris Industries, Jacksonville Waste Management, Southland Waste Systems



## *Non-residential*

Commercial property owners and managers also contract for private waste collection using dumpsters. In retail shopping centers, tenants may or may not arrange for their own dumpsters. Some managers provide a common area dumpster in addition to those tenants arrange for themselves. In an office environment, the property manager contracts for waste-hauling services, and a dumpster is shared by all.

Almost 1,500 businesses, churches, nonprofits, and multifamily dwellings subscribe to the City's commercial curbside waste-collection service. The City collects from these customers up to 10 containers of trash once each week for a fee that is less than the cost of renting a dumpster. All multifamily dwellings with between 5 and 10 units qualify for subscription to the service, as do businesses and nonprofits that generate less than 10 containers of trash per week. Of those served, 39 businesses subscribe for a second collection each week, and 107 businesses in downtown Jacksonville receive five collections per week.

Resource people who manage commercial properties identified cigarette butts as a constant concern. Retail tenants may or may not alert their customers to receptacles for cigarette butts. However, many property managers make cigarette-butt receptacles available to customers. According to one resource person, this helps prevent butts from becoming litter. In the office environment, tenants may have clients and employees who smoke outside the building. Many property managers remind their tenants by letter and signs that cigarette butts must be disposed of properly. A resource person observed that in one office building, in which a tenant has a high employee turnover, the property manager has to send frequent letters because cigarette butts are a constant problem.

## *Vacant property*

No waste collection is provided to vacant lots in Jacksonville.

## **Public properties**

### *Roadways*

The JTA empties the receptacles that are placed at some of its bus stops once every week. Apart from this type of waste collection, no other receptacles or collection exists on roadways.

### *Parks and boat ramps*

Prevention of litter in public parks is the responsibility of the City's Department of Parks, Recreation, and Entertainment and of the citizens who use the parks. The Park Maintenance Division maintains 1,467 waste receptacles in City parks. Park Maintenance Standards require that waste receptacles hold normally accumulated trash, but no specific number of receptacles is assigned to any one park. Receptacles are emptied according to schedules based on six levels of required service as follows:

- public squares, malls, and governmental grounds, at least once per day;

- high visitation parks, a minimum of once per day, five days per week;
- moderate to low levels of visitation, 3 times per week;
- low visitation, once per week or less;
- high visitation natural areas such as large urban parks, service based on visitation; and
- undeveloped large urban parks, on a complaint basis.

## *Waterways*

No collection of waste is provided on waterways, although public boat ramps do have receptacles. The Park Maintenance Division empties receptacles at boat ramps according to the levels of service required by each.

The City of Jacksonville Beach provides fifty-five gallon waste receptacles at each ocean public access point or every street end. About 80 waste receptacles are emptied daily by a private contractor.

The City of Atlantic Beach provides a smaller 35-gallon waste receptacle at each ocean public access point or every street end, about 35 receptacles. The City uses a private contractor for collection, which also picks up visible litter along the beach.

The City of Neptune Beach has fewer receptacles and employs one person to empty receptacles and pick up litter daily.



## Enforcement

**Effective enforcement of anti-litter laws sends a message to potential and actual violators in the community. At least three City agencies are charged to enforce anti-litter laws. Enforcement includes making citizens and businesses aware of the laws, in addition to penalizing violators. The laws do not define littering as a criminal offense in every case. The Property Safety Code and waste collection law do not include provisions for judicial enforcement.**

Before waste-collection codes and anti-litter laws are enforced, citizens must be aware of them and their penalties. Warning signs and other means of communication contribute to the enforcement of anti-litter laws.

The Florida Litter Law penalizes violators based on the weight of the litter. For example, littering of up to 15 pounds can be penalized \$50. The fine for 15 pounds and over is \$1,000, and 500 pounds or more may be fined up to \$5,000. The Jacksonville Litter Law penalizes all violators \$100 per violation, regardless of the weight. In 2001, 107 tickets were written for violation of the Florida statute in Jacksonville, and 13 were written for violation of the Jacksonville Litter Law.

## Private properties

### Residential

Jacksonville Ordinance 518.202 prohibits accumulation of litter on private property. Each day, citizens make about ten complaints to the Property Safety Division about litter. Some of these pertain to litter on residential properties and others to litter on rights-of-way and roads. About five days after a property-safety complaint is received, investigators determine whether a violation has occurred. The Property Safety Division does not actively search for violations. It responds to citizen reports of violations. Fines for property-safety violations start at \$250.

The Property Safety Code is enforced through a procedure of investigation, citation, cleanup, and submission of lien against the property. A Code Enforcement Officer takes a picture of the property if a violation exists. The owner then receives notification by certified mail. The owner has 15 days from the issuance of the notice to fix the problem. After about 20 days from the date the violation was first noted, an inspector returns to the property for another picture. If the problem is not fixed, the violation is sent to the Clean It Up, Green It Up Division. The Division contracts for cleanup and mowing and the owner is billed. A lien against the property is placed if the bill is not paid.

Jacksonville Ordinance 382.401 addresses waste-collection procedures. SWARM, which serves 236,000 premises three times each week, makes 708,000 waste collection passes each week. About 308 citizens call the City every week to report a missed pickup or a problem with waste collection. If the franchised hauler does not return

within twenty-four hours, the City levies a fine. The same penalty applies to haulers that drop trash by accident. Between March 2001 and March 2002, 996 fines were levied for a total of \$36,625. The average penalty is \$25. During this same period, the City fined its own crews \$2,725 for 109 infractions.

Residents also violate this ordinance when they place their waste outside for collection on the wrong day, do not place it curbside by 6:00am on the scheduled collection day, do not use proper receptacles, or mix their recyclables with household waste. SWARM and its franchised haulers place a tag on improperly placed trash explaining why they did not pick it up and how the resident can correct the problem. While SWARM is responsible for enforcing the waste-collection law, their personnel are not authorized to cite residents for violations. Property Safety investigators are authorized to issue citations to residents for waste collection code violations. Compliance officers and supervisors visit and warn them of their violations. About 27 residents are warned each month about violations of waste-collection law.

