



Global Perspective.
Innovative Research.
Superior Results.

2003 Texas Litter Study:

***** A tracking study of Littering Habits and Effectiveness of Litter
Prevention Campaigns *****



Wilson Research Strategies

Prepared for Enviromedia and The Texas Department of Transportation

January 2004

For questions or comments related to this study, please contact:

Chris Wilson, Chief Executive Officer
8484 Westpark Drive, Suite 800
McLean, VA 22102
cwilson@w-r-s.com
(p) 703.744.7990
(f) 703.744.7840
www.w-r-s.com

© 2004 WRS. All rights reserved. Neither this publication nor any part of it may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of WRS.



Table of Contents

Executive Summary	3
<i>Overview</i>	3
<i>Key Findings</i>	3
Recommendations and Conclusions	4
Next Steps	5
Introduction	6
Methodology	6
Sample Demographics	6
Survey Notes and Limitations	7
Survey Findings	8
<i>Defining Litter Behavior</i>	8
<i>Littering Behavior</i>	9
<i>Recency of Littering</i>	10
<i>Littering Attitudes</i>	11
<i>Personal Actions to Stop Littering</i>	12
<i>Audience Segmentation</i>	13
<i>Report a Litterer/GOTCHA Program</i>	15
<i>Who Picks Up Litter On Texas Roads</i>	16
<i>Adopt-A-Highway Program</i>	17
<i>Willingness to Participate in a Volunteer Program</i>	17
<i>Messaging</i>	18
<i>Actions of Campaign to Reduce Litter</i>	19
<i>Actions of Individuals to Reduce Litter</i>	19
<i>Continuing the DMWT Campaign</i>	20
<i>Litter Prevention Advertising Awareness</i>	21
<i>DMWT Ad and Slogan Recall</i>	22
<i>DMWT Campaign Sponsor</i>	24
<i>Mediums of DMWT Advertisements</i>	25
<i>Meaning of DMWT</i>	26
<i>Lifestyles</i>	26
<i>Entertainment and Media</i>	27
<i>Trucks and Truck Beds</i>	28
Breakdown of Demographic Target - Youth	29
<i>Litter Advertisement Recall</i>	29
<i>Litter Prevention Tactic</i>	29
<i>Messaging</i>	30
<i>Entertainment</i>	30
<i>Favorite Type of Music and Favorite Musician</i>	31
<i>Suggestions for Spokespersons</i>	32
<i>Meaning of DMWT</i>	33
Breakdown of Behavioral Segment – Gross Litterers	33
Breakdown of Behavioral Segment – Micro Litterers	34
Recommendations and Conclusions	36
Next Steps	38
APPENDIX A: Documentation of Methodology	39
APPENDIX B: Questionnaire	41
APPENDIX C: Master Questionnaire with Raw Frequencies	54



Executive Summary

Overview

- WRS was commissioned by Enviromedia to conduct a research study in December 2003 for the Texas Department of Transportation (TxDOT) regarding the opinions, attitudes and behaviors of Texans with regard to littering. The 2003 study was based on and similar to the one conducted in 2001, thereby allowing for comparisons to be made to the previous study's results.
- The survey results presented in this report are derived from a statewide research study of 1,253 Texas residents. The sample was stratified by region, gender, age, and race to ensure for proper representation of the Texas population. The interviews were conducted, via telephone, on December 10-12, 2003.

Key Findings

- Recent littering recall has decreased significantly in many areas since 2001, with the exception of Micro Litters, indicating an overall decrease in littering activities in the past couple of years. Nearly half of Micro Litterers only litter in one situation, making them easy targets for reform.
- The majority of Texans perceive candy wrappers, chip bags, small pieces of paper (receipts, lottery tickets), and cigarette butts as minor litter, while beer/soda cans and bottles, and construction debris are perceived as severe litter. This has remained largely unchanged since 2001.
- Texans are more likely to pick up litter they see and tell others that it is wrong to litter than they were in 2001. These are also the most common actions individuals take to stop litter from cluttering Texas.
- Age is far less a predictor of littering behavior than it was in 2001, as are nightlife and marital status. These are, however, leading predictors. Smoking has increased in its correlation with littering in the past couple of years.
- The majority of Texans would be likely to report a litterer using an anonymous system, but only 35% would use a website. Only 10% of the population has heard of the "Report a Litterer" or the GOTCHA campaign.
- Forty percent of Texans believe prisoners are most responsible for cleaning up the highways. Only six percent correctly guess paid contractors.
- Seventy-nine percent of Texans have heard of the Adopt-A-Highway program, but this number has not changed significantly since 2001. Of those that have heard of it, three fourths knew what the program was all about.
- A majority (53%) of Texans would be likely to volunteer for a program to pick up litter from Texas highways. Fourteen percent of Texans claim that they would need more time in order to volunteer, while others claim they would volunteer if they were more able, got money, or if more people participated.
- Most Texans feel that the most productive message for litter prevention is that it costs the state \$32 million to pick up all the trash. Costs associated with littering are present elsewhere, as individuals point out that they would tell someone they could get fined if they litter to stop another from littering.
- Resoundingly, Texans feel that creating litter prevention awareness material for elementary school age children would be most beneficial to the litter prevention campaign.

- Eighty-five percent of Texans feel that the Department of Transportation should continue with the “Don’t Mess With Texas” campaign. Sixty-two percent of Texans (down 14% since 2001) familiar with the DMWT campaign correctly identify the meaning.
- The majority of Texans (58%) can not recall seeing an advertisement or public message related to litter or littering in the past three months. However, recent messages are in the minds of Texans more than they were in 2001.
- Seventy percent of self-reported littering occurs while driving or traveling in a vehicle, up from 66% in 2001. Littering occurs equally in public and private.
- By far, President Bush is the most common response when Texans under the age of 24 are asked who they would like to see in a litter prevention advertisement (11%). Willie Nelson is the second most popular response (4%).

Recommendations and Conclusions

There is no arguing that the DMWT umbrella campaign has been wildly successful in shaping public opinion on littering over the years; however, as is shown in the body of the study, there are a number of areas for improvement. Rather than advocate an incremental, cure-the-symptom improvement strategy, WRS recommends a more proactive and comprehensive approach that addresses the underlying causes of littering – taking personal responsibility. WRS has outlined a three prong campaign that represents a cost-effective set of strategies and tactics that will provide a step-function decrease in littering in the state of Texas.

1. **Cause and Effect: Advertising Campaign** – First and foremost, motivate the individual litterer to change his/her habits. From the message testing, it became obvious that individuals responded the most to hard data discussing the costs associated with littering. Here we recommend specific messages that educate all ages and segments on both the direct and indirect/hidden costs associated with littering. Potential economic messages include the increase in clean-up costs and the decrease in the travel industry, real estate value, and wildlife population. Much more detail is provided in the body of the summary.
2. **Reform a Litterer: Advertising Campaign** – As is shown in the study, less than 10% of respondents are willing to say something to a litterer. To increase this percentage, an advertising campaign can transform the DMWT slogan into a rallying cry, thereby making people more comfortable saying something firm yet positive like “Don’t Litter, It Costs me Money”, knowing they have the state of Texas behind them. By turning each and every Texan into a potential Guardian Angel of litter, peer pressure will be applied and litterers will think twice before littering knowing anyone, not just law enforcement, could call them out on littering.
3. **Get Involved: Grassroots Campaign** – Raise the awareness of all the state and local programs that are geared towards keeping the environment clean. We can increase recruitment of the people that feel most passionate about this topic (Militants, Non-litterers and Litter Tolerators). Various reward programs can be implemented to motivate people to get involved. This increase in interest and support of keeping Texas clean will help facilitate the transformation of litterers to non-litterers. This new and invigorated set of “influencers” will have a few simple over-arching goals, such as raising awareness of the issues, recruiting litterers to participate, actively clean-up communities, and promoting a prevention program.

Although these three campaigns will cut across segments, it is important to focus them first on the individuals with the most room for improvement – younger Gross and Micro-litterers. Obviously, when evaluating the different targeting tactics, the important predictors (age, smoking, partying, marital status, and eating habits) and hundreds of permutations must be taken into account when determining the most appropriate message, messenger, and communication channel.

Next Steps

Below are a few areas that would provide additional insight on how to reduce overall littering activities in Texas:

1. Conduct an economic impact study on littering to understand the actual costs to the state of Texas. This study would take into account direct effects such as collection and removal costs, lost revenues to tourism, loss of the environment, decrease in real estate value, and indirect effects such as lowered tax revenues, increased unemployment, etc.
2. Develop a simple littering scorecard used for a short quarterly tracking study that corresponds to ongoing advertising efforts. This will allow us to estimate the actual effectiveness of each campaign.
3. Survey individuals from surrounding U.S. states and Mexico that travel to Texas on a regular basis to better understand the impact they have on in-state littering and how their opinions differ from Texans' opinions.
4. Conduct mock littering experiments to gauge public reaction and level of intervention. Conduct in-depth interviews with participants, and potentially focus groups, to better understand resistance to intervention and potential systems to report those acts.
5. Create a panel of Gross and Micro-litterers and track their littering habits over time to identify key areas of influence.
6. Determine the public perception of who picks up after litterers on Texas roads in order to find disconnects between perception and reality, perhaps finding sources of attitudes toward littering.



Introduction

The following summary report details the methodology and results of the aforementioned Texas statewide research study which was conducted by Wilson Research Strategies (WRS) for Enviromedia and TxDOT. This survey assessed Texans' littering attitudes and behaviors, and documented how these attitudes and behaviors have changed since 2001, when a similar study was conducted. Other survey goals included the collection of data on the effectiveness of the "Don't Mess with Texas" (DMWT) litter prevention public education campaign, including advertisement, slogan, and logo awareness and recall, public recognition about the State Adopt-A-Highway program, and the feasibility of alternative litter prevention campaigns. The study also captured lifestyles, preferences, and demographic characteristics of Texans.

Methodology

The survey was conducted with 1,253 Texas residents on December 10-12, 2004. The primary sample for the study was n=1,203 Texans age 16 and older. WRS then conducted an over-sample of n=50 16-24 year olds for a total sample size of n=1,253 respondents. The purpose of the over-sample was to acquire more data points from the targeted universe of younger Texans who have been found in previous studies to be those most likely to litter. Households were selected at random by geographic region (see Appendix for more information) for both samples. Unlike the 2001 study, WRS quadruple stratified the sample (by region, race, age, and gender), so weighting of the results was unnecessary and the sample reflects that of the Texas population in accordance with the latest U.S. Census Bureau statistics.

Sample Demographics

STRATIFICATION OF POPULATION BY REGION

Population Stratified by Region	Completed Interview
High Plains	50
Northwest Texas	37
Metroplex	324
Upper East Texas	64
Southeast Texas	50
Gulf Coast	300
Central Texas	124
Upper South Texas	125
West Texas	41
Upper Rio Grande	38
Lower South Texas	100
TOTAL	1253



DEMOGRAPHICS OF SAMPLE

DEMOGRAPHICS	% OF SAMPLE
Gender	
Male	50%
Female	50%
Income	
Less than \$20,000	13%
\$20,000-\$40,000	18%
\$40,000-\$60,000	17%
\$60,000-\$75,000	9%
\$75,000-\$100,000	8%
Over \$100,000	5%
DK/Refused	29%
Age	
16-24	19%
25-34	19%
35-44	19%
45-54	17%
55-64	11%
65+	14%
Race	
White	59%
Hispanic	29%
African American/Black	10%
Asian	1%
Other	1%

Survey Notes and Limitations

1. Many of the skip patterns used in the 2001 survey instrument were not used in the 2003 survey. In effect, respondents offered additional information in certain areas that was not required in the 2001 study. TxDOT, Enviromedia, and WRS all agreed the benefits of having additional information outweighed any small potential downside of biasing the respondent.
2. NuStats did not explicitly explain their segmentation methodology. WRS reverse-engineered the methodology and applied the same approach to 2003 to maintain consistency in tracking. WRS identified certain areas where NuStats made several unwarranted assumptions. One area of specific concern is the potential for respondents who admitted to a littering activity within the past three years could be grouped with the Litter Tolerators or Militant Non-Litterers if they failed to admit their personal involvement in a specific littering activity.
3. Because NuStats data was only stratified by Region, it was necessary for them to weight the data set, and ultimately the results for 2001. WRS set quotas based on region, gender, age, and race and could therefore utilize the raw data as being representative per the latest U.S. Census figures.



Survey Findings

This section reports the detailed results and analysis of the study.

Defining Litter Behavior

Based on self-reported admissions, 23.6% of Texans were personally involved in littering behavior in the past three months. In this study, Gross and Micro Litterers were classified first by self-reported involvement in a littering activity within the past three months (from Q11), and second, by the kinds of items they discarded (from Q18). Texans who admitted to involvement in littering behavior and then admitted to personally discarding "major" items, are classified differently than those who admitted to littering behavior and admitted to personally discarding "minor" items.

Reformed Litterers are classified as Texans who personally admitted to littering. Unlike the Gross and Micro Litterers, however, their littering took place more than three months but less than three years ago (from Q11).

Litter Tolerators are Non-Litterers—meaning that they have not admitted to personally littering within the past three years— who observed littering behavior in the past 36 months and failed to take actions to thwart the littering. In this way, Litter Tolerators are held accountable for littering behavior of people they associate with, although they were not directly involved in the behavior.

The definitions of major and minor litter items come directly from Texans, based on the types of items they perceive as major and minor litter. The majority of Texans perceive candy wrappers, chip bags, litter from pick-up trucks, and cigarette butts as minor litter, while beer/soda cans and bottles, and construction debris are perceived as major litter.

As in the 2001 study, adult Texans are classified into five distinct segments:

Gross Litterers	Those who admit to involvement in a littering activity in the past three months, and then admit to personally discarding certain "major" items, such as cans, bottles, and tire debris. These people account for 4.2% of adult Texans.
Micro Litterers	Those who admit to involvement in a littering activity in the past three months, and then admit to personally discarding certain "minor" items, such as cigarette butts, candy wrappers, and paper (such as lottery tickets). This group makes up 19.4% of the adult Texas population.
Reformed Litterers	These people admit to involvement in a littering activity (either Gross or Micro) that took place more than three months ago, but within the past three years. This group represents 14.6% of adult Texans.
Litter Tolerators	The people in this group have not personally littered, but have friends or associates that have littered. They are called Tolerators because they have not told someone they see littering that it is wrong to do so or taken other actions to thwart littering. This group totals 6.9% of the adult Texas population.
Militant Non-Litterers	People in this group either have never littered themselves and have taken corrective actions against littering when it is observed. This group represents 54.8% of the population.

As outlined in the 2001 study, for the Gross, Micro, and Reformed groups, the involvement in littering behavior was:

- **Participatory** (they personally performed the activity);
- **Intentional** (they meant to do it) or **Unintentional** (it was an accident); and
- **Severe** (such as cans, bottles, tire debris) or **Minor** (such as cigarette butts or candy wrappers)

In the Tolerant group, the involvement in littering behavior was:

- **Observational** (they saw it happen, but did not take corrective actions)

Littering Behavior

WRS used the same approach that was used in the 1998 and 2001 surveys to discover how many Texans littered or condone littering and over certain time frames. WRS studied the segmentation approach utilized in previous studies and applied it to the 2003 data for comparison purposes.