**Table 6: Litter laws, penalties, and agencies responsible for enforcement**

Type of Offense	Statute/policy	Penalty	Enforcement agency
Litter in yard	Ordinance 380.206	Starting at \$250	Property Safety Division
Litter at bus stop	Ordinance 337.408	\$100	JSO
Litter tossed from car (state road)	Florida Litter Law 403.413	\$50	JSO, Florida Highway Patrol
Litter tossed from car (city road)	Ordinance 380.210	\$100	JSO, Florida Highway Patrol
Unsecured load (any road)	Traffic Code	\$78	JSO, FHP, FDOT
Litter tossed from boat	Florida Litter Law 403.41315	FL Litter Law - \$50	JSO, Marine Enforcement Division of Wildlife Commission
Dumping tires	Florida Litter Law 403.717	Under 500 lbs - \$1,000 500 lbs and over - \$5,000	JSO, DEP
Dumping industrial/commercial waste	Florida Litter Law 403	Under 500 lbs - \$1,000 500 lbs and over - \$5,000	JSO, DEP
Abandoned grocery carts	Florida Statute 506.513	As much as \$250/day (owner of store charged)	Property Safety Division
Illegal signs in median	Florida Statute 479.12	None - Dept. of Public Works collects and throws away	JSO

Sources: Florida Statutes, Jacksonville Ordinance Code, Jacksonville Property Safety Division, Florida Highway Patrol



## Non-residential

In shopping centers, some contracts between tenant and owner require that tenants keep their premises clean, while others do not. The owner has responsibility to enforce the expectation that tenants keep the premises clean. The Property Safety Division issues citations to businesses whose dumpsters overflow. Resource people reported that 132 complaints about businesses were submitted to the Property Safety Division between October 2000 and October 2001. Almost all of these were violations, and owners rectified them once they received a warning letter. More frequent pickup or a larger dumpster is often the solution to the problem.

Sometimes a hauler misses a stop and a dumpster overflows as a result. When a hauler does not perform waste services as stated in the contract, the manager or owner can call the hauler to report the problem. If the problem is not fixed, the manager or owner can terminate the contract within thirty days. A dozen or more waste haulers compete for commercial hauling in Jacksonville, so business owners are often able to enforce standards of service with a phone call to their hauler. Resource people reported that missed stops are not frequent but that when they occur, haulers may offer a free pickup to compensate for the inconvenience.

Customers who take shopping carts away from store premises are stealing property, and the store is responsible for recovering its property. Although Property Safety investigators can cite this type of violation as a nuisance, the Chief of Property Safety must specifically approve it. In this case, the store owner may be fined as much as \$250 per day for the violation. This has not been tested in court. Resource people reported that, when recently the Property Safety Division issued a citation to one store for abandoned shopping carts, the manager paid the ticket personally to avoid involving his corporation. The Property Safety Division has no record of the number of citations issued to stores for abandoned shopping carts.

## Vacant lands

When criminals dump 500 pounds or more of trash on vacant lands, parks, and other vacant properties, the violation is considered a felony. All other littering is considered a misdemeanor violation. An enforcement officer does not have to witness a felony violation in order to charge a violator. If it is not a felony, the officer must witness the littering before a ticket can be issued to the violator.

Enforcement agencies often find evidence of illegal dumping but do not have enough resources to investigate. The Interagency Special Investigations Unit (ISIU), a partnership of JEA, SWARM, and JSO, works in conjunction with a number of public agencies that are not responsible for enforcement and find evidence of illegal dumping. In Jacksonville City government, the Neighborhoods, Public Works, Regulatory Environmental Services, and Solid Waste and Resource Management Departments call ISIU with cases of illegal dumping which they are responsible for cleaning up. ISIU focuses its efforts on illegally dumped materials weighing 500 pounds or more.

Evidence about illegal dumping must be found to prosecute violators. Sometimes a pile of litter contains clues as to where it came from and who dumped it. ISIU also performs sting operations, using seismic

detectors, solid state recorders, and other surveillance equipment. Besides these proactive investigations, reactive investigations are based on reported violations.

Another dimension of illegal dumping involves regulation of special wastes. For example, federal law states that auto-repair shops and other businesses must follow special rules for the disposal of waste tires. ISIU monitors the disposal of waste tires in Jacksonville through a series of checks on how many waste tires are generated and how many are transported to the Trail Ridge Landfill. In Duval County 300 to 400 persons or companies are licensed to dispose of waste tires; about 40 transporters are licensed to take tires to the landfill. ISIU checks the receipts of tires at the landfill against the receipts of waste tires generated at businesses. About 12,782 tons of waste tires were disposed of legally in 1998 in Duval County. Despite these efforts, many business owners avoid paying waste tire fees by dumping them illegally. A resource person estimated that 50 tons of waste tires are recovered annually during investigations of illegal dumping.

## Public properties

### Roadways

Warning signs and traffic stops can be used to enforce litter laws on the roads. The Florida Traffic Engineering Manual states that each exit ramp off Interstate 95 in Florida must have a sign alerting drivers to the state's \$50 penalty for littering. The Florida Department of Transportation (FDOT) has about 25,000 signs of all types on Jacksonville highways. However, it does not perform an inventory of signs and cannot document how many signs discouraging litter are posted. While JSO and Florida Highway Patrol officers may make traffic stops for speeding and issue warnings and tickets for these violations, stopping a motorist for littering is rare. Resource people reported that although enforcement of anti-litter laws is the responsibility of JSO officers, they do not give it a high priority.

Motorists who do not secure their loads produce litter when items fall off or blow out of their vehicles. JSO officers, the Florida Highway Patrol, and FDOT employees stop violators of the "unsecured load" traffic code if they observe violations. The fine for carrying an unsecured-load is \$78. In 1999, the Florida Highway Patrol issued 93 unsecured-load citations in Duval County. The JSO issued 74 citations for the same year, and FDOT and municipal police from the Beaches and Baldwin issued eight.

### Parks

The Jacksonville Parks, Recreation, and Entertainment Department has no policy for placement of litter warning signs. The Department does not know how many of its 321 parks have signs. Where a sign is posted, it states that dumping is unlawful but does not refer to ordinance. City boat ramps do not have warning signs.

### Waterways

The Marine Enforcement Division of the Florida Fish and Wildlife Conservation Commission assigns six officers to patrol Duval

County waterways. The Division does not have a policy for handling violators of the Florida Litter Law. Resource people reported that officers of the Marine Enforcement Division issue about twelve citations each year. If officers witness littering, they issue a misdemeanor citation for violating the Florida Litter Law. Resource people believe that the presence of officers on the water is an enforcement tool because boaters do not litter when they know they might be caught.

St. Johns Riverkeeper, Inc., a privately funded organization similar to a Neighborhood Watch program, has recently employed a Riverkeeper. This person will spend most of his workday on the water, inspecting sites, and investigating spills that are harmful to the River. The organization is new, and the St. Johns Riverkeeper, Inc. anticipates beginning hands-on monitoring of the St. Johns River in 2002.

## Cleanup activities and maintenance

**City law mandates cleanup as a function of public maintenance, and various state and local agencies clean up litter and illegal dumping. Volunteer efforts in partnership with public agencies also contribute to cleanup. While public agencies perform routine maintenance, volunteer cleanups aim to make an area litter-free.**

### Private efforts

Many citizens find litter annoying and unpleasant. They organize cleanups and support organizations that clean up so that neighborhoods, waterways, roadways, and the beaches have less litter. The following information on these efforts is incomplete because data available is based on reports from volunteers. The magnitude of additional efforts by individuals and organizations is not known.

### Residential

Many homeowner and neighborhood associations seek to maintain a clean and pleasing appearance throughout their neighborhoods. For example, Springfield Preservation and Restoration, Inc. (SPAR) revitalizes and promotes one of Jacksonville's oldest



neighborhoods. Before its Christmas Home Tour in 2001, several benefactors provided dumpsters placed on public easements along the Home Tour's route. The dumpsters remained for a few days and were emptied when full. Although intended for homeowners preparing for the Home Tour, nearby residents also used the dumpsters to dispose of large items. Other neighborhood organizations may perform similar informal cleanup activities, but their frequency is not known.

Many residents pick up litter on their own because they want to clean up their immediate environment. Some walk through their neighborhood streets picking up litter, pulling it from wetlands and riverbanks, and cleaning up and mowing vacant lots adjacent to their property. The frequency and amount of litter picked up through individual cleanups is not known.

### Non-residential

According to the 1999 Florida Litter Study, 93 percent of businesses surveyed in large cities said that their employees pick up litter on business premises. In addition, many contract lawn crews and maintenance crews pick up litter on commercial properties.

Some stores collect their own shopping carts. For instance, the Arlington Road Food Lion rents a truck to recover 60 to 80 shopping carts from streets, bus stops, and apartment complexes. Property managers call when many carts have accumulated within apartment complexes, and the store responds by retrieving them. According to resource people, some grocery stores contracted for a while with a person who provided a shopping-cart retrieval service. That service is no longer offered.

On commercial property, managers decide on the desired level of cleanliness and design cleanup of litter around that goal. A resource person who manages an apartment complex said that all employees

of the complex are instructed to pick up litter on the property. Resort properties such as golf clubs maintain a high level of cleanliness because that is what customers expect. In many cases, a person may be assigned each day to pick up litter. A resource person reported that some property managers of high-density office buildings hire a day porter who picks up trash on the premises.

## Private efforts with public support

Certain public agencies organize citizens, from time to time, to clean up neighborhoods, roadways, and waterways. Such public/private partnerships may involve individuals, corporate sponsors, and government agencies working together to clean up Jacksonville.

The Clean It Up, Green It Up Division facilitates cleanup activities by neighborhood associations and concerned citizens. It arranges for waste hauling, provides bags and gloves, and assists in organizing workers. Specific data about the number of volunteers and pounds of litter picked up by neighborhood associations are not available.

Both FDOT and Clean It Up, Green It Up organize volunteer efforts to clean up roads. FDOT sponsors the Adopt-A-Highway program, which obligates community groups and businesses who volunteer to clean up a stretch of highway at least four times each year. The program is youth-oriented and attracts service groups that are a mix of youth and adults who supervise them.

Businesses and community groups can participate in the City's Adopt-A-Road program. Once a group makes a commitment to maintain at least one mile of road once each month, the City erects a sign identifying the business or group. Businesses pay \$300 for the sign and garbage bags, but the City provides them free to nonprofit groups. In addition to 13 businesses, most participants are from churches, schools, fraternal, or neighborhood associations.

Clean It Up, Green It Up organizes concerned citizens who pick up litter during annual single-day events on Jacksonville beaches and waterways. In 2001, a total of 1,866 volunteers picked up litter during two beach cleanups and the St. Johns River Celebration. A total of 50,780 pounds of litter was picked up in 2001 during three cleanups.

Table 7: Litter on roads picked up by volunteer groups – 2001			
	Amount of trash picked up	# of volunteers	Hours of volunteer time
Adopt-A-Highway	28,381 lbs.	1,150	3,469
Adopt-A-Road	8,187 bags	9,002	32,580

Sources: Florida Department of Transportation, Jacksonville Clean It Up, Green It Up Division

## Public efforts

Public agencies clean up roads, drainage ditches, and storm sewers because of the need to maintain public infrastructure. Also, streets are swept so that buildup of sand and plant material does not clog road systems. Crews pick up litter on roads before mowing easements, rights-of-way, medians, and parklands.

### Roadways

FDOT sweeps Jacksonville's major roads once each month, except that I-295 at the Buckman Bridge receives weekly sweeping, and I-95 receives bi-weekly sweeping. Only roads with a curb or barrier wall can be swept. Debris that blows into median strips and roadside rights-of-way is picked up by FDOT before mowing. Although crews do not mow during the non-growing period between November and March, FDOT removes litter monthly.

SWARM sweeps all the streets in the core city every four to six weeks. The City anticipates that SWARM will become responsible for all street sweeping in the future. Until then, the Streets and Drainage Division of the Public Works Department remains responsible for sweeping 1,800 streets not located in the core city. Citizens may request sweeping. The Division may respond, depending on whether the street has a curb and gutter and on how far it is from other streets being swept. In 2001, 34 streets were added to the list of those being swept.