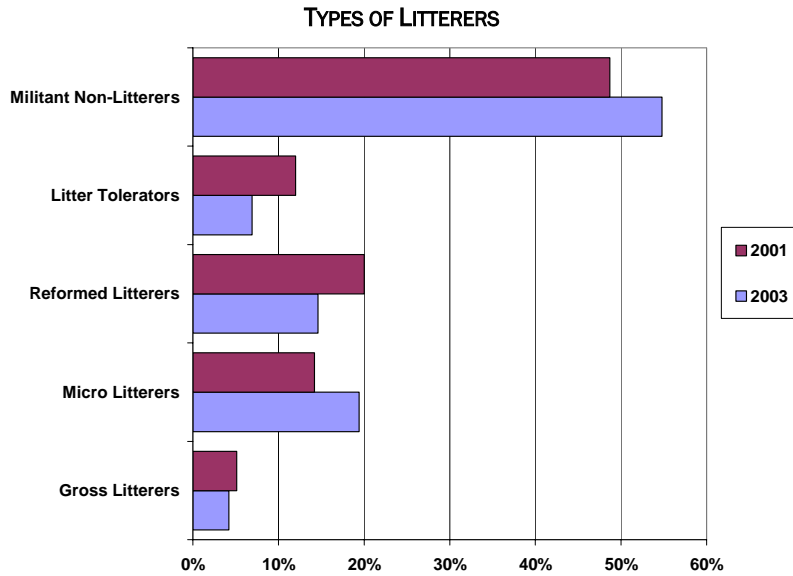
It is important to note that the segmentation of Texans into these categories is not necessarily intended to provide a tracking device in itself, but instead is mainly used to analyze the data in each individual study. It is the habits, thoughts, and demographical make-up of each of these groups that can be used in tracking analysis. Also, the segmentation process allows easy representation of problem demographics that can be targeted by the prevention campaigns. Overall littering in the State of Texas is best tracked by results of singular universal questions regarding the littering behavior of individuals, such as the findings presented under the title of "Recency of Littering" in the Results section below.

We present the differences between segment frequencies here to give a general impression of the scope of the segments. These changes do not necessarily reflect the state of littering in Texas, due to limitations in the methodology used in defining the statements.

The 2003 results show that the number of Gross Litterers has decreased slightly (from 5.1% to 4.2%), but the ratio of Micro Litterers has increased (from 14.2% to 19.4%). This increase does not represent a true increase in actual Micro Litterers, but instead a change in honesty in self-reports. Because the percentage of recent litterers dropped since 2001, we know that the sum of Gross and Micro Litters must also drop in reality. The lack of verification in the results is simply due to more Texans admitting to and taking personal responsibility for littering - a positive effect of the litter prevention campaign.

Currently, a majority of Texans (54.8%) are considered to be Militant Non-Litterers, a significant gain from 48.7% in 2001.

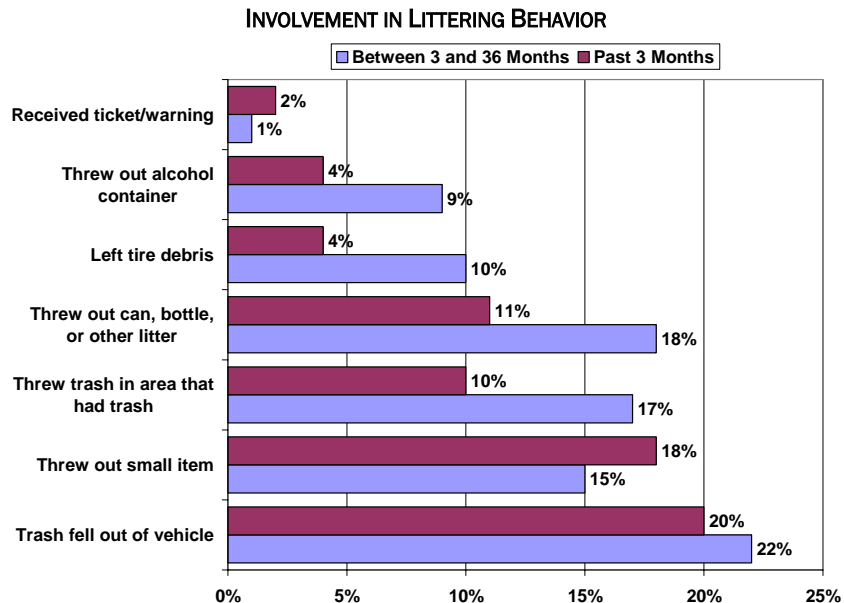
The number of Litter Tolerators and Reformed Litterers has diminished in Texas when compared to 2001. Specifically, Litter Tolerators have dropped from 12.0% three years ago to 6.9% today. Reformed Litterers have dipped from 20.0% in 2001 to 14.6% in 2003. The data suggest that a good portion of Litter Tolerators and Reformed Litterers evolved into Militant Non-Litterers.



Recency of Littering

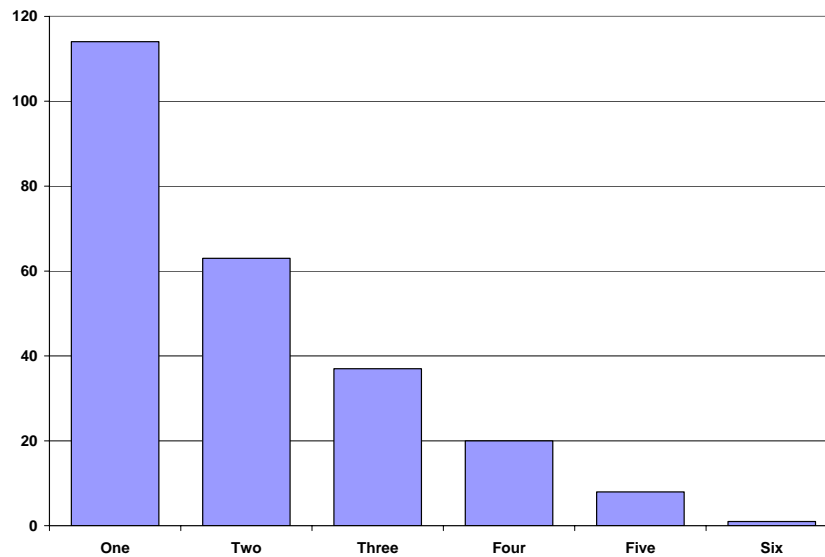
It was important to distinguish between recent and non-recent littering for two reasons: to track the magnitude of littering activities over time, and to provide a tool for segmenting the population. Using the method of segmentation previously described, Gross Litterers self-reported recent major littering, while Micro Litterers self-reported recent minor littering. Reformed Litterers self-reported either a major or minor, yet not recent, littering behavior. The reason for the distinction is that Gross and Micro Litterers admitted to littering behavior within three months prior to the time of the survey, which means, in all likelihood, that they still engage in littering behavior. In contrast, Reformed Litterers admitted to discarding litter, but it was not recent and it is less likely they currently engage in littering behavior.

The following figure shows the percentage of Texans who admit to involvement in littering behavior, first in the past three months only, and second in the past 36 months but not in the past three months.



In all types of littering examined except "throwing out small items," fewer Texans self-report involvement in the past 3 months than in from 3 months to 36 months from the time of questioning. These results show a significant change from the results found in 2001. The 2001 report showed that there was minimal bias in the results because more people recalled incidents closer to the time of the study than in the distant past. Because this study was conducted in a similar manner, it is clear that the changing results represent an actual change in littering behavior. The results indicate that fewer Texans are littering than in 2001. Texans report significant declines since 2001 in recent involvement in littering activities that involve trash falling out of the vehicle (8% decline), throwing out small items (8%), throwing out trash in an area that already had trash (4%), throwing out cans, bottle, or other items (3%), and leaving tire debris on the roadside (3%).

NUMBERS OF MICRO LITTERERS INVOLVED IN ACTIVITIES



The above chart indicates the number of Micro Litterers involved in different amount of littering activities. For example, 114 of the 243 Micro Litterers are involved in only one form of littering. It has become apparent that almost half of Micro Litterers are involved in only one of the above mentioned littering activities, indicating that almost half of these litterers can easily be dissuaded from littering overall. Simply convincing litterers not to litter in one certain circumstance is relatively easy when compared to persuading them not to litter in general, making a majority of Micro Litterers easy targets for specific campaigns.

Littering Attitudes

A look at the litter found on Texas roads reveals a myriad of discarded items, ranging from blown out tire debris to cans to paper and just about everything in between. To explore Texans' attitudes about the severity of different types of litter, respondents evaluated the items they perceive as "extreme" litter problems and those that they perceive as "not a problem at all." The results of the question were used to analyze popular perceptions of litter as well as to separate Gross Litterers from Minor Litterers.

The answers were ranked by overall mean scores, where four equals an "extreme" litter problem, three equals a "serious" problem, two equals a "minor" litter problem, and one equals "not a problem at all." The highest score, as shown in the table below, was 3.48, which puts it between serious and extreme, though just slightly closer to serious. The lowest score was 2.66, which means on the average, Texans see this as falling between a minor problem and a serious problem. No single item received an absolute "not at all" score, suggesting that Texans perceive all litter as a problem, but in varying degrees of severity.



The following table presents a ranking of the severity of types of litter, based on how extreme the problem is perceived. As the most serious litter problems, Texans classified beer cans and bottles, soda cans and bottles, and construction debris. Litter from cigarette butts, candy wrappers, and small pieces of paper ranked as the least serious litter problems.

SEVERITY OF DIFFERENT TYPES OF LITTER

Types of Litter	2003	2001
Beer cans and bottles	3.48	3.53
Soda cans and bottles	3.45	3.40
Construction debris	3.36	3.30
Fast food containers	3.26	3.26
Plastic bags from stores	3.26	3.12
Cardboard	3.05	N/A
Litter that falls out of pick-up trucks accidentally	3.04	2.86
Junk mail, other paper items	2.96	N/A
Chip bags	2.90	2.78
Cigarette butts	2.83	2.91
Candy wrappers	2.72	2.52
Small pieces of paper (receipts, lottery tickets)	2.66	N/A

Compared to the 2001 report, the majority of types of litter have become increasingly problematic in the eyes of the public. The most obvious increases in severity can be seen in public perception of plastic bags from stores, litter that falls from pick-ups, chip bags, and candy wrappers. Although most of the rankings remained the same over the last several years, cigarette butts fell behind litter from pick-up trucks and chip bags. This is especially significant when looking back to the years immediately preceding 2001, over which time the concern surrounding cigarette butts increased drastically and superceded litter from pick-up trucks, chip bags, and candy wrappers. Overall concern is strengthening, but the concern over cigarette butts is not strengthening in proportion. The effect of the commercials targeting cigarette butts has worn off in recent years, when compared to the years preceding 2001.

Personal Actions to Stop Littering

An important aspect of the study, beyond understanding littering behavior, was to find out what people do to reduce litter on Texas roads – or the degree of personal, proactive involvement in litter prevention. It was essential to ask this question of all respondents, including the people who participate in or tolerate littering behavior. Gross, Micro, Reformed, Litter Tolerators, and Militant Non-Litterers ranked things they would personally do to reduce litter. Militant Non-Litterers were split from Litter Tolerators with this question. Litter Tolerators did not indicate that they had done or would do any of the following actions to stop littering.

The scores are "have done" (1); "definitely would do" (2); "might do" (3); and "would not do" (4). The mean results are shown in the following table. The lower the score, the more likely it is that respondents engage in specific litter prevention activities.

PERSONAL ACTIONS TO STOP LITTERING

Action	2003	2001
Pick up some litter you see and dispose of it	1.72	1.91
Tell someone you see littering that it's wrong to litter	2.13	2.22
Volunteer with a group to pick up road litter	2.57	2.59
Anonymously report someone who litters to the authorities	2.94	2.96



The results show that Texans rank “picking up some litter and disposing of it” as something they *would* do (1.72). Texans are substantially more likely to pick up litter now than in 2001. With a mean score of 2.13, “telling someone you see littering it’s wrong to litter” is something Texans *might* do to reduce littering, as is “volunteering with a group to pick up litter” (2.57), and “anonymously reporting someone who litters to the authorities” (2.94). Although feelings surrounding volunteering and reporting have not changed substantially since 2001, Texans are far more likely to vocalize their anti-litter attitudes.

Audience Segmentation

Age

Age was found to be the biggest predictor of littering behavior in the 2003 study, similar to the 2001 study. Texans were broken into six different age groups for comparison. Overall, teenagers are far more likely to be gross litterers than any other age group.

SEGMENTATION OF LITTERERS BY AGE - 2003

Age	Gross	Micro	Reformed	Tolerator	Militant
16-21	10.6%	33.1%	19.9%	4.6%	31.1%
22-24	9.9%	28.7%	20.8%	5.0%	35.6%
25-29	4.9%	24.6%	15.6%	6.6%	48.4%
30-39	3.2%	20.5%	16.0%	7.3%	52.5%
40+	2.0%	13.9%	12.0%	7.4%	64.7%

SEGMENTATION OF LITTERERS BY AGE - 2001

Age	Gross	Micro	Reformed	Tolerator	Militant
16-21	19.8%	35.4%	15.6%	7.3%	21.9%
22-24	9.0%	29.9%	19.4%	13.4%	28.4%
25-29	5.2%	19.5%	26.0%	10.4%	39.0%
30-39	4.4%	11.7%	33.5%	12.6%	37.9%
40+	1.7%	7.1%	13.2%	12.9%	65.1%

However, the percentage of Gross Litterers among teenagers has dropped significantly, as the 2001 study results indicate that almost 20% of Texans under the age of 21 were gross litterers, whereas only 10.6% of the same age group are litterers today. Furthermore, it is clear that the much larger percentage of young Texans are militant non-litterers (31.1%) than were in 2001 (21.9%). A relatively large 19.9% of Texans under the age of 21 are Reformed Litterers, second only to the 22 to 24 age range.

Smoking

As demonstrated in the regression model in 2001, smoking is a high predictor of littering behavior. Smoking is an even larger predictor today than it was two years ago. The 2003 study shows that 26% of adult Texans smoke cigarettes on a regular basis, as opposed to 21% in 2001. When crossed with Types of Litterers, the results show that about 42% of Texans who engage in littering behavior (either Gross or Micro) smoke, up from only 28% in 2001. Of those Texans who smoke, about 7.3% are Gross Litterers, 34% are Micro Litterers, 18% are Reformed Litterers, 3% are Litter Tolerators, and 37% are Militant Non-Litterers. The comparatively high percentage of Micro Litterers who smoke is consistent with the types of "minor" materials that were discarded, based on self-reported actions.