Table 8: Waterway Cleanups in Duval County in 2001			
	Pounds of trash picked up	# of Volunteers	Sponsored by
St. Johns River Celebration	40,000	1,301	Clean It Up, Green It Up and JEA
July 5th Beaches Clean-up	2,340	111	Clean It Up, Green It Up and Beaches Sea Turtle Patrol
Florida Coastal Clean-up	8,440	454	Clean It Up, Green It Up, Ocean Conservancy and Keep Florida Beautiful

Source: Jacksonville Clean It Up, Green It Up Division



According to the 2001 Florida Litter Study, 24 percent of litter on roadways is vehicle parts and tire debris. Because picking up tire treads on a highway is a safety hazard, FDOT employees assume responsibility for the pickup and disposal of tire debris. A resource person reported that non-maintenance employees usually drag tire treads to the shoulder and let FDOT maintenance crews pick them up later because tire rubber must be disposed of in FDOT maintenance yards. FDOT has no record of how many tire treads are picked up each year.

## Bus stops and medians

The JTA cleans litter from the 6,500 bus stops in Duval County. Each bus stop and a 10 square foot area around it is cleaned about once every three months.

The Public Works Department picks up illegal stick signs that appear in City rights-of-way as labor and financial resources allow. The Department has no enforcement responsibility, so the sign removers do not cite or penalize violators. The Department of Public Works also mows City rights-of-way and picks up litter before each mowing. Rights-of-way are mowed monthly during the rainy season and less frequently during the rest of the year.

## Parks

The Park Maintenance Division of the Parks and Recreation Department picks up litter and mows 2,020 acres of public park land. It picks up on a total of 4,000 to 5,000 acres because some park land requires litter removal but not mowing. Twelve park-maintenance workers are dedicated to litter removal. They pick up litter in response to complaints and reports of litter, so it is not possible to determine how often each park is cleaned. Another 30 to 40 workers pick up litter when assigned to specific parks, but their positions are not dedicated to this activity.



## Waterways

Jacksonville Beach and Atlantic Beach contract with Beachcombers, Inc. to pick up visible litter on beaches. A City of Neptune Beach employee picks up litter on its beach. Litter pickup is performed every day in conjunction with emptying trash cans. Resource people estimated that 20 percent of the total volume of trash removed daily consists of litter picked up from the sand.

## Cleanup in conjunction with enforcement

The Property Safety Division cleans up vacant lots and abandoned properties that violate City law. Once they receive a citation, owners must clean up their property within fifteen days. If the owner refuses, the City contracts for trash removal and mowing.

## Recent developments

In February 2002, the City of Jacksonville fielded five new litter crews whose sole responsibility is to pick up litter in residential areas and along roads. Each crew includes a driver holding a civil-service position plus four temporary employees. Two crews work in the core city and a crew is assigned to each of the three contractor areas on the Northside, Westside and Southside. This new effort allows the City to respond to litter complaints five days a week, all year long.

Currently, the Public Works Department is installing baffle boxes into storm drains in the Riverside area with a grant from the DEP. The baffle box is one type of technology that separates litter from storm water, thus preventing the litter from entering the River. One year after their installation, DPW will evaluate the performance of this new technology to determine its costs and benefits. The DPW anticipates that the evaluation will also reveal how much litter enters the St. Johns River through the storm-sewer system.



## Costs of litter

**Litter costs citizens directly because public prevention, enforcement, and cleanup costs are covered by taxes. Citizens also pay indirect costs for the negative results of litter, including deteriorated neighborhoods, increased crime, and increased health and safety risks. Litter also costs the community by reducing the quality of life enjoyed by citizens.**

### Direct costs

The direct public costs of litter include labor and supplies for prevention programs such as anti-litter awareness, law-enforcement activities dedicated to litter-law violations, and cleanup efforts such as street sweeping and litter pickup before mowing of public rights-of-way. See **Table 9** for the breakdown of state and local government direct costs in fiscal year 2001-02 in Duval County.

### Prevention

Of \$660,282 budgeted for anti-litter public information and awareness, 96 percent is spent by the City of Jacksonville. The State of Florida provides the rest through a grant from Keep Florida Beautiful. The grant covers expenses for the Adopt-A-Road program for road signs, t-shirts for the St. Johns River Celebration, and bags and gloves for neighborhood cleanups.

In fiscal year 2000 the Mayor's Office spent \$250,000 for the implementation of the "Don't Trash Jacksonville" advertising campaign. It also paid \$8,000 for opinion-poll research on littering and the impact of the ad campaign. In fiscal year 2001, it spent \$350,000 for the campaign and anticipates spending \$300,000 in 2002, bringing the total cost of "Don't Trash Jacksonville" over these years to \$908,000.

The cost of waste collection, the City's main deterrent to litter, is \$37.1 million, which represents 98.3 percent of all prevention costs. The \$660,282 spent on public information and awareness efforts is tiny by comparison. The cost of collection and disposal of residential garbage is funded through a combination of tipping fees paid to deposit waste at the City's landfill and the City's General Fund, half of which is paid for with property taxes.

### Enforcement

The JSO, the Florida Highway Patrol, and FDOT do not budget specifically for enforcement of anti-litter laws, although such enforcement is among their responsibilities. However, ISIU spends about half of its resources investigating illegal dumping and other reports of litter violations. ISIU estimates that it spends \$173,500 annually on investigations of litter violations. ISIU receives funding from the following agencies: JEA (41 percent); JSO (56 percent); SWARM (3 percent).

When waste collection is included in the total cost of reducing litter, law enforcement represents 0.4 percent. If waste collection is excluded it represents 4 percent.

## Cleanup

Of the \$3.8 million in public funding spent on litter cleanup, 26 percent is funded by the state and 74 percent by the City.

Although public spending for cleanup is documented in Table 9, the value of private efforts is more difficult to document because data are not available. The 1999 Florida Litter Study found that, among ten major Florida cities, businesses in Jacksonville spend out of their own funds the least amount for litter cleanup, \$849.73 on average annually. Fort Lauderdale businesses spend an average of \$1,950 annually to clean up litter.

Table 9 does not document in-kind donations and volunteer hours spent on cleanups because the full value of these private contributions and efforts cannot be documented. The value of some volunteer hours and in-kind donations can be captured. For instance, multiplying the 43,634 hours of volunteer time reported in 2001 for the St. Johns River Celebration, neighborhood cleanups, and Clean It Up, Green It Up Adopt-A-Road program by the minimum wage, \$5.15 per hour, yields a value of \$224,715. Similarly, 3,469 volunteer hours reported for FDOT's Adopt-A-Highway program yields a value of \$17,865. Volunteer hours are documented for the cleanups organized by FDOT and Clean It Up, Green It Up. However, other groups organize cleanups, and individuals clean up their own neighborhoods and properties, and data on these efforts are not available.

The value of corporate in-kind donations of bags, t-shirts, gloves and other items for publicly sponsored cleanups totaled \$8,300 in 2001. If these calculations of the value of documented volunteer time and in-kind donations are totalled, the result is \$141,816, or 3.7 percent of the public direct cost for cleanup alone.



**Table 9: Direct costs of reducing litter in Duval County in 2001-2002 state and local budgets**

<b>Prevention</b>		<b>Percentage of Total</b>
<b>Public information and awareness</b>		
Clean It Up, Green It Up		
signs, t-shirts, bags & gloves	\$24,814	
support staff	\$75,468	
SWARM residential mailing	\$250,000	
Mayor's Office anti-litter advertising campaign	\$300,000	
Trashbusters	\$10,000	
<b>subtotal</b>	<b>\$660,282</b>	<b>1.6%</b>
<b>Waste Collection</b>		
residential	\$36,000,000	
downtown businesses	\$832,969	
bus stops		
waste receptacles	\$21,888	
emptying receptacles	\$80,054	
beaches		
Atlantic Beach	\$35,800	
Neptune Beach	\$26,000	
Jacksonville Beach	\$75,266	
<b>subtotal</b>	<b>\$37,732,259</b>	<b>98.3%</b>
<b>Total</b>	<b>\$38,392,541</b>	<b>90.6%</b>
<b>*Enforcement</b>		
Interagency Special Investigation Unit (ISIU)	\$173,500	
<b>Total</b>	<b>\$173,500</b>	<b>0.4%</b>
<b>Cleanup</b>		
<b>Street sweeping</b>		
SWARM	\$952,071	
FDOT	\$469,334	
Department of Public Works	\$250,000	
<b>subtotal</b>	<b>\$1,671,405</b>	
<b>Litter pickup</b>		
FDOT	\$519,045	
Department of Public Works		
storm sewer cleaning	\$328,000	
removal of illegal signs from medians	\$84,000	
Downtown Rangers	\$65,000	
picking up litter and mowing medians	\$90,000	
SWARM	\$1,030,363	
Volunteer cleanups		
Clean It Up, Green It Up	\$1,454	
Bus stops	\$6,000	
Illegal Dumping	\$107,500	
<b>subtotal</b>	<b>\$2,231,362</b>	
<b>Total</b>	<b>\$3,795,267</b>	<b>9.2%</b>
<b>Total for all activities</b>	<b>\$42,361,308</b>	<b>100%</b>
* Many instances of enforcement are not documented and therefore not budgeted.		
These include warnings and tickets issued for littering.		

Sources: City of Atlantic Beach, City of Jacksonville Beach, City of Neptune Beach, Jacksonville Clean It Up, Green It Up, Department of Public Works, Florida Department of Transportation, Interagency for Special Investigations Unit, Jacksonville Transportation Authority, Mayor's Office, Solid Waste and Resource Management

## Indirect costs

Indirect costs of litter are even more difficult to quantify than direct costs, but they are important because they reflect the consequences of litter in our environment. Although resource people could not quantify the impacts, they described the indirect costs of litter to Jacksonville citizens on the community's economic stability, its health and safety, and its citizens' quality of life.

## Economic

One of the indirect economic costs of litter includes property crime, especially theft and vandalism. In the 1999 Florida Litter Study, 78 percent of 171 Florida businesses surveyed saw a connection between litter and crime in their area. Since litter may increase crime, taxpayers may incur increased public-safety costs if litter proliferates.

Another indirect economic cost of litter is taxpayer-funded revitalization of blighted inner-city neighborhoods. Resource people, using the "Broken Window Theory," described the downward spiral of certain inner-city neighborhoods in Jacksonville. The theory suggests that when one property becomes dirty and neglected, a message is sent to residents that no one cares about it. This neglect infects nearby homes, criminals move in, property values decrease, and residents move out or abandon their homes. Resource people stated that since 1995, one out of every 4.5 houses in East Jacksonville has been abandoned. Since 1997, the Neighborhoods Department has spent \$1 million for demolition of abandoned houses in East Jacksonville and New Town. Although litter does not directly cause crime and subsequent neighborhood decline, resource people stated that litter can tip neighborhoods towards decline, a movement that may cost taxpayers for additional maintenance and revitalization of these neighborhoods.

## Health and safety hazards

Public health is at risk when waste is out of place and litter accumulates. In rural areas especially, waste tires may collect water and breed mosquitoes that spread diseases. Also, improperly disposed of biomedical waste poses health hazards to children and people digging through a dumpster or pile of trash.

Litter can cause safety hazards, too. Accumulation of small litter may seem an aesthetic problem but it can clog storm drains, which may lead to flooding. In August 2000, following a rain storm, a gasoline tanker overturned and exploded, killing the driver. The accident occurred because debris blocked an underground drain, causing runoff water to cover the road. According to *The Florida Times-Union*, FDOT does not discover these blocked drains until flooding occurs.

Litter from unsecured loads can also be hazardous to motorists. In 1999, a pickup truck on the Buckman Bridge lost its extension ladder. The ladder skidded into the highway and caused drivers to slam on their brakes. A tractor-trailer truck collided with a pickup truck and two people died.

## Quality of life

Litter contributes to visual pollution in Jacksonville. JCCI's 1985 study on *Visual Pollution* states that "visual pollution controls enhance the economic environment while contributing a positive feeling of the people about their city." Litter in Jacksonville's roads, beaches, and neighborhoods negatively affects citizens' quality of life and civic pride, decreasing their ability to raise their families in a clean and beautiful place.