ADULT TEXANS WHO SMOKE AND LITTERING BEHAVIOR (2001 vs 2003)

Littering Behavior	2001		2003	
	Don't Smoke	Smoke	Don't Smoke	Smoke
Gross	6%	4%	3%	7%
Micro	12%	24%	14%	34%
Reformed	19%	24%	13%	18%
Tolerators	13%	8%	8%	3%
Militant	50%	40%	61%	37%

It is clear that, although the campaign has done a great job of reducing littering in the younger population, it has not had a similar performance on smokers. The efforts on the youth must be continued, as age is still a leading predictor of littering, but increased attention to smokers is also necessary.

Frequenting Bars or Other Nighttime Entertainment

The frequency with which respondents go to bars, parties, or other nighttime entertainment was the third highest predictor of littering behavior in 2001, but this has improved significantly in the past two years.

TYPE OF LITTERER AND FREQUENTING BARS

Number of Evenings per week	Gross	Micro	Reformed	Tolerator	Militant
0 to 1	4.2%	17.2%	13.1%	7.0%	58.3%
2 to 7	6.7%	26.8%	15.9%	5.6%	44.7%

In 2001, persons who went to bars or parties two or more times per week were nearly three times more likely to be Gross or Micro Litterers than Texans who didn't. Today, bar and party frequenters are only about 50% more likely to go be Gross or Micro Litterers. Bar and party goers are still less likely to be Militant Non-Litterers, but the gap has narrowed significantly since 2001. It is most likely a hidden variable that leads an individual to both bars and parties, and to littering, instead of a direct causal relationship. Regardless, those that frequent bars and parties have been reached by the litter prevention campaign, leading to relative less littering in that particular group.

Marital Status

Marital status is still a predictor of littering behavior, but again, has less of an impact than it did in 2001. Although single Texans are far more likely to be Gross or Micro Litterers than others, the gap has narrowed significantly. Furthermore, single Texans are also more likely to be Reformed Litterers than others, indicating they have been reached by the campaign for litter prevention more strongly than married, divorced, separated, or widowed Texans.

TYPE OF LITTERER AND MARITAL STATUS

Marital Status	Gross	Micro	Reformed	Tolerator	Militant
Single	8.7%	28.8%	17.6%	7.1%	37.8%
Other	2.5%	15.9%	14.0%	6.3%	61.3%

The cause of the correlation is most likely due to the personality impact of married life, which forces individuals to think about how their actions impact others, even if the others are not in immediate view. Parents are also role models, which can influence the way they act in front of others – particularly their children. Perhaps the inclusion of the effects litter has on others, even loved ones, in the campaign against litter would be beneficial in targeting individuals who are not as aware of how their actions affect others.



Fast Food

In 2001, it was found that consuming fast food was correlated with Littering. Frequency of fast food consumption was measured as a possible indicator for littering behavior, and the results are consistent in 2003. Although the data from the 2001 survey is not available for comparison on this particular measure, analysis of the results is useful for future studies.

TYPE OF LITTERER AND FREQUENCY OF FAST FOOD CONSUMPTION

Number of Times Per Week	Gross	Micro	Reformed	Tolerator	Militant
Zero	3.3%	9.3%	10.2%	13.5%	63.7%
1 to 2	3.5%	19.7%	15.5%	5.8%	55.5%
3 to 4	6.1%	25.8%	17.5%	3.1%	47.6%
More than 4	8.1%	27.6%	13.8%	6.5%	43.9%

Texans who eat at fast food restaurants more than four times a week are more than twice as likely to be Gross Litterers and nearly three times as likely to be Micro Litterers than Texans who never eat at fast food restaurants. The less a Texan eats fast food, the more likely that Texan is to be a Militant-Non-Litterer. Without further study, this should be regarded as a correlation, not a causation relationship.

Report a Litterer/GOTCHA Program

The majority (52%) of Texans would be likely to report a litterer using an anonymous system if they saw someone littering, whereas only 40% would not be likely to use such a system. Almost a quarter of Texans would be “very” likely. Although most Texans claim they would use the system, Texans have lost a large portion of their drive to use the anonymous reporting since 2001. In 2001, 73% of Texans indicated they were likely to use the reporting system, while 25% were unlikely. Although it is promising that so many Texans would use such a system, it might be worthwhile in the future to look into reasons why such a large, and growing, percentage would be unlikely.

In addition, Texans were asked whether or not they would visit a website to report someone they saw littering. A surprisingly low 35% of Texans would, despite the fact that 60% of Texans regularly use the internet (91% at home and 43% at work). Perhaps in the future it might be worthwhile to ask exactly how the Texans likely to anonymously report a litterer would agree to do so. Something that should be taken into account is the September 11, 2001 effect. That day significantly impacted people’s value system and many individuals may now view the act of reporting litterers to be a poor use of limited law enforcement resources.

Sixty-three percent of Texans indicate they have a litterbag in their car, but 35% claim they do not. Most of the trash that accumulates in a vehicle (candy wrappers (27% of Texans claim), small pieces of paper (34%), cans, bottles (27%), and fast food wrappers (20%)) are small enough to fit inside a litter bag. Of those that do not carry a litterbag, sixty percent would use one if they had one. The popularity of roadside littering combined with an intuition about litterbags in vehicles lead to the DMWT campaign adopting the GOTCHA program. The GOTCHA program allows Texans to anonymously report people littering from their car using information they can observe about from the road. A letter is then sent to the litterer with a litterbag, reminding them to use it.

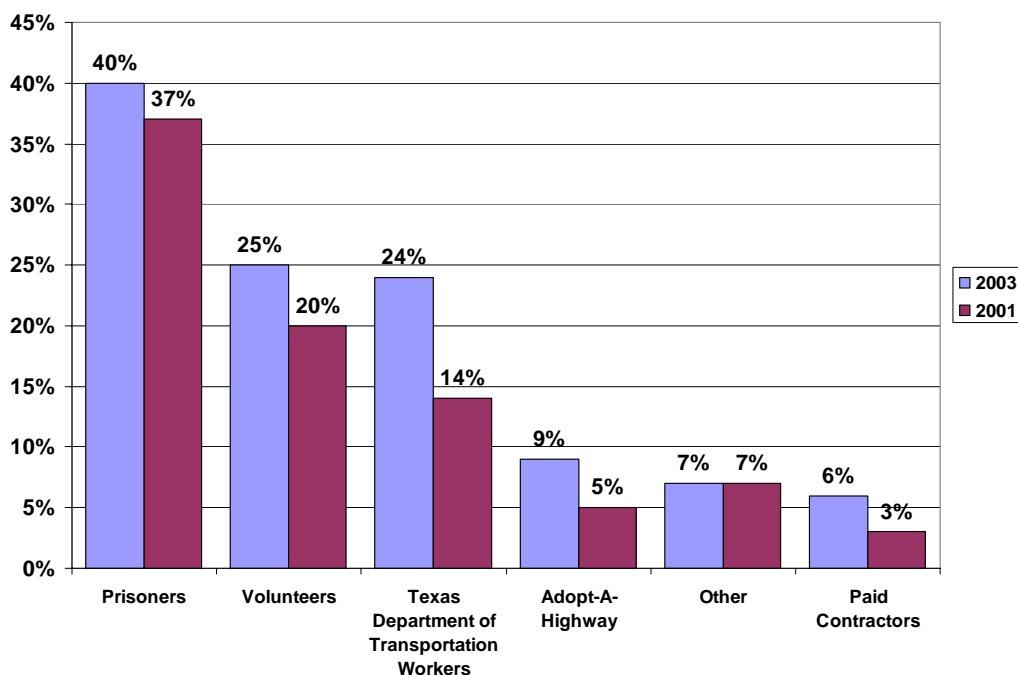
Only ten percent of the population has heard of the “Report a Litterer” or GOTCHA program, which could explain why only five percent of population knows someone who has received a letter about littering. Naturally, Militant Non-Litterers are most likely to have heard of the program (12%). Reformed Litterers are also relatively likely to have heard of the program (9%). Interestingly, nine percent of Micro Litterers have also heard of the program, which seems to not provide a large enough incentive to stop littering the highways with small, minor items. Of course, the point of the program is not to use it as a scare tactic.



Who Picks Up Litter On Texas Roads

It is important to analyze the public perception of who picks up after litterers on Texas roads in order to find disconnects between perception and reality, perhaps finding sources of attitudes toward littering. For example, it might be easier for a person to litter if he or she knew that a prisoner who gets paid a minimal amount for the service might be responsible for picking up the trash. On the other hand, one might think twice if he or she believes it costs the state large wages of paid contractors to pick up the litter on the side of the road. Furthermore, the public perceptions might also play a role in how much they are willing to help out through volunteering or random acts of trash collection.

PERCEPTIONS OF WHO PICKS UP LITTER



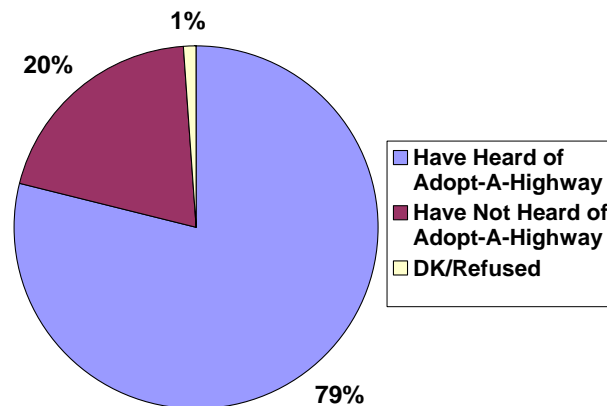
As indicated in the above chart, public perception of who cleans up litter has remained largely unchanged since 2001. More Texans (40%) assume that prisoners are picking up after them than any other group of people. A similar percentage of Texans assume that Volunteers and the Department of Transportation are most responsible for roadside cleanup. Under 10% of Texans believe that Adopt-A-Highway takes care of the majority of litter cleanup, and only six percent correctly identify paid contractors as the prime stakeholders in highway clean-up. Because the 2003 study allowed responses to fit into multiple categories, the sum of the presented percentages does not equal 100%. The 2001 study did not allow responses to be categorized in several areas, and is therefore not absolutely comparable to the 2003 study. It is clear, however, that the overall perception has not changed dramatically.

The locus of control of Texas road litter removal is placed on prisoners by a relatively large number of Texans, indicating that most Texans think the litter problem is taken care of by low cost, non-voluntary means. This could, potentially, lead a lower disincentive to litter, as well as a lower sense of duty for volunteering. Advertisements that increase awareness of the cost of litter removal, as well as the type of person who is responsible for clean-up, might prove to be a strong influence on a large portion of Texans. If Texans knew that nearly 90% of all litter removal in the state is done by expensive paid contractors, they might be less likely to litter, and more likely to help clean up.

Adopt-A-Highway Program

The Adopt-A-Highway Program allows individuals or groups the opportunity to take control of litter clean-up on a two mile stretch of road for a period of two years. The program is an easy and free way to volunteer services and take pride in the cleanliness of the State of Texas. Although a strong majority of Texans (79%) have heard of the program, a significant twenty percent have not. These numbers have remained virtually unchanged in the last two years. The lack of familiarity among some Texans is surprising given the numerous signs on the side of the road that serve as both a source of pride for volunteers as well as an advertisement for the program.

FAMILIARITY WITH ADOPT-A-HIGHWAY PROGRAM



Texans were asked what they thought specifically the Adopt-A-highway program was all about. Of those who knew about the program, 75.5% knew that the program was designed to help groups, organizations, or individuals help clean up the highway. Fourteen percent did not know, while only 7.6% did not have a clear concept of the Adopt-A-Highway program, and guessed something unrelated to litter removal. About three percent were almost correct in their response, including litter prevention in their answer, but not wholly understanding the program. Overall, 60% of Texans both have heard of Adopt-A-Highway and understand the program.

Willingness to Participate in a Volunteer Program

When asked whether or not one would be likely to volunteer for a program to pick up litter from Texas highways, a majority (53%) of Texans indicate that they would be likely. Almost a third of Texans report that they are “very likely” to volunteer to pick up litter from the Texas highways. Only a quarter (26%) of Texans indicated that they were “very unlikely” to participate in such a program. The disjoint between the number of adults who are likely to volunteer and the number of adults who actually do is most likely do to the hassle of finding an organization that makes it easy to volunteer. In this study, Texans were asked what would convince them to volunteer. It might be beneficial in the future to study what keeps the vast majority of Texans from actually doing what they say they are likely to do.

Income and marital status are the biggest predictors of whether or not one is likely to participate in a litter removal program. The percentage of Texans likely to volunteer rises with income up to \$100,000, at which point the percentages drop slightly. Furthermore, married Texans are significantly more likely to volunteer (57.0%) than single (52.0%) or divorced, separated, or widowed Texans (40.1%). No other demographic significantly impacts willingness to participate in a volunteer program.



WHAT TEXANS NEED TO BE CONVINCED TO VOLUNTEER

Reason	%Population
More Time	14.2%
Younger/More Able	8.9%
Get Paid	6.9%
More People Participating	3.3%
Group Involvement	3.2%
Organization Participation	2.6%
Physical Capability	2.6%

Texans were asked the major reasons that would convince them to participate in highway litter removal, and having more time was the most common response given (14.2%). It may be worth concentrating on how short the amount of time picking up litter from the highways actually takes, or how much time is required each year by the Adopt-A-Highway program, in the litter prevention campaign.

Furthermore, it might benefit the litter prevention campaign to attempt to convince the public how easy litter removal is, as almost nine percent of Texans claim that they would help highway litter removal if they were younger or more able, and 2.6% claim they are not physically capable. A combined nine percent would agree to remove litter from the highway if more people were participating, there were a group volunteering with them, or if they were close to an organization that would participate. Advertisements that highlight how many Texans already contribute and how easy it is to join a group or organization will also be particularly beneficial to the campaign.

Messaging

It is important to test possible messages on Texans before spending large amounts of time, resources, and money trying to disseminate a possibly ineffectual message. The slogan “Don’t Mess With Texas” has had enormous success, but other slogans or messages may also work well to encourage people not to litter. For this reason, Texans were given a group of messages, and then asked whether or not the messages would be effective in reducing litter. On a scale of 1 to 5 with 1 indicating that the message would not help at all and 5 indicating that it would definitely stop someone from littering, Texans were asked to rate the following messages:

MESSAGES TO STOP LITTERING

Message	Mean Score
It costs \$32 million a year to pick up all the trash dropped on Texas roads	3.77
Love Texas? Don't litter	3.51
It may be a small piece of litter, but it's still a big problem in Texas	3.40
Stash your trash in a litterbag	3.25
Hey, Texas, you dropped something	3.13
Road trips are cool...littering is not	3.04
Not littering is easy. Keep a litterbag in your car or look out for the next trash can	3.01
Keep the trash out of your truck bed	2.96

It is clear that Texans are more likely to respond to a message that indicates the large sum of tax-payer dollars it costs to pick up all the litter on Texas roads. With a mean score of 3.77, this message proves to be more effective than “Love Texas? Don’t Litter” (3.51) and “It may be a small piece of litter, but it’s still a big problem in Texas” (3.40). The messages ranked least likely to stop someone from littering are “Road trips are cool, littering is not,” (3.04), “Not littering is easy; keep a litterbag in your car or look out for the next trash can,” (3.01), and “Keep the trash out of your truck bed,” (2.96). None of the messages held a ranking that would indicate it would not help at all.