## Barriers to reducing litter

**Individual behavior, policies, available resources, and public attitudes create barriers to litter reduction. Barriers to litter prevention include waste-collection problems and lack of coordinated public-information efforts. Enforcement barriers include a gap between frequent littering behavior and the infrequent citations issued against people who litter. Barriers to cleanup efforts include public maintenance policies that achieve a minimum level of cleanliness but not a litter-free environment**

The barriers to reducing litter take the form of gaps in services and activities. Resource people identified gaps in prevention of litter, enforcement of litter laws, and cleanup activities. Some gaps result from policy problems. Others are due to behavior of individuals, agencies, and companies. Some exist because of a lack of resources.

## Prevention

Two litter-prevention efforts meet barriers to reducing litter. First, waste collection, a major preventive measure against litter, is not always adequate. Second, anti-litter awareness efforts in Jacksonville are limited.

- **Yard waste:** The City's policy limiting collection to five cubic yards of waste is frequently exceeded by residents. Any remainder is left on the curb until the following week. Some residents also exceed the City's limit for limbs and branches of under five feet in length and less than six inches in diameter. Such yard waste sits on the curb until the resident complies with the policy.
- Many citizens are unaware that the City picks up waste tires, furniture, and major appliances. Some illegally dump these items near a dumpster because they do not know how to dispose of them properly, reflecting a gap in public-information efforts. Another gap in public-information efforts concerns the disposal of household hazardous wastes. Many residents do not know that paints, batteries, antifreeze, and other household hazardous wastes should not be thrown into residential garbage. Although a household hazardous waste collection facility is open six days per week, few residents know of its existence.



- The City's waste-collection service does not collect garbage from vacant lots.
- The policy governing residents' choice of container for their residential garbage is a problem. Residents are not required to place their residential garbage in a can and many place it in a bag that is easily torn when placed curbside.
- Waste-collection services are not standardized. The City does not serve commercial properties, apartment complexes, and condominiums, and so control of waste collection is left to owners and managers in the private sector. The size of waste receptacles used and frequency of pickup arranged for depends on the attitudes and awareness of property owners and managers. This is a policy issue involving the lack of standards for commercial waste collection.
- The City's major public-information effort targets a small segment of the population, males ages 18 to 25. The ad campaign's target audience is dictated by well-informed research on littering behavior, but the effort is not well coordinated with volunteer cleanups and other prevention activities.
- No anti-litter strategy integrates efforts to reduce litter at the local and state levels and among local private and public agencies.
- A lack of funding creates a barrier to providing adequate signs at exit ramps off of state highways. The Florida Litter Law requires FDOT to post signs that prohibit littering. However, no sign is placed at most exit ramps in Jacksonville.
- A similar lack of resources creates a barrier to the reduction of litter at public bus stops. Although policy prohibits food and drink on the bus, not all bus stops have waste receptacles. A policy gap also contributes to the litter problem at school bus stops. Students waiting for their buses do not have access to a receptacle because school bus stops change frequently and many are located on private property. However, the bus contractors are not required to provide a receptacle on the bus. Some bus drivers provide one and some do not.

## Enforcement

Resource people from law enforcement acknowledge the gap between the amount of litter in Jacksonville and the low priority that police officers give to litter violations. The lack of law-enforcement activity seems to perpetuate littering. Because enforcement is lax, citizens and businesses know that they can break the law with little risk of penalty. As a result, litter accumulates on roadways and waterways, and citizens become desensitized to its presence. This in turn creates another barrier to the reduction of litter: public attitudes of not caring. Citizens accept a certain level of cleanliness in their daily activities, whether driving, boating, or walking through their neighborhood. When citizens are desensitized to litter, they tolerate more of it and reduce their expectation for

comprehensive waste collection, effective anti-litter education, and law-enforcement activities.

## Cleanup

Barriers to cleaning up litter exist because of gaps between the amount of litter on the ground and the resources available for its cleanup.

- Resource people from FDOT and JTA observed that their maintenance budgets are limited and that frequency of litter pickup is tied to resources, not the appearance of visible litter. FDOT, JTA, and DPW policies reflect the limitation of resources. They are mandated to provide litter pickup to the extent necessary for infrastructure maintenance. Responding to aesthetic values and citizen complaints of litter is not within their mandate.
- The City cleans and mows vacant lots if owners have failed to do so following a property-code violation. This cleanup process is slow, however, because the investigation process protects property owners, and because of lack of resources. Forty-five Code Enforcement Officers are responsible for all commercial and residential property code violations in Duval County. They respond, on most occasions, to citizen complaints and do not make proactive investigations of trash on vacant lots.





- No regularly scheduled litter-pickup services are available in neighborhoods. While homeowner associations may contract with a private maintenance service or neighborhood organizations may perform cleanups, these efforts depend on homeowner resources and civic pride. In areas where many residents rent, these litter-pickup strategies are less common.
- Some shoppers don't care that they are committing theft by taking carts off store premises, and stores do not press charges against shoppers who take carts. Individuals and store managers maintain these attitudes because the public tolerates abandoned shopping carts at bus stops and rights-of-way.

## Promising practices

**Other communities also face littering problems and some have developed approaches and practices that appear promising in relation to the barriers that impede reducing trash in Jacksonville. The most promising practices from elsewhere focus on promoting anti-litter awareness, citizen involvement in enforcement activities, litter pickup along waterways, and expansion of community policing to include litter-law enforcement.**

## Prevention

Advocates in Texas developed a successful public-information campaign that tapped into Texans' sense of state pride. Their slogan, "Don't Mess with Texas" is recognized by 96 percent of all Texans. The public information campaign, started in 1985, has measured its success through surveys of Texans' behaviors and their attitudes toward litter. A 2001 survey found that Texans say they are dumping about half as much litter on the highways as they were six years ago. In 1998, 20 percent of Texans admitted to littering. Of those, 7.4 percent admitted to having tossed cans and food wrappers out of their vehicle in the previous three months. In 2001, the percentage saying they throw cans or food wrappers dropped to 5 percent.

## Enforcement

Keep Alachua County Beautiful (KACB) considers its Trash Trooper program highly successful. Over 200 participants submit reports of litter violations each year in Alachua County. The majority of reports are for cigarette butts flipped out of vehicles. The reports are mailed, faxed, or e-mailed to the KACB office, which then secures the name and address associated with the reported tag number. Once KACB has the name and address, one of three types of letters is sent out, depending on the violation observed. The letters warn of laws and penalties for either illegal dumping, unsecured loads, or littering. Reactions to the warning letters vary. Some call KACB to insist that they were not littering. Sometimes the car owner did not litter and had no idea that the driver littered. Some threaten to sue KACB, but many call to say, "I'll never litter again." The annual cost of administering this program is \$500.

Like Jacksonville, Pittsburgh has an anti-litter law that is rarely enforced for misdemeanor violations. Starting in Spring 2002, the

Pittsburgh Clean Neighborhoods program will issue tickets for littering that are similar to parking tickets. The new ticketing effort is coupled with a public-information campaign warning citizens of the change in enforcement. The Bureau of Police in Pittsburgh has committed to educating its community-oriented police officers about the new ticketing procedure. Violators who elect to appeal the ticket will go before a magistrate in a local court.

## Cleanup

St. Johns County is the only county in Florida with a volunteer-staffed marine debris collection program. Two volunteers working from a 17-foot, flat-bottomed Trashbusters boat pick up about 500 pounds of debris every other Friday from the marshes of the Intracoastal Waterway. They go out at low tide to collect items that float into the marsh at high tide. Only rarely do they pull items from the water. Great quantities of litter, blown off of roads, are collected from underneath bridges. The director of the program estimates that half of the litter is plastic bottles, cans, and cups. A total of 20 volunteers are involved, and a certified captain and a county employee are also present. Volunteers wear "Marine Litter Patrol" t-shirts, and the boat sports a "War on Trash" flag. Since a county employee is required to be present, Trashbuster trips have to be made during the work week, although volunteers would be more likely to participate on the weekend.



# Conclusions

**Conclusions express the value judgments of the committee based on the findings.**

1. Although people want a clean environment, Jacksonville continues to have a litter problem.
2. No community can completely eliminate litter; however, a community can significantly reduce it. Successful litter-reduction efforts require:
  - effective prevention efforts, which include public information and awareness campaigns;
  - strong enforcement of litter laws;
  - efficient cleanup of remaining litter; and
  - widespread community support.
3. While many believe that litter is caused simply by irresponsible motorists and pedestrians, the seven primary sources are:
  - residential curbside garbage;
  - dumpsters used by businesses;
  - loading docks;
  - construction and demolition sites;
  - trucks with unsecured loads;
  - pedestrians; and
  - motorists

In order to achieve effective outcomes, public-policy efforts to reduce litter will need to address all of these sources.

4. The Mayor of Jacksonville, in response to citizen complaints about litter, has recently increased efforts to reduce litter. New initiatives have educated citizens, increased enforcement efforts, and picked up more litter. Ongoing strong political leadership is crucial to maintain litter as a priority issue and to achieve a clean environment.
5. The City of Jacksonville lacks a comprehensive master plan for litter reduction and emphasizes cleanup activities. Because City efforts and expenditures emphasize cleanup over prevention and enforcement, littering behavior may be perpetuated, costing taxpayers more for future cleanup.
6. Jacksonville lacks:
  - a dedicated funding source for designing and implementing a comprehensive anti-litter plan;
  - long-range planning strategies; and
  - ongoing evaluation of program effectiveness.
7. Most citizens do not see the litter in the St. Johns River or its tributaries and wetlands, so they do not give litter cleanup appropriate priority. Although great quantities of land-based

litter eventually enter the River, cleanups are inadequate and poorly funded. Annual single-day events recover great quantities of litter from the River, but Jacksonville lacks publicly-funded, regularly-scheduled cleanups.

8. Efforts to prevent litter from entering the storm sewer system have been ineffective.
9. Litter cleanup efforts have had limited effectiveness because:
  - they rely on volunteers, which although positive, are insufficient; and
  - public agencies have limited funds available for litter cleanup. In particular, the City's Park Maintenance Division, Florida Department of Transportation, and Jacksonville Transportation Authority lack sufficient funds for litter cleanup.
10. Some City collection policies and practices have unintended effects which contribute to litter or illegal dumping. These include:
  - allowing garbage to be placed on the curb in a plastic bag or placed inside a can without a plastic bag;
  - not collecting residential garbage at vacant lots;
  - collecting limited quantities and size of yard waste;
  - requiring residents to drop off household hazardous waste at a single collection site; and
  - providing insufficient waste receptacles in public spaces such as rights-of-way, City parks, and bus stops.
11. Efforts to eliminate litter around bus stops for both school and public buses are inadequate or non-existent. Because efforts to prevent litter at bus stops are not sufficient, bus riders litter neighborhoods and roadways. The lack of waste receptacles on public school buses encourages students to litter.
12. Because Duval County Public Schools have no system-wide policy for litter prevention, some schools are littered, which undermines other anti-litter education efforts.
13. While many commercial property owners keep their properties clean, some do not. Because these property owners are not held accountable for litter, they do not clean it up.
14. Lack of coordination between the Solid Waste and Resource Management Department, the Property Safety Division, and the Jacksonville Sheriff's Office means that many nuisance violations based on litter on residential and commercial properties are not reported and investigated.
15. Litter laws in Jacksonville are not effectively enforced—especially non-criminal offenses which, while individually small, accumulate to large litter problems. Insufficient enforcement of the

Traffic Code provision prohibiting unsecured loads increases litter on roadways and the risk of traffic accidents. Penalties for breaking litter laws may be sufficient, but litter laws are not sufficiently enforced to change littering behavior.

16. Jacksonville has insufficient public warning signs to deter littering and dumping behavior.
17. Some procedures followed by the Property Safety Division are inadequate:
  - Because cleanup of nuisance lots is limited to 100 feet from adjacent properties, large lots often remain an eyesore.
  - Because the law requires a lengthy process of investigation, citation, and cleanup, which is slow, violating properties often attract more litter, which contributes to neighborhood decline.