Actions of Campaign to Reduce Litter

Texans were asked what actions the Department of Transportation or some other entity might perform that would encourage Texans not to litter. On a scale of 1 to 5, with 1 indicating that the action wouldn't help at all and five indicating that it would definitely stop someone from littering, Texas rated a group of actions designed to help the litter prevention campaign.

ACTIONS TO DISCOURAGE LITTERING

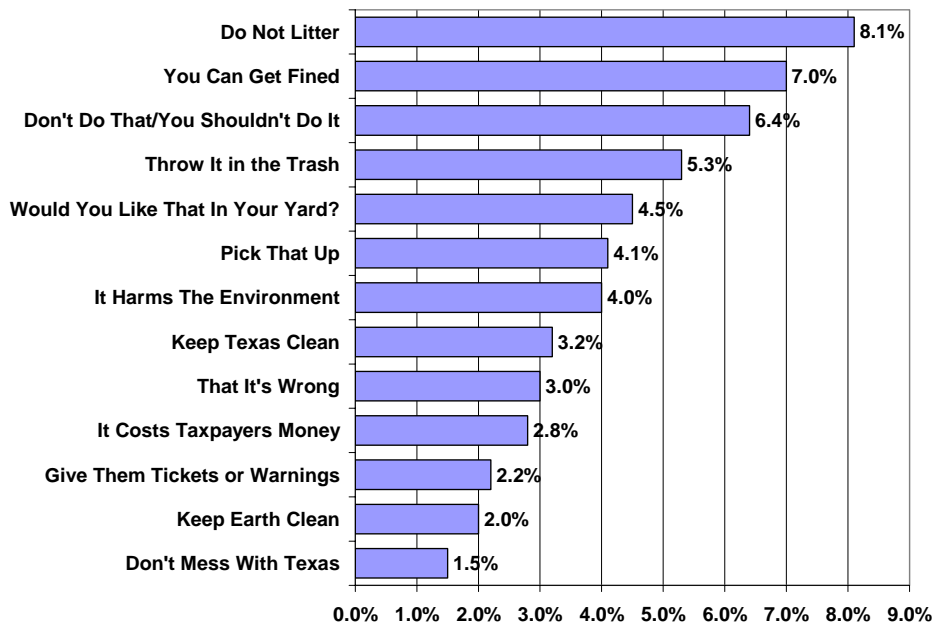
Action	Mean Score
Create litter prevention awareness materials for elementary school age children	3.92
Include real Texans in ads for Don't Mess with Texas	3.56
Concentrate the message on specific forms of trash	3.49
Make more Don't Mess With Texas ads with new people in them	3.46
Travel throughout the state and talk to people about litter and its effects	3.45
Make more ads with music in them	3.30

Resoundingly, Texans feel that creating litter prevention awareness materials for elementary school age children would be most beneficial to the campaign, with a mean score of 3.92. Texans rate every other action mentioned between the scores of 3.30 and 3.56. Including real Texans in ads for DMWT ranks second with a score of 3.56. Texans indicate that making more ads with music in them is the least likely to influence Texans.

Actions of Individuals to Reduce Litter

When asked what they would say to someone to convince them not to litter, the most popular response is simply telling them not to litter (8.1%). Although this is fairly unhelpful, other responses give a better idea of how litter prevention ads can be presented. Seven percent of Texans indicate that they would tell someone that they could get fined for littering, and another two percent feel that giving litterers tickets or warning them that they could get a ticket is the best way to prevent littering. Clearly, the potential loss of an individual's money is a scare tactic that works. Costs associated with littering are also seen in 2.8% of respondents that indicate they would tell a litterer that littering costs taxpayers money in order to stop them from littering.

WHAT TEXANS WOULD SAY TO STOP SOMEONE FROM LITTERING



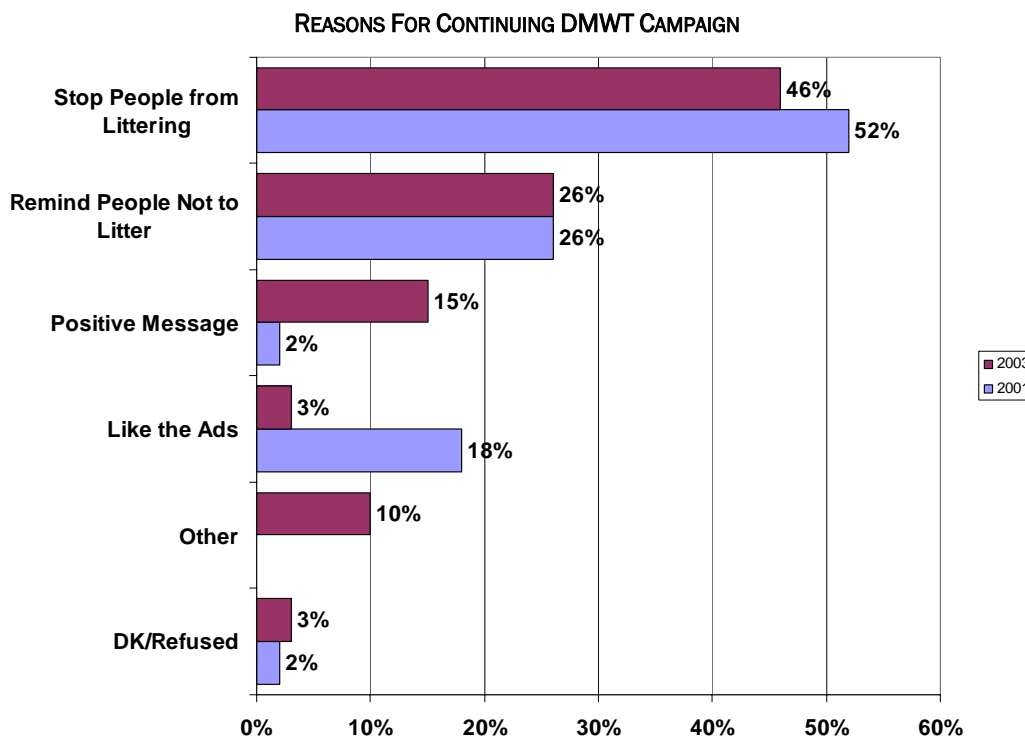


A combined nine percent of Texans indicate that they would tell a litterer that littering harms the environment or ask them to keep Texas or the Earth clean. Clearly, the environment is also an important aspect to Texans. Finally, over four percent of Texans would ask a litterer if they would want the litter in *his or her* yard to discourage the litterer from littering.

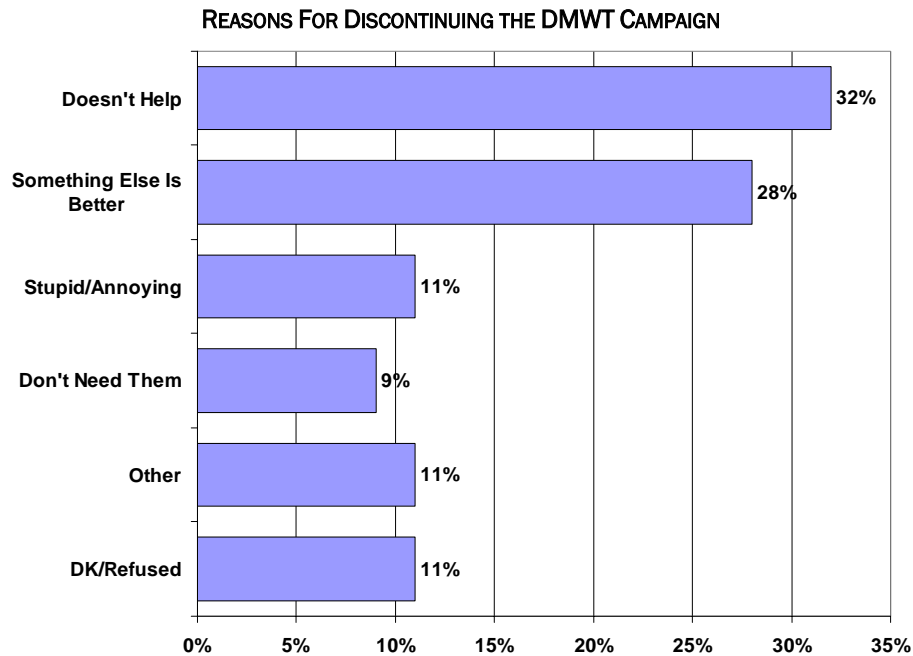
Continuing the DMWT Campaign

Started in 1986, the “Don’t Mess With Texas” campaign has had enormous success over the years. After nearly 20 years of service to the state of Texas, it is useful to reevaluate the slogan as a tool for encouraging people to stop littering and help clean up the state. A resounding 85% of Texans who have heard of the DMWT campaign feel that the Texas Department of Transportation should continue with the “Don’t Mess With Texas” litter prevention campaign. Only four percent of Texans feel that the campaign should be ended, while seven percent feel that it does not matter. Although five percent fewer Texans than in 2001 feel that the campaign should be continued, it is clear that the “Don’t Mess With Texas” campaign has not overrun its shelf life, and continues to warrant it prominent placement in the Department of Transportation.

The 85% of Texans that answered positively toward the campaign were asked why they thought the message should be continued. The results are presented in the chart below. The largest percentage (46%) of these Texans indicated that they wanted the campaign continued to because it *stops* people from littering. Another 26% indicated the campaign was important because it *reminds* people not to litter. Fifteen percent felt that the campaign should not be discontinued because it has a positive message, while only 3% just liked the advertisements, or the singers or actors in the advertisements.



Although the results resemble the results from the 2001 survey, people have altered their opinions slightly on why they believe the “Don’t Mess With Texas” campaign should be continued. Less people choose to continue the campaign in order to stop people from littering or because they like the advertisements, whereas more concentrate on the positive message sent by the campaign and other reasons. It is possible that more focus on simply the positive message because the anti-littering message is not as clear to Texans today.



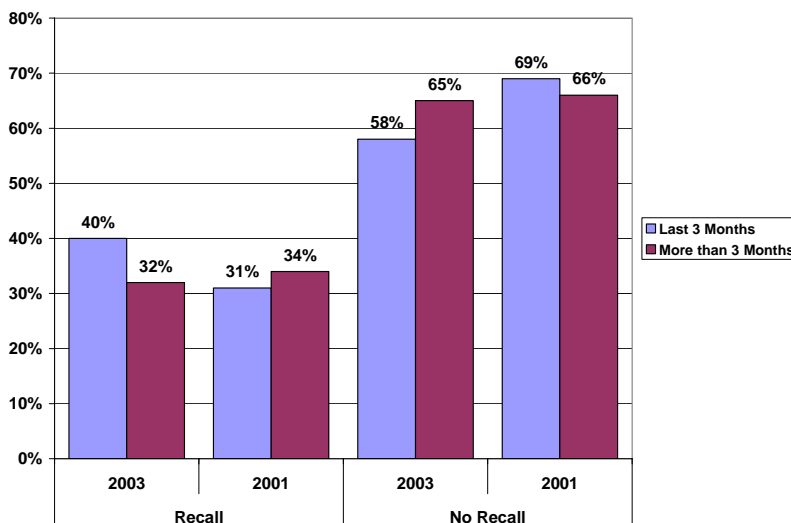
Although only 4% of respondents who had heard of DMWT felt that the “Don’t Mess With Texas” campaign should be discontinued, their reasoning could provide insight into how to make the message more effective. Thirty-two percent felt the campaign does not help, whereas 28% felt that some other form of convincing the public not to litter might be more effective. Another 11% thought they were stupid or annoying. Only nine percent of the four percent that felt the campaign should be stopped, 0.3% of the total population, felt that the state did not need them. It is clear that, even among those who feel the “Don’t Mess With Texas” campaign has run its course, very few Texans feel that litter is no longer a problem.

Litter Prevention Advertising Awareness

The majority of Texans can not recall having seen advertisements or public service messages related to litter or littering in the past three months (58%). An even larger percentage can not remember any messages related to litter or littering more than three months ago. The difference is most likely due to recall bias. People are more likely to remember salient issues concerning recent events. Regardless, these numbers indicate that a majority of Texans are still not being reached by the ads.



RECOLLECTION OF LITTER PREVENTION ADVERTISEMENT



It is clear, however, that recent messages are reaching audiences more frequently than they did in 2001. Only 31% of Texans could recall seeing a message concerning litter in 2001, compared to 40% today. In 2001, 69% of Texans indicated that they could not recall having heard a message concerning litter, compared to only 58% in 2003. Less salient advertisements, however, have remained very close at 32% recall in 2003 compared to 34% in 2001. Of those Texans with recent recall of any litter prevention ads or public service messages, 3.8% are Gross Litterers; about 20% are Micro Litterers; 17% are Reformed Litterers; six percent are Litter Tolerators; and 55% are Militant Non-Litterers.

For comparison, types of litterers were crossed with having recent recall of litter prevention ads or public service messages. The results show 36% of Gross Litterers have recent ad recall, compared to 40% of Micro Litterers, and 45% Reformed Litterers. About 31% of Litter Tolerators and 39% of Militant Non-Litterers have recent ad recall. Unlike 2001, it appears that Gross Litterers are not reached any more than other segments by preventive litter advertisements during the time in which they report littering. Gross littering has decreased, but only slightly, since 2001, from over five percent of the population to about four percent in 2003. This drop is not statistically significant.

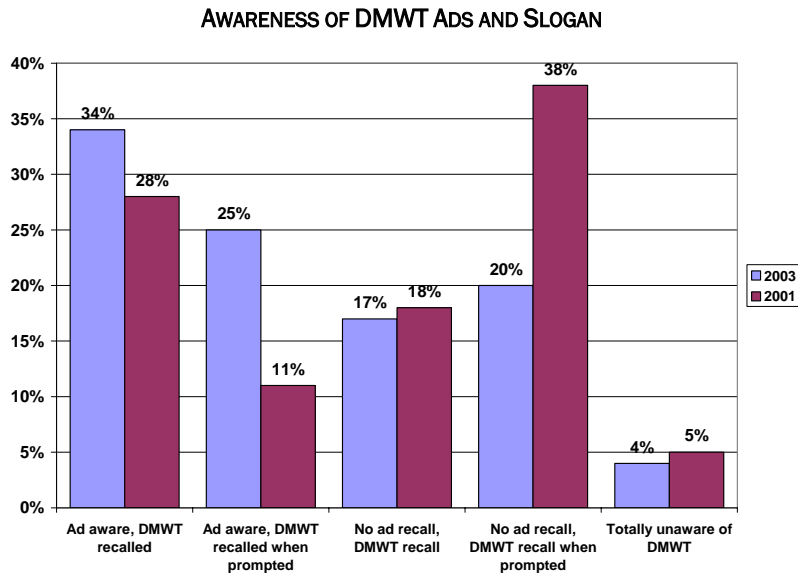
DMWT Ad and Slogan Recall

Beyond ad recall of any litter prevention ads or messages, several questions were used to gauge whether the public is specifically aware of the "Don't Mess with Texas" litter prevention ad campaign. Respondents with recall of any litter prevention ads, either recent or not recent, were asked what the ads said or who was in them. Those people who immediately said DMWT (unaided) have top-of-mind awareness. Forty percent of all Texans fit this category as compared to only 28% in 2001. It is clear that the slogan has become more salient in the minds of Texans in the past couple of years. When respondents did not automatically say DMWT to the previous question, they were then asked what was the main slogan in the ads (unaided). In this section, 11%, exactly the percentage of Texans in the 2001 study, are aware of the DMWT slogan, but it is not at the top of their mind.

Those respondents with no ad recall of litter prevention messages were asked what slogans about litter they have seen, recently or in the past. Here, 43% (compared with 18% in 2001) volunteered the DMWT slogan (unaided). It is clear that, although many do not remember having seen or heard an advertisement concerning litter prevention, most easily connect DMWT with the subject, even without a prompt. When respondents did not volunteer DMWT, they were asked if they had ever heard of it. Fifty-one percent had aided awareness of



the slogan (compared to 38% in 2001). Three percent had absolutely no awareness of the DMWT campaign or slogan (compared to 5% in 2001).



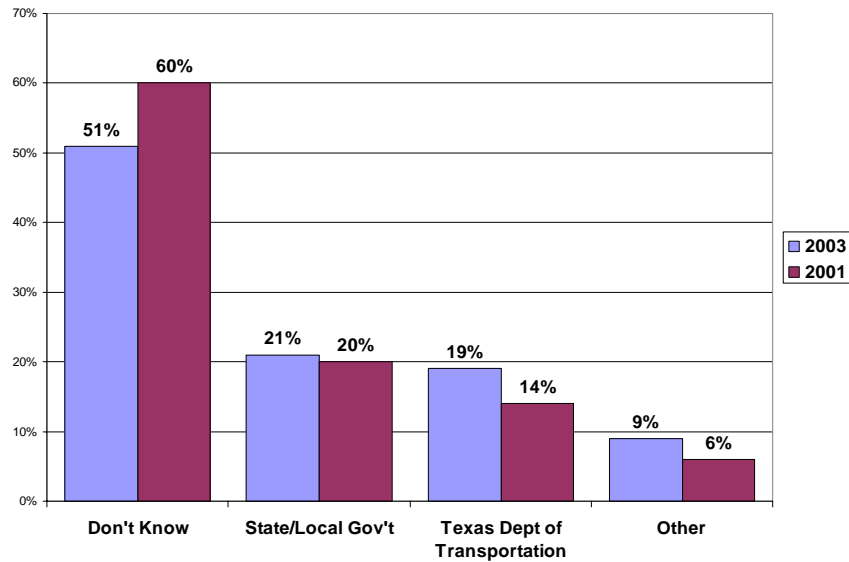
When asked to think about the “Don’t Mess With Texas” slogan, a large majority of Texans answer that no recent and specific advertisements come to mind, or refuse to respond. Four percent remember an ad that asks, “if your (mother, grandfather, daughter, girlfriend) were Texas, would you still litter?”. Three percent can recall an ad that asks, “Want \$500 fines with that?” and another three percent can recall an ad that includes the DMWT road tour. When asked if they had specifically heard of the DMWT road tour, only 13% of Texans indicate that they had. Recent advertisements are salient in the minds of only a small portion of the Texas population.



DMWT Campaign Sponsor

Sixty one percent of Texans respond that they do not know who sponsors the “Don’t Mess With Texas” campaign, and another 21% identified the State or Local government. Only 19% of Texans can correctly name the Texas Department of Transportation as the sponsor of the campaign. The percentage of Texans who can correctly identify the sponsor has, however, increased since 2001. Five percent more Texans give credit to the worthy Texas Department of Transportation than in 2001.

PERCEPTION OF DMWT CAMPAIGN SPONSOR

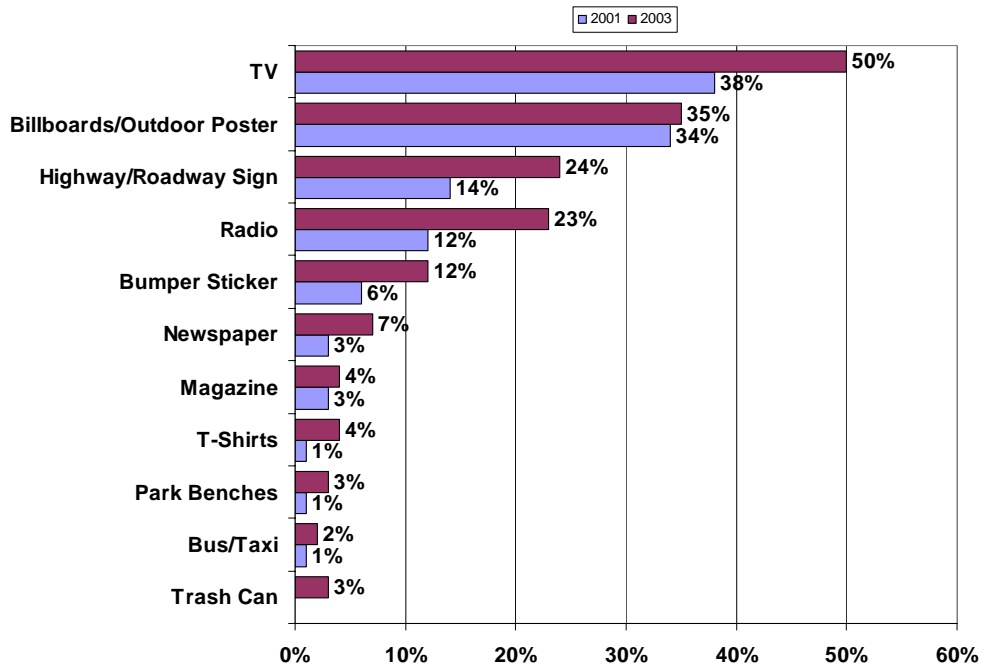




Mediums of DMWT Advertisements

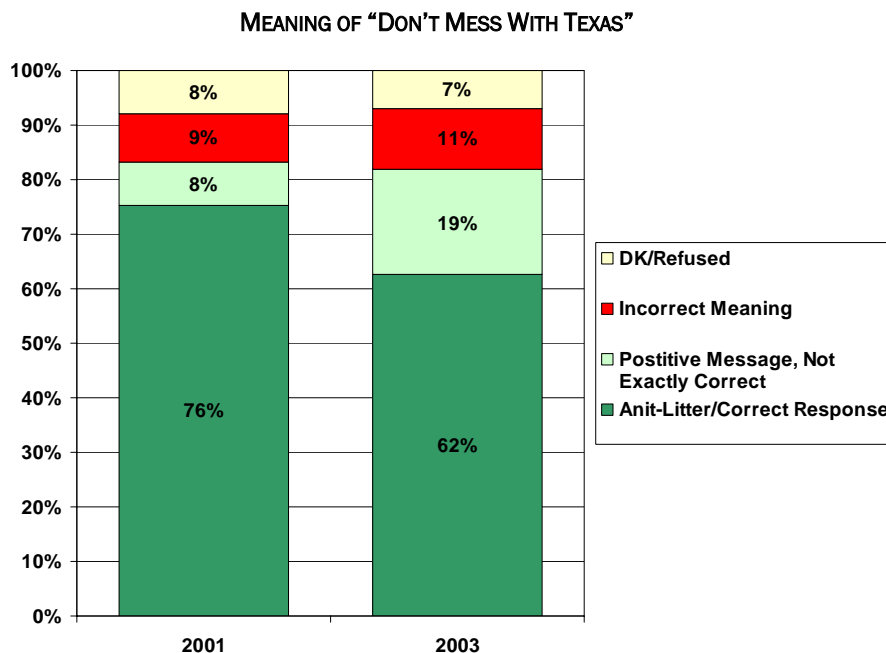
Texans were asked where they have heard the slogan “Don’t Mess With Texas” in order to determine which mediums have been most productive in transferring the message of the Department of Transportation. Half of all Texans have seen the slogan on television (50%), up from only 38% in 2001. Over one-third of Texans have seen the litter preventative slogan on billboards or outdoor posters, similar to 2001. Almost a quarter of Texans have seen “Don’t Mess With Texas” on a highway or roadside sign, up from only 14% in 2001. Twenty-three percent of Texans have also heard the slogan on the radio (12% in 2001), and 12% have seen it on a bumper sticker, up from 6% two years ago. Texans also report having seen the slogan in newspapers (7%), on t-shirts(4%), in magazines (4%), on park benches (3%), trash cans (3%), and on busses and taxis (2%).

WHERE TEXANS HAVE RECENTLY SEEN OR HEARD DMWT



Meaning of DMWT

Recall and awareness of the DMWT slogan or ads does not necessarily ensure that Texans understand the fundamental underlying message. Since the DMWT campaign has been running for the better part of the last 20 years, one goal of the research was to determine if Texans still interpret the slogan correctly, or if the original meaning and message of litter prevention has been lost over the years. Specifically, the goal was to see if Texans knew that "Don't Mess with Texas" means do not litter on roadways, fields, beaches, and parks.



As indicated in the above figure, 62% of Texans know exactly what the slogan "Don't Mess with Texas" means: Don't Litter. This is a significant decrease since 2001 (76%). Nineteen percent think it has something to do with cleaning the environment or keeping Texas clean, while not specifically mentioning litter prevention. About 11% of Texans interpreted the meaning incorrectly with a number of respondents thinking DMWT has something to do with Texas pride or being "macho." This perception has remained virtually unchanged since 2001. Texans in 2003 exhibited a lower ability to correctly identify the meaning of the DMWT slogan, and instead tend to just concentrate on the positive meaning of the slogan. This indicates that in the past couple of years, the campaign, although more memory salient, has lost some of its meaning.

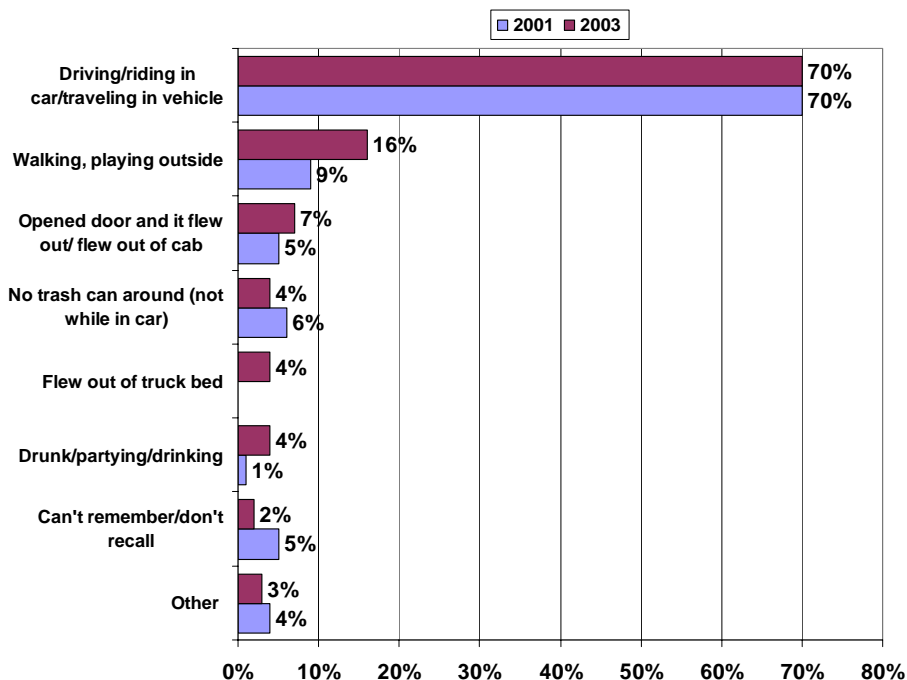
It is worth noting that the decline in understanding of the "Don't Mess With Texas" slogan could be a product of methodologies. It is possible that previous analysts were more lenient in their selection of correct responses. It is unlikely that the entire change is due to different methodologies, however, as the correct answers were relatively easy to pick out.

Lifestyles

Texans who self-reported personally discarding major and minor litter items shared the types of situations they were in when the littering occurred. About 70% of litterers reported that the behavior took place while driving (similar to 2001). Combined with a small correlation between number of miles driven per day and littering, these results show that driving, in general, does correlate with littering. This implies that radio might be an excellent communication channel and deterrent, as it would correspond most closely to the act of littering. Twice as many people have heard a DMWT advertisement on radio than in 2001, and a continuing increase in radio communication would be particularly beneficial.



SITUATIONS WHEN LITTERING OCCURRED

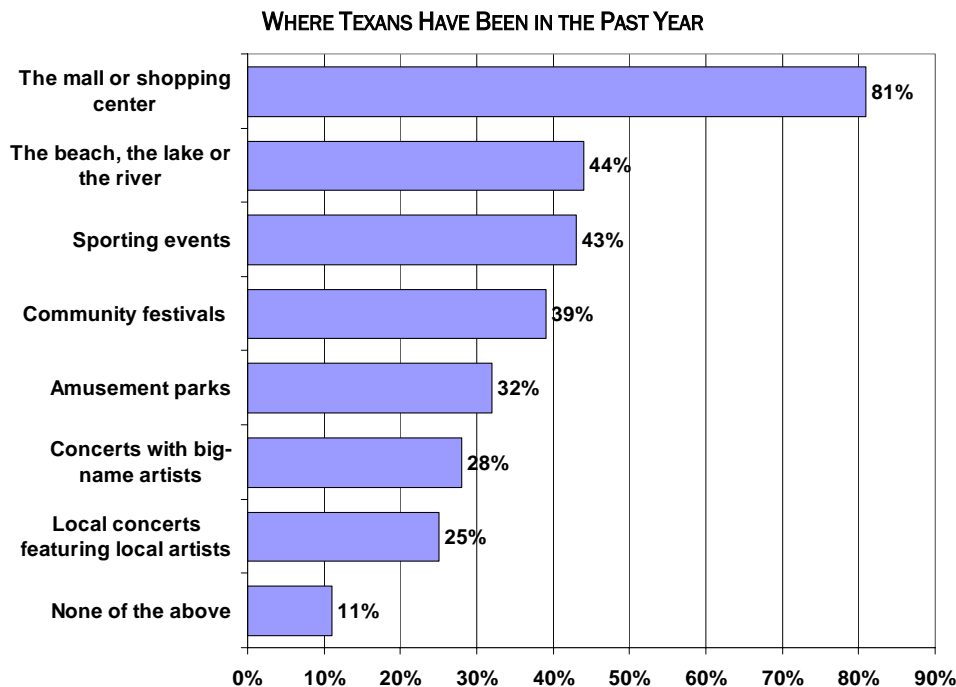


Only 4% of respondents to the 2003 survey reported the behavior took place while drinking, even though drinking and throwing out trash was listed by all Texans as one of the major sources of litter in the 2001 survey. The regression model also demonstrated that going to bars or other nighttime entertainment places was a factor that predicted littering behavior. This inconsistency may be attributed to respondents providing "socially acceptable" answers during the interviews. It is possible that Texans under the legal drinking age did not want to admit to both littering and drinking. Another reason for the inconsistency could be that respondents did not want to mention that they had been drinking and driving when they littered.

Littering occurs equally in private and in public, which contradicts the whole conception of "social acceptability." When asked whether they were alone when they littered, equal proportions of litterers indicate yes and no. This question, asked only to self-reported litterers, may also be affected by bias. Although the questions in the survey are asked in a manner that encourages people to answer candidly, the 52% of Texans that admit to littering recently will, by nature, feel like littering is more socially acceptable, and are therefore more likely to litter in public. Therefore, the results of the question can be used only as a lower bound. At least fifty percent of all littering occurs in private.

Entertainment and Media

When given a list of events and places and asked whether or not they have gone to these events or places in the past year, "the mall or other shopping area" is the most popular response (81%). Almost half of the respondents indicate that they have gone to the beach, lake, or river in the past year, and 43% say that they have gone to a sporting event of some kind. Community festivals are also popular, with 39% of Texans reporting having attended one in the past year.



Eighty-eight percent of Reformed Litterers have visited the mall or the shopping center in the past year. This percentage is significantly higher than any other segment of litterer, indicating a possibility that this form of activity has lead to a decrease in littering among many Texans in the past year. Furthermore, a significantly large portion of Gross Litterers have attended a concert with big-name artists in the past year (38%). Attending a big concert and littering are clearly correlated, as only 25.5% of Militant Non-Litterers have attended a concert recently. Although more Gross Litterers have attended a big concert than any other group of litterers, they are less likely than most to have attended a local concert. Micro Litterers are far more likely than any other segment to have visited amusement parks in the past year.

Trucks and Truck Beds

Nineteen percent of Texans drive a pick-up truck, 69% of whom at least sometimes put something in the bed of the truck. Twenty-one percent of pick-up truck drivers always carry a load in the beds of their trucks. When asked what kind of items they put in the bed of the truck, the largest portion of Texans claim to carry construction materials (31%) or tire and other car related debris (21%). Unfortunately, however, responses also included items that could be easily blown away. Five percent of those that carry things in the bed of their trucks claim to carry cans and bottles, and another five percent carry fast food wrappers. Other responses include small pieces of paper (4%), food/organic material (4%), candy (3%), and candy wrappers (2%).

These responses, although significant, represent only a very small fraction of Texas (between 0.3% and 0.7% of total Texans). Furthermore, only one percent of Texans who carry things in the beds of their trucks carry cigarette butts. Although the percentages are relatively small in comparison to the population of Texas, each infraction could be of a very large magnitude, as one Texan who carries small pieces of paper in his truck bed could be responsible for hundreds of pieces of paper littered on the side of the highway.

Seventy-nine percent of those who eat fast food more than four times a week carry things in the back of their trucks, compared to only 53.4% of those who never eat at fast food restaurants. Smokers are also more likely to drive with things in the bed (73.0%) when compared to those that don't smoke (99.9%). Whites (73.2%) are far more likely than African Americans (60.0%) and Hispanics (58.7%) to carry things in the back of their pick-ups. No other demographic significantly predicts this behavior.



Breakdown of Demographic Target - Youth

Texas youths have historically been more likely to litter than Texans over the age of 24. The following table illustrates who these young litterers are by the segments described earlier in the report.

TYPES OF LITTERER - YOUTH

TYPE OF LITTERER	% of 16-24 Year Olds	% Entire Sample
Gross Litterer	8.5%	4.2%
Micro Litterer	29.9%	19.4%
Reformed Litterer	21.4%	14.6%
Litter Tolerator	5.1%	6.9%
Militant Non-Litterer	35.0%	54.8%

As the table indicates, younger Texans are more likely to be Litterers in general. Specifically, twice as many 16-24 year olds are Gross Litterers (8.5% to 4.2%), and significantly more are Micro Litterers (29.9% to 14.6%). Conversely, even though a majority of the entire sample are Militant Non-Litterers, just one in three (35%) younger Texans fall into that segment.

Litter Advertisement Recall

Texans under the age of 24 are significantly more likely to recall having seen an ad referring to litter prevention in the past three months and before. Almost 45% of young Texans recall having seen a anti-litter advertisement in the past three months, compared to only about 40% of the entire sample. Of those that don't recall having seen an ad in the past three months, about 37% recall having seen one before 3 months prior to the survey, compared to only about 32% of the entire sample. When asked what message was given by the advertisement, however, youths are less likely than average to answer "Don't Mess With Texas" (35.4% and 39.7% respectively).

ADVERTISEMENT RECALL - YOUTH

Recall	% of 16-24 Year Olds	% Entire Sample
Within the past 3 months	44.9%	39.6%
Before 3 months ago	37.2%	31.6%
DMWT message	35.4%	39.7%

Litter Prevention Tactic

The following table examines how young adults rated the different litter prevention tactics which were tested in the survey. Respondents were asked to rate these actions from one to five, with one being "it would not help at all" and five being "it would definitely help."



LITTER PREVENTION TACTIC - YOUTH

LITTER PREVENTION TACTIC	Mean Score
Create litter prevention awareness materials for elementary school age children	3.9
Travel throughout the state and talk to people about litter and its effects	3.6
Concentrate the message on specific forms of trash, such as cigarette butts, bottles or fast food trash	3.5
Include real Texans in ads for Don't Mess with Texas	3.5
Make more Don't Mess With Texas ads with new people in them	3.4
Make more ads with music in them	3.4

Among this targeted universe, 16-24 year old Texans believe that efforts to “create litter prevention awareness materials for elementary school age children” would be most effective. The other five actions measured all tested relatively the same, although “travel throughout the state and talk to people about litter and its effects” was rated slightly other than others.

Messaging

Similarly, Texans provided their opinions on several messages encouraging people not to litter. The following table examines the results for those aged 16-24. Once again, respondents used a one to five scale with one being “it would not help at all” and five being “it would definitely stop someone from littering.”

MESSAGES TO PREVENT LITTERING - YOUTH

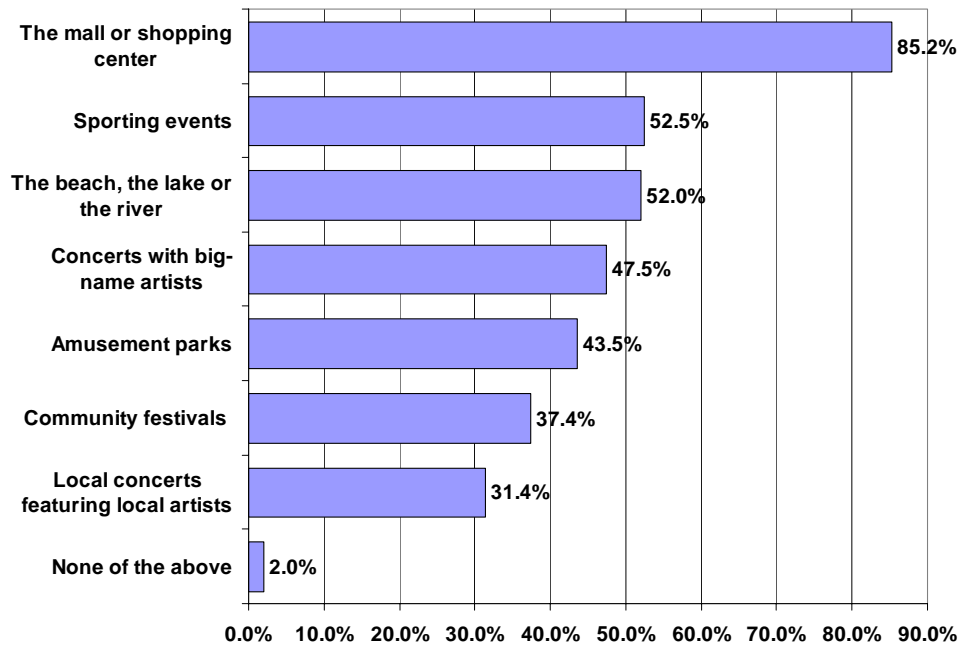
MESSAGES	Mean Score
It costs \$32 million a year to pick up all the trash dropped on Texas roads	3.7
Love Texas? Don't litter	3.4
It may be a small piece of litter, but it's still a big problem in Texas	3.4
Stash your trash in a litterbag	3.2
Hey, Texas, you dropped something	3.1
Not littering is easy. Keep a litterbag in your car or look out for the next trash can	3.0
Road trips are cool...littering is not	2.9
Keep the trash out of your truck bed	2.8

Younger Texans tend to appreciate concrete facts and statistics in their messaging. The message “It costs \$32 million a year to pick up all the trash dropped on Texas roads” acquired an average rating of 3.7, significantly higher than any of the other statements tested.

“Love Texas? Don’t litter” and “It may be a small piece of litter, but it’s still a big problem in Texas” followed as the next most effective, earning mean ratings of 3.4 each.

Entertainment

More Texas youths report that they are most likely to have visited a mall or shopping center than any other response in the past year (85.2%). About half of Texans under the age of 24 have visited a sporting event in that time (52.5%). A similar percentage have been to the beach, lake or river. Young Texans are least likely to report having visited local concerts featuring local artists (31.4%) or community festivals (37.4%).



Favorite Type of Music and Favorite Musician

Texans under the age of 24 were asked what their favorite type of music is, and were then asked to indicate their favorite musician. Six percent more Texan youths prefer rock than any other type of music (19.2%). An equal amount of Texan youths prefer country and rap (13.8%), whereas 8.4% indicate they listen primarily to alternative music. Hip-hop (7.2%), rhythm and blues (6.0%), and pop/dance (5.4%) were also popular responses.

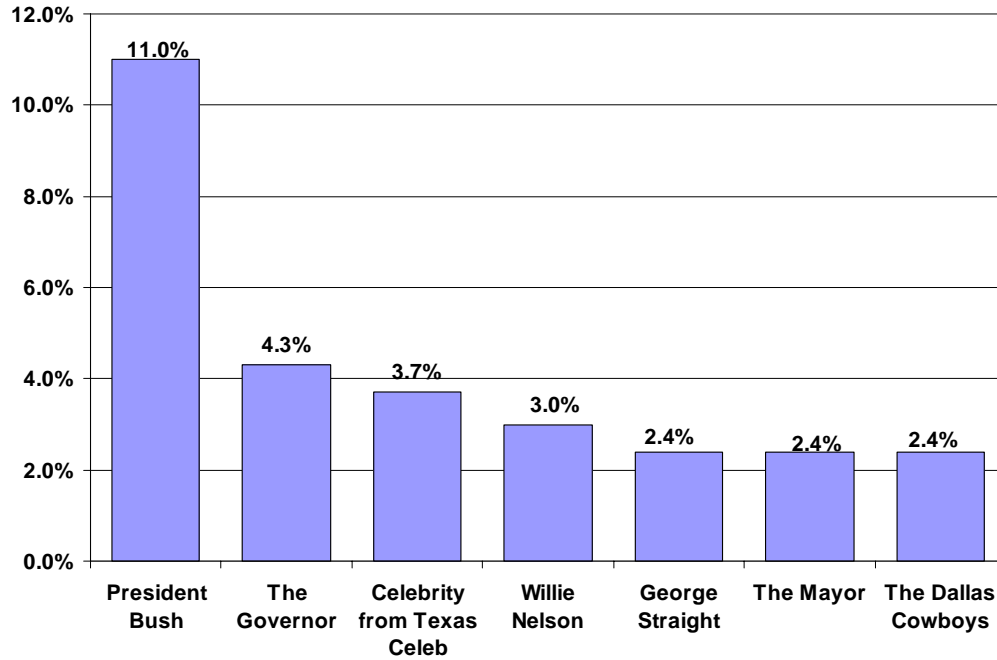
The band Linken Park is the most popular among Texan youths, with 5.6% picking them as their favorite group of musicians. 50 Cent is second most popular (4.3%), followed by Eminem and Tupac Shakur (3.1% each). Among country musicians, the Dixie Chicks, Toby Keith, and Tim McGraw all have similar appeal, with 1.9% of Texan youths picking each as their favorite artist.



Suggestions for Spokespersons

Eleven percent of Texan youths want to see President Bush on litter prevention advertisements. The Governor is also a common response, with 4.3% of Texas youths choosing him as a spokesperson they would like to see. The celebrity from Texasceleb and Willie Nelson are also popular, with 3.0% each.

SUGGESTIONS FOR DMWT SPOKESPERSONS

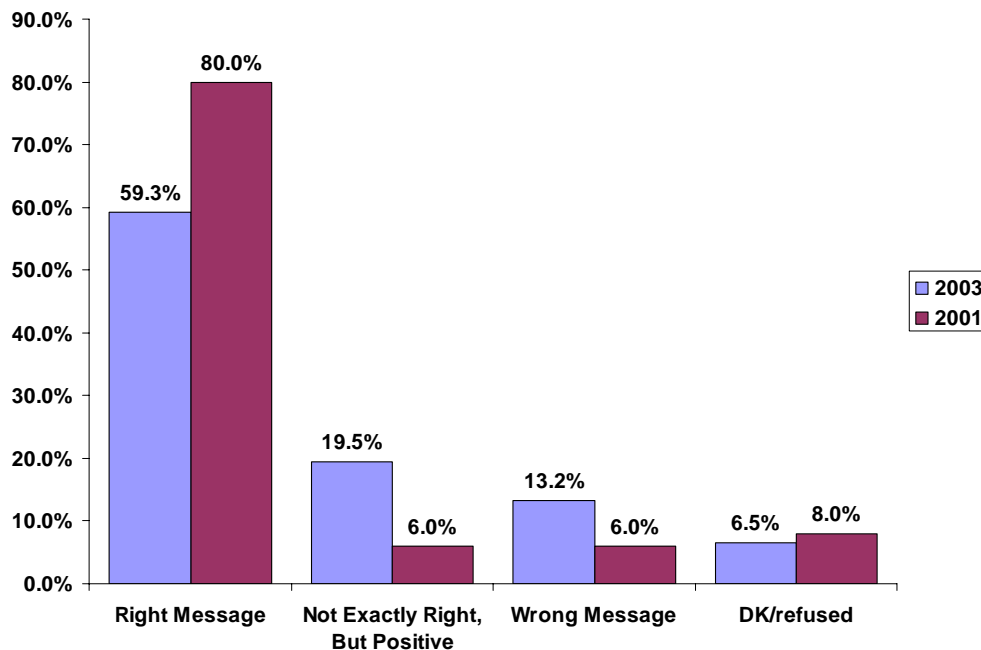




Meaning of DMWT

Texan youths are less likely than the general population to correctly identify the meaning of Don't Mess With Texas. Less than 60% of youths between the ages of 16 and 24 correctly identify the anti-litter message, a drop of more than 20% since 2001. As mentioned above, it is possible that a portion of this drop is due to a difference in methodology. It is possible that the analysts in 2001 were more lenient with responses than they were in the 2003 study. However, it is clear that Texan youths have gone from more likely than average to understand the meaning to less likely than average. It is clear that there has been at least a relative drop in understanding among Texan youths.

MEANING OF DMWT - YOUTH



Breakdown of Behavioral Segment – Gross Litterers

Note: A filtering process was used to select only those persons classified as Gross Litterers. Those Texans who commit the worst littering offenses were also subsequently analyzed.

Predicting Factors

Aside from age, the major factors in predicting littering behavior are smoking, partying two or more times per week, being single, and eating fast food often.

PREDICTING FACTORS: GROSS LITTERERS VS ENTIRE SAMPLE

Predicting Factor	% Gross Litterers	% Entire Sample
Smoke	45.3%	26.4%
Party two or more times per week	45.3%	28.6%
Single	52.8%	25.8%
Eat fast food more than twice a week	45.3%	28.2%

Gross Litterers are almost twice as likely as the general population to smoke, party more than once a week, eat fast food more than twice a week, and be single. All of these are still major predictors of litterers. Gross



Litterers were also far more likely to be male than female, but this did not hold for Micro Litterers, and therefore gender had only a weak correlation with littering on the whole.

African Americans are about twice as likely as whites to be Gross Litterers (7.2% and 3.4% respectively). About five percent of Hispanics are Gross Litterers.

Breakdown of Behavioral Segment – Micro Litterers

Note: A filtering process was used to select only those persons classified as Micro Litterers.

Predicting Factors

Aside from age, the major factors in predicting littering behavior are smoking, partying two or more times per week, being single, and frequenting fast food restaurants.

TABLE 32: PREDICTING FACTORS: MICRO LITTERERS VS ENTIRE SAMPLE

Predicting Factor	% Micro Litterers	% Entire Sample
Smoke	46.9%	26.4%
Party two or more times per week	23.5%	28.6%
Single	38.3%	25.8%
Eat fast food more than twice a week	38.2%	28.2%

Micro Litterers are more likely than the rest of the population to be single and eat fast food often, both of which are characteristics that are major predictors of littering. They are also more likely to smoke than the overall sample (and more than Gross Litterers), which is consistent with the types of materials commonly discarded by Micro Litterers: cigarette butts. Interestingly, Micro Litterers are less likely than the general population to frequent bars and parties.

African Americans and Hispanics (30.4% and 28.6% respectively) are more than twice as likely to be Micro Litterers as whites (13.2%).



Micro Litterer Smokers

WRS examined what types of Texans are both Micro Litterers and also smokers.

TABLE 33: PROFILE OF MICRO LITTERERS WHO SMOKE

Demographic	% Micro Litterer Smokers	% Entire Sample
Gender		
Male	62%	50%
Female	38%	50%
Income		
Less than \$20,000	18%	13%
\$20,000-\$40,000	24%	18%
\$40,000-\$60,000	20%	17%
\$60,000-\$75,000	12%	9%
\$75,000-\$100,000	4%	8%
Over \$100,000	6%	5%
DK/Refused	16%	29%
Age		
16-24	24%	19%
25-34	21%	19%
35-44	30%	19%
45-54	15%	17%
55-64	5%	11%
65+	5%	14%
Race		
White	49%	59%
Hispanic	37%	29%
African American/Black	12%	10%
Asian	1%	1%
Other	0%	1%

Micro Litterers who smoke are more likely than the Texas population to be male and also have smaller annual incomes. In addition, younger Texans (those age 16-44) are more likely on average to be Micro Litterers who admit to being smokers. By race, nearly two in five (37%) of the Micro Litterers who smoke are Hispanic, compared to just 29% of the entire sample. Conversely, while whites constitute 59% of all respondents, just half (49%) of Micro Litterers who smoke are white.

Recommendations and Conclusions

There is no arguing that the DMWT umbrella campaign has been wildly successful in shaping public opinion on littering over the years; however, as was shown in the body of the study, there are a number of areas for improvement. Rather than advocate an incremental, cure-the-symptom improvement strategy, WRS recommends a more proactive and comprehensive approach that addresses the underlying causes of littering – taking personal responsibility. WRS has outlined a three prong campaign that represents a cost-effective set of strategies and tactics that will provide a step-function decrease in littering in the state of Texas.

1. **Cause and Effect – Advertising Campaign** – We must first motivate the individual litterer to change his/her habits. From the message testing, it became obvious that individuals responded the most to hard data discussing the costs associated with littering. Here we recommend specific messages that educate all ages and segments on both the direct and indirect/hidden costs associated with littering. In the end, it's about how littering costs everyone. Potential cost messages for advertising can include:
 - Direct Costs
 - Cause: You litter
 - Effect: It costs \$32 million a year to pick up all the trash dropped on Texas roads.
 - Impact: This money could be used for education, healthcare, law enforcement, etc.
 - Indirect Costs (significantly larger than direct costs)
 - Cause: You litter.
 - Effect: Decrease in air, water and soil quality
 - Effect: Decrease in tourism
 - Effect: Decrease in real estate value
 - Effect: Decrease in wild life population and ecosystem
 - Impact: Increase in agriculture costs
 - Impact: Decrease in employment
 - Impact: Decrease in personal wealth
 - Impact: Increase in tax burden
2. **Reform a Litterer: Advertising Campaign** – As shown in the study, less than 10% of respondents are willing to say something to a litterer. To increase this percentage, an advertising campaign can transform the DMWT slogan into a rallying cry, thereby making people more comfortable saying something firm yet positive like “Don’t Litter, It Costs Me Money”, knowing they have the state of Texas behind them. By turning each and every Texan into a potential Guardian Angel of litter, peer pressure will be applied and litterers will think twice before littering knowing anyone, not just law enforcement, could call them out on littering.



3. ***Get Involved: Grassroots Campaign*** – We need to raise the awareness of all the state and local programs that are geared towards keeping the environment clean. We can increase recruitment of the people that feel most passionate about this topic (Militants Non-litterers and Litter Tolerators). Various rewards programs can be implemented to motivate people to get involved. This increase in interest and support of keeping Texas clean will help facilitate the transformation of litterers to non-litterers. This new and invigorated set of “influencers” will have four over-arching goals:

- Raise awareness of costs of litter on the community
- Recruit and reform litterers – possibly start with people previously fined for littering
- Actively help clean-up “dirty” communities to demonstrate positive impact
- Promote litter prevention programs – litter bags in the car, etc.

Although these three campaigns will cut across segments, it is important to focus them first on the individuals with the most room for improvement – younger Gross and Micro-litterers. Obviously, when evaluating the different targeting tactics, the important predictors (age, smoking, partying, marital status, and eating habits) and hundreds of permutations must be taken into account when determining the most appropriate message, messenger, and communication channel.

Next Steps

Below are a few areas that would provide additional insight on how to reduce overall littering activities in Texas:

1. Conduct an economic impact study on littering to understand the actual costs to the state of Texas. This study would take into account direct effects such as collection and removal costs, lost revenues to tourism, loss of the environment, and decrease in real estate value, and indirect effects such as lowered tax revenues, increased unemployment, etc.
2. Develop a simple littering scorecard used for a short quarterly tracking study that corresponds to ongoing advertising efforts. This will allow us to estimate the actual effectiveness of each campaign.
3. Survey individuals from surrounding U.S. states and Mexico that travel to Texas on a regular basis to better understand the impact they have on in-state littering and how their opinions differ from Texans' opinions.
4. Conduct mock littering experiments to gauge public reaction and level of intervention. Conduct in-depth interviews with participants, and potentially focus groups, to better understand resistance to intervention and potential systems to report those acts.
5. Create a panel of Gross and Micro-litterers and track their littering habits over time to identify key areas of influence.
6. Determine the public perception of who picks up after litterers on Texas roads in order to find disconnects between perception and reality, perhaps finding sources of attitudes toward littering.

APPENDIX A: Documentation of Methodology

Questionnaire

Enviromedia provided WRS with the questionnaire to use for the 2003 study. WRS was asked to review the questionnaire and recommend changes. WRS suggested a small number of edits, particularly to the screening section of the survey, and all were accepted by Enviromedia. Final approval of the questionnaire was obtained from Enviromedia; a copy of the final questionnaire is attached to the report.

Data Collection

Completed surveys for the study were obtained from December 10-12, 2003. The interviews were conducted by trained, professional interviewers. The average length of the surveys was approximately 20 minutes. Interviewers utilized CATI (computer assisted telephone interviewing) software which helps to ensure the validity and randomness of the research.

Survey Population

Respondents for the study were required to be Texas residents of at least 16 years of age (n=1,203). WRS conducted an additional oversample (n=50) with younger Texans age 16-24. WRS examined the latest U.S. Census data for Texas (2000 Census) when setting quotas for the sample. WRS quadruple stratified its sample in so that Texas would be represented accurately based on the latest Census data. The sample was stratified by region, gender, race, and age.



Sample Type

WRS used an RDD (random digit dialing) sample of households in Texas. The sample was stratified by geographic region (as defined by Texas Health and Human Services Commission). Each county in Texas was grouped and placed into its proper region.

REGION	COUNTIES
Region 1: High Plains	Armstrong, Bailey, Briscoe, Carson, Castro, Childress, Cochran, Collingsworth, Crosby, Dallam, Deaf Smith, Dickens, Donley, Floyd, Garza, Gray, Hale, Hall, Hansford, Hartley, Hemphill, Hockley, Hutchinson, King, Lamb, Lipscomb, Lubbock, Lynn, Moore, Motley, Ochiltree, Oldham, Parmer, Potter, Randall, Roberts, Sherman, Swisher, Terry, Wheeler, Yoakum
Region 2: Northwest Texas	Archer, Baylor, Brown, Callahan, Clay, Coleman, Comanche, Cottle, Eastland, Fisher, Foard, Hardeman, Haskell, Jack, Jones, Kent, Knox, Mitchell, Montague, Nolan, Runnels, Scurry, Shackelford, Stonewall, Stephens, Taylor, Throckmorton, Wichita, Wilbarger, Young
Region 3: Metroplex	Collin, Cooke, Dallas, Denton, Ellis, Erath, Fannin, Grayson, Hood, Hunt, Johnson, Kaufman, Navarro, Palo Pinto, Parker, Rockwall, Somervell, Tarrant, Wise
Region 4: Upper East Texas	Anderson, Bowie, Camp, Cass, Cherokee, Delta, Franklin, Gregg, Harrison, Henderson, Hopkins, Lamar, Marion, Morris, Panola, Rains, Red River, Rusk, Smith, Titus, Upshur, Van Zandt, Wood
Region 5: Southeast Texas	Angelina, Hardin, Houston, Jasper, Jefferson, Nacogdoches, Newton, Orange, Polk, Sabine, San Augustine, San Jacinto, Shelby, Trinity, Tyler
Region 6: Gulf Coast	Austin, Brazoria, Chambers, Colorado, Fort Bend, Galveston, Harris, Liberty, Matagorda, Montgomery, Walker, Waller, Wharton
Region 7: Central Texas	Bastrop, Bell, Blanco, Bosque, Brazos, Burleson, Burnet, Caldwell, Coryell, Falls, Fayette, Freest 1, Grimes, Hamilton, Hays, Hill, Lampasas, Lee, Leon, Limestone, Llano, Madison, McLennan, Milam, Mills, Robertson, San Saba, Travis, Washington, Williamson
Region 8: Upper South Texas	Atacosa, Bandera, Bexar, Calhoun, Comal, DeWitt, Dimmit, Edwards, Frio, Gillespie, Goliad, Gonzales, Guadalupe, Jackson, Karnes, Kendall, Kerr, Kinney, La Salle, Lavaca, Maverick, Medina, Real, Uvalde, Val Verde, Victoria, Wilson, Zavala
Region 9: West Texas	Andrews, Borden, Coke, Concho, Crane, Crockett, Dawson, Ector, Gaines, Glasscock, Howard, Irion, Kimble, Loving, Martin, Mason, McCulloch, Menard, Midland, Pecos, Reagan, Reeves, Schleicher, Sterling, Sutton, Terrell, Tom Green, Upton, Ward, Winkler
Region 10: Upper Rio Grande	Brewster, Culberson, El Paso, Hudspeth, Jeff Davis, Presidio
Region 11: Lower South Texas	Aransas, Bee, Brooks, Cameron, Duval, Hidalgo, Jim Hogg, Jim Wells, Kenedy, Kleberg, Live Oak, McMullen, Nueces, Refugio, San Patricio, Starr, Webb, Willacy, Zapata



APPENDIX B: Questionnaire

Litter Survey 2003 Questionnaire

Hello, this is _____. I'm calling on behalf of WRS, a public opinion research company. We're not selling anything. This is a survey of the opinions of Texas residents about environmental quality in the state. We want to include someone in your household. It's an interesting topic and will only take about 15 minutes.

IN CASE OF REFUSAL OR RESPONDENT WANTING MORE INFORMATION

We're conducting a study in order to better understand why people may litter, and how to prevent it. With the information that you and 1200 other households across Texas provide, transportation planners and public officials can develop strategies for making wise investments in preventing litter in you area.

NEW SCREENER

S1. Are you 16 years of age or older?

Yes CONTINUE
No TERMINATE

1. In the past three months, have you seen or heard any ads or public service messages related to litter or littering?

Yes 1 ⇒ Q4
No 2
DK/RF 9

2. How about more than three months ago, have you ever seen ads or public service messages related to litter or littering?

Yes 1
No 2 ⇒ Q5
DK/RF..... 9 ⇒ Q5



3. What did the ads or public service messages say, or show or who was in them? [DO NOT READ LIST]

None	00
“Don't Mess with Texas”	01 ⇒ RECAL
En Texas, No Se Tira Basura	02
The Don't Mess with Texas Road Tour	03
If your Mother were Texas, would you still litter?	04
Keep America Beautiful.....	05
Pitch In	06
It's Take-Out, Not Toss-Out.....	07
Please don't litter	08
Keep Texas Beautiful.....	09
Sign of the Fine for Littering.....	10
Keep (Name of City) Clean	11
Littering is unLAWFUL.....	12
Other, specify	97
Don't Know	99

4. What was the main slogan used in the ads or public service messages? [DO NOT READ LIST]

None	00
“Don't Mess with Texas”	01 ⇒ RECAL
En Texas, No Se Tira Basura	02
The Don't Mess with Texas Road Tour	03
If your Mother were Texas, would you still litter?	04
Keep America Beautiful.....	05
Pitch In	06
It's Take-Out, Not Toss-Out.....	07
Please don't litter	08
Keep Texas Beautiful.....	09
Sign of the Fine for Littering.....	10
Keep (Name of City) Clean	11
Littering is unLAWFUL.....	12
Other, specify	97
Don't Know	99

5. What slogans about litter have you seen or heard, either recently or in the past? [DO NOT READ LIST]

None	00
“Don't Mess with Texas”	01 ⇒ RECAL
En Texas, No Se Tira Basura	02
The Don't Mess with Texas Road Tour	03
If your Mother were Texas, would you still litter?	04
Keep America Beautiful.....	05
Pitch In	06
It's Take-Out, Not Toss-Out.....	07
Please don't litter	08
Keep Texas Beautiful.....	09
Sign of the Fine for Littering.....	10
Keep (Name of City) Clean	11
Littering is unLAWFUL.....	12
It's Take-Out, Not Toss-Out.....	13
Don't be a Litterbug.....	14
Give a Hoot, Don't Pollute	15
Other, specify	97
Don't Know	99



6. Have you seen or heard the slogan "Don't Mess With Texas"?

- Yes..... 1
- No 2 ⇒ RECAL
- DK/RF..... 9 ⇒ RECAL

7. What does the slogan "Don't Mess With Texas" mean to you? [RECORD VERBATIM RESPONSE. PROBE WITH "What else? UNTIL UNPRODUCTIVE].

- Record Reponse 1
- Anti-Litter/RIGHT MESSAGE..... 2
- Something about clean; NOT EXACTLY RIGHT, BUT POSITIVE 3
- Breaking the law, fines, macho, toughness, Texas is tough; WRONG MESSAGE 4
- DK/RF..... 9

8. Who sponsors the "Don't Mess With Texas" ads or public service messages? [DO NOT READ LIST]

- Don't Mess With Texas 01
- Texas Department of Transportation (TxDOT)..... 02
- Keep America Beautiful..... 03
- Texas/State Government 04
- Local City Government 05
- Local City Organizations 06
- U.S. Federal Government 07
- Ad Council 08
- Keep Texas Beautiful..... 09
- Other, record 97
- DK/RF..... 99

9. Thinking about the "Don't Mess with Texas" slogan, do any **recent and specific** advertisements come to mind? These could be billboards, TV ads, radio ads, or any other place you've recently seen the "Don't Mess with Texas" slogan. [DO NOT READ LIST. PROBE FOR SPECIFIC AD]

- None 00
- Jimmy the Cigarette Collector 01
- Matthew McConaughey..... 02
- Litter Minutes..... 03
- Keep Yer Butts in the Car..... 04
- Want \$500 fines with that? 05
- Tossin' one is a \$500 party foul 06
- If your (mother, grandfather, daughter, girlfriend) were Texas, would you still litter? 07
- It's take-out, not toss out 08
- Oversized food containers..... 09
- En Texas, no se tira basura..... 10
- The Don't Mess with Texas Road Tour 11
- Man on the street asking people to throw trash on others..... 12
- Other, record 97
- DK/RF..... 99

10. Have you heard of the Don't Mess with Texas Road Tour?

- Yes..... 1
- No 2
- DK/RF..... 9



11. Please tell me if any of the following have happened. Try to be as accurate and honest as possible. Our main purpose is to understand how it sometimes happens that people litter. For each one, tell me if it has never happened, it happened but 3 or more years ago, it happened 1 or 2 years ago, or between 3 and 12 months ago, or it happened in the past 3 months. RANDOMIZE

- a) You noticed that some trash fell out of a pick-up or other vehicle you were driving or riding in
- b) Someone in a vehicle you were in threw out trash in an area that already had lots of litter
- c) Someone in a vehicle you were in threw out a can, bottle, or other litter out onto the side of the road
- d) You had problems with a vehicle and left debris like a tire, part of a tire, or other stuff on the roadside
- e) Rather than keep an alcohol container in the car, you, or someone in a vehicle you were in, threw out a can or bottle
- f) You threw out a small item, like a candy wrapper, cigarette butt, a lottery ticket, or something like that
- g) You or someone you were with got a ticket or a warning for littering

12. Where have you seen or heard the slogan "Don't Mess With Texas"? [DON'T READ LIST, BUT PROBE WITH WHERE ELSE?] ACCEPT MULTIPLE RESPONSES

The Don't Mess with Texas Road Tour

TV	01
Radio	02
Newspapers	03
Magazines	04
Billboards or outdoor posters05.....	05
Posters on buses or taxicabs	06
Trash cans.....	07
Street or highway signs	08
Park benches or someplace in a park	09
Movie Theater	10
Bumper sticker	11
T-shirts.....	12
Drink cans or cups	13
Fast food wrappers or bags	14
Other food packages (such as chip bags, bread packages, etc.)	15
Plastic grocery bags.....	16
Never	17
Other, record	97
Don't Know	99

13. Just based on your own feelings, would you like to see the Texas Department of Transportation continue using the "Don't Mess With Texas" litter prevention campaign, or not?

Yes	1
No	2 ⇒ Q15
Makes no difference DNR	3 ⇒ Q15
DK/RF.....	9 ⇒ Q15



14. Why do you think the litter prevention campaign should be continued?

Record Response.....	1
Stop people from littering.....	2
Like the ads/singers/actors.....	3
Positive message.....	4
We need to keep reminding people not to litter.....	5
DK/RF.....	9

15. Why do you think the litter prevention campaign should not be continued? OPEN TEXT

Record Response.....	1
Doesn't help/ Doesn't stop litter.....	2
Don't like the ads/singers/actors.....	3
Stupid/annoying.....	4
Don't need them.....	5
Something else would be better.....	6
DK/RF.....	9

16. Now I would like to ask you about litter in Texas. As you know, there are many different opinions about what is and what is not litter, and also about what is serious and what is minor litter. What types of materials do you think are a serious litter problem? [DON'T READ RESPONSE CATEGORIES BUT CONFIRM CATEGORY ASSIGNMENT WITH RESPONDENT]

Cans and bottles.....	01
Tire and other car-related debris.....	02
Small pieces of paper (receipts, lottery tickets).....	03
Diapers/plastic bags/other plastic.....	04
Cigarette butts.....	05
Construction debris.....	06
Fast food wrappers.....	07
Candy wrappers.....	08
Cardboard.....	09
Other, record.....	97
DK/RF.....	99

17. What types of materials do you think are pretty minor litter problems? [DON'T READ RESPONSE CATEGORIES BUT CONFIRM CATEGORY ASSIGNMENT WITH RESPONDENT]

Candy Wrappers.....	01
Cigarette butts.....	02
Small pieces of paper (receipts, lottery tickets).....	03
Food/organic material.....	04
Cans and bottles.....	05
Beverage tops/caps.....	06
Gum/candy.....	07
Diapers/plastic bags/other plastic.....	08
Fast food wrappers.....	09
Construction materials.....	10
Tire and other car-related debris.....	11
Cardboard.....	12
Other, record.....	97
DK/RF.....	99



18. Can you think of items that you yourself might have discarded as litter, either because you didn't think much of it or because you thought of it as a minor item, or it was accidental, or you were messing around, or just not yourself? [YES, NO, DK/RF] IF YES, ASK: What were the items? [DON'T READ RESPONSE CATEGORIES BUT CONFIRM CATEGORY ASSIGNMENT WITH RESPONDENT IF NECESSARY]

No/Nothing/Never Littered	00
Cigarette butts	01
Candy wrappers, gum	02
Small pieces of paper (receipts, lottery tickets).....	03
Food/organic materials (apple cores, banana peels, etc.)	04
Cans or bottles.....	05
Fast food wrappers.....	06
Diapers and other plastics	07
Debris from tires, etc.....	08
Construction materials	09
Cardboard	10
Other, record	97
DK/RF.....	99

19. What were the circumstances when something like that happened? Where were you? What were you doing? [DON'T READ RESPONSE CATEGORIES]

Driving/riding in car/traveling in vehicle	1
Walking, playing outside.....	2
Opened door and it flew out/ flew out of cab	3
Flew out of truck bed.....	4
No trash can around (not while in car).....	5
Drunk/partying/drinking	6
Can't remember/don't recall.....	7
Other [RECORD VERBATIM RESPONSE]	8
DK/RF.....	9

20. Were you alone when the littering behavior happened?

Yes	1
No	2
DK/RF.....	9

21. I will read you a few items that are litter. For each one please tell me if you think it's an extremely serious problem, somewhat serious, a minor problem, or not a problem at all. The first one is: RANDOMIZE

- A. Litter that falls out of pick-up trucks accidentally
- B. Cigarette butts
- C. Fast food containers
- D. Beer cans and bottles
- E. Construction debris
- F. Soda cans and bottles
- G. Plastic bags from stores
- H. Candy wrappers
- I. Chip bags
- J. Small pieces of paper (receipts, lottery tickets)
- K. Junk mail, other paper items
- L. Cardboard



22. Now think carefully about someone that might occasionally litter - someone you know, or a type of person most likely to do it. I will read you different types of messages to encourage people to not litter. For each one tell me how effective it would be for reducing littering. Use a scale of one to five where one is it would not help at all and five is it would definitely stop someone from littering. Use any number from one to five. RANDOMIZE

- A. Love Texas? Don't litter.
- B. Hey, Texas, you dropped something.
- C. It costs \$32 million a year to pick up all the trash dropped on Texas roads.
- D. Stash your trash in a litterbag.
- E. It may be a small piece of litter, but it's still a big problem in Texas.
- F. Not littering is easy. Keep a litterbag in your car or look out for the next trash can.
- G. Keep the trash out of your truck bed.
- H. Road trips are cool...littering is not.

23. What would you say to someone to convince them to not litter? OPEN TEXT

24. Now I will read you different types of actions to encourage people to not litter. For each one tell me how effective it would be for reducing littering. Use a scale of one to five where one is it would not help at all and five is it would definitely stop someone from littering. Use any number from one to five. RANDOMIZE

- A. Concentrate the message on specific forms of trash, such as cigarette butts, bottles or fast food trash
- B. Make more Don't Mess With Texas ads with new people in them
- C. Make more ads with music in them
- D. Create litter prevention awareness materials for elementary school age children
- E. Travel throughout the state and talk to people about litter and its effects
- F. Include real Texans in ads for Don't Mess with Texas

25. Now I will read you several things that people do or might do to help reduce litter on Texas highways. For each one, please tell me if it is something you have done, something you would definitely do, something you might do, or something you probably would not do. The first one is. RANDOMIZE

- A. Pick up some litter you see and dispose of it
- B. Volunteer with a group to pick up road litter
- C. Anonymously report someone who litters to the authorities
- D. Tell someone you see littering that it's wrong to litter

26. If you saw someone littering, would you be likely or unlikely to report it using an anonymous system?
PROBE: VERY/SOMEWHAT

Very Likely	1
Somewhat Likely.....	2
Somewhat Unlikely	3
Very Unlikely.....	4
DK/RF.....	9

27. Have you heard of or used the state's 'Report a Litterer' or "GOTCHA" program?

Yes.....	1
No	2
DK/RF.....	9

28. Do you know anyone who has received a letter about littering?

Yes.....	1
No	2
DK/RF	9



29. To the best of your knowledge, who picks up litter on Texas roads? [DON'T READ RESPONSE CATEGORIES]

Texas Department of Transportation (TXDOT) Workers	1
Paid Contractors	2
Volunteers	3
Prisoners	4
Adopt-a-Highway	5
Others, record	7
[PROBE, RECORD VERBATIM RESPONSE]	9

30. Have you heard of the Adopt-a-Highway program?

Yes	1
No	2 ⇒ Q32
DK/RF	9 ⇒ Q32

31. What is this program about? [OPEN TEXT] [RECORD VERBATIM RESPONSE]

32. Would you be likely or unlikely to participate in a volunteer program to pick up litter on Texas highways?
 PROBE: VERY/SOMEWHAT

Very Likely	1 ⇒ Q34
Somewhat Likely	2
Somewhat Unlikely	3
Very Unlikely	4
DK/RF	9

33. What would convince you to participate? OPEN TEXT

34. During the past year, have you gone to any the following events or locations?
 RANDOMIZE AND ACCEPT MULTIPLE

- A. Sporting events
- B. Concerts with big-name artists
- C. Local concerts featuring local artists
- D. Community festivals (Fiesta, Taste of El Paso, Chili Cook-Off, etc.)
- E. Amusement parks
- F. The mall or shopping center
- G. The beach, the lake or the river

35. In a typical day, how many miles do you drive or ride in a car? [OPEN TEXT NUMERICAL FIELD]
 [DK/RF=999]
 CREATE RANGES FOR RESPONSES

Zero	1
1-10	2
11-20	4
21-30	5
31-40	6
41-50	7
More than 50	8
DK/RF	9



36. What type of vehicle do you drive? Is it a sedan, pick-up, SUV, Van or Minivan, Coupe, or something else?

Sedan	1 ⇒ Q39
Pick-up.....	2
Sports Utility Vehicle (SUV).....	3 ⇒ Q39
Van/Minivan.....	4 ⇒ Q39
Coupe	5 ⇒ Q39
Something else [PROBE, RECORD VERBATIM RESPONSE].....	7 ⇒ Q39
DK/RF.....	9 ⇒ Q39

37. Do you put anything in the truck bed? READ

Always.....	1
Sometimes	2
Never	3 ⇒ Q40
DK/RF.....	9 ⇒ Q40

38. What kinds of items go in the truck bed? OPEN TEXT

Candy Wrappers.....	01
Cigarette butts	02
Small pieces of paper (receipts, lottery tickets).....	03
Food/organic material.....	04
Cans and bottles.....	05
Beverage tops/caps	06
Gum/candy	07
Diapers/plastic bags/other plastic.....	08
Fast food wrappers.....	09
Construction materials	10
Tire and other car-related debris	11
Cardboard	12
Other, record	97
DK/RF.....	99

39. What kinds of trash accumulate inside your vehicle? RANDOMIZE AND ACCEPT MULTIPLE

Candy Wrappers.....	01
Cigarette butts	02
Small pieces of paper (receipts, lottery tickets).....	03
Food/organic material.....	04
Cans and bottles.....	05
Beverage tops/caps	06
Gum/candy	07
Diapers/plastic bags/other plastic.....	08
Fast food wrappers.....	09
Construction materials	10
Tire and other car-related debris	11
Cardboard	12
Other, record	97
DK/RF.....	99

40. Do you have a litterbag or trash can in your vehicle?

Yes.....	1 ⇒ Q42
No	2
DK/RF.....	9



41. Would you use a litterbag or trash can in your car?

- Yes 1
- No 2
- DK/RF..... 9

42. Approximately how many evenings per week do you go to parties, bars, or other nighttime entertainment places? [NUMERICAL FIELD RANGE FROM 1 TO 7][DK/RF=99]

43. How many times per week do you go to a fast food restaurant? [OPEN TEXT NUMERICAL FIELD] [DK/RF=99]
 CREATE RANGES FOR RESPONSES

- Zero 1
- 1-2 2
- 3-4 4
- 4-5 5
- More than 5 6
- DK/RF..... 9

44. Do you smoke?

- Yes 1
- No 2 ⇒ Q46
- DK/RF..... 9 ⇒ Q46

45. How do you dispose of a cigarette butt when in the car? [OPEN TEXT] [DK/RF=99]

46. Do you use the Internet?

- Yes 1
- No 2 ⇒ Q54*
- DK/RF..... 9 ⇒ Q54*

47. Is that at home, at work, or both?

- Yes, at Home 1
- Yes