18. Current mechanisms to inform residents of residential waste-collection procedures are ineffective. Despite annual informational mailings and a new Call Center, Jacksonville residents continue to dispose of major appliances, yard waste, tires, and household hazardous waste improperly.
19. Texas has invested sufficient time and money in its "Don't Mess with Texas" public information campaign over the past 17 years to reach a broad audience and significantly reduce roadside litter. Jacksonville lacks a similar long-running public-information campaign.
20. The educational approach used by Keep Alachua County Beautiful, which engages citizens as reporters of violations, has had some success. This Trash Trooper program holds promise for reducing litter in Jacksonville.
21. The practice of collecting garbage daily in the downtown business district results in a cleaner downtown.





# Recommendations

**Recommendations are the committee's specific suggestions for change, based on the findings and conclusions.**

1. The City of Jacksonville should develop a strategy that implements a zero-tolerance policy for litter in the community. The strategy should have six elements:
  - a) The Jacksonville Mayor should propose, and the City Council should approve a zero-tolerance litter policy for the City of Jacksonville.
  - b) The Mayor should authorize development of a master plan to implement the zero-tolerance policy. The planning process should include review of all applicable policies and laws. The master plan should integrate the three types of litter-reduction activities:
    - Prevention of litter through enhanced public-information campaigns, improved waste-collection services, and sufficient provision of waste receptacles in public areas;
    - Effective enforcement of all laws and statutes that support the zero-tolerance litter policy; and
    - Clean up of litter that remains despite efforts to prevent it and to enforce against it.
  - c) Agencies in the City of Jacksonville responsible for enforcing existing anti-litter laws should effectively and completely enforce all of the policies and laws, consistent with the master plan.
  - d) The Mayor should establish by executive order a litter reduction department or division to implement the master plan. Relevant resources from existing departments should be consolidated into the litter reduction department or division based on the three functions of the master plan. Current resources dedicated to litter prevention, enforcement of litter laws, and cleanup should be reorganized and managed by the head of the department or division.
  - e) The Mayor should establish by executive order a Litter Reduction Commission that reflects broad representation from business, medical, military, nonprofit, and City organizations, as well as individual citizens. Active participants should include at least Greenscape, JaxPride, JEA, Duval County School Board, the Jacksonville Sheriff's Office (JSO), the Neighborhoods Department, Solid Waste and Resource Management (SWARM), the Interagency Special Investigations Unit (ISIU), the Department of Public Works, Department of Parks, Recreation and Entertainment, Jacksonville Transportation

Authority (JTA), the Duval County Maintenance Division of the Florida Department of Transportation (FDOT), the St. Johns River Water Management District, the Riverkeeper, Florida Department of Law Enforcement, the Florida Department of Environmental Protection, and concerned citizens. The charge of the Litter Reduction Commission should be to oversee the progress of the master plan, hold the head of the litter reduction department or division accountable for the implementation of the master plan for litter reduction, and ensure that Jacksonville becomes a clean city. The Commission should establish and maintain official affiliation with Keep Florida Beautiful and Keep America Beautiful.

- f) The Jacksonville City Council should provide sufficient funding to implement the zero-tolerance litter policy fully through implementation of the master plan. Funding should support the consolidation of current City services that prevent, enforce against, and clean up litter. Funding should also support the Litter Reduction Commission.

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**Note:** *The intent of the study committee is that the litter reduction department or division should implement recommendations 2 through 9 when it is operational. Until that time, existing departments and agencies should begin implementing recommendations 2 through 9.*

2. The City Council should authorize SWARM's Compliance Officers to enforce residential waste-collection ordinances and issue tickets to violators.
3. SWARM should provide for periodic clean up by contractors of litter from the St. Johns River, its tributaries, and wetlands.
4. The Mayor's Office should redesign its anti-litter public information to target a broad range of Jacksonville citizens through several different messages targeted to specific types of citizens.
5. SWARM should supplement FDOT's 12 annual litter cleanup cycles on major highways to keep them continually clean.
6. The City of Jacksonville should take responsibility to ensure the availability of sufficient numbers of waste receptacles, as determined by the master plan, to eliminate litter at public bus stops, in City parks, and in public areas.
7. To improve enforcement, the ISIU should develop a program that allows citizens to report a variety of violations that contribute to litter. Reports of violations should be followed up with a warning letter from the JSO and educational materials.
8. SWARM should collect properly placed residential trash from all lots, whether they are occupied, unoccupied or vacant.



9. SWARM should make mobile hazardous-waste collection more convenient for residents. SWARM should increase public awareness of their service, encourage volunteer involvement through community-service organizations, and pick up at homes on request.

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10. The JTA should ensure that all of its bus stops are kept continually litter-free and clean.
11. The Duval County School Board should establish a zero-tolerance litter policy so that school campuses and school bus stops are kept clean and students learn the value of a clean environment. The Duval County School Superintendent should implement the zero-tolerance litter policy by:
  - directing principals to keep campuses and school bus stops clean through litter prevention-education programs and student cleanups; and
  - requiring the food, custodial, and bus contractors to provide training in litter prevention and cleanup and to create cleanup performance standards for their employees.
12. The City Council should pass an ordinance requiring the placement of waste receptacles in places on commercial properties where their use will significantly reduce litter.
13. The City Council should amend the waste-collection law to expand the limit on the quantity of yard waste picked up at any one time.
14. The City Council should increase funding for the Property Safety Division to provide more frequent proactive citation of nuisance lots, rather than relying on citizen complaints.
15. The City Council should authorize Jacksonville Clean It Up, Green It Up to clean up litter from and mow any part of a lot found to be in violation of the nuisance code, without restricting efforts to only the 100 feet from an improved property.



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# Resource People

The JCCI study process relies on information supplied by knowledgeable resource people, in addition to published reference materials. We wish to thank the following for their contributions to this study.

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Committee members met together on 23 Wednesday mornings from October through April. In addition, the management team met several times to provide guidance and direction for the study. The committee received information from 29 knowledgeable resource people and additional written materials researched by JCCI staff.

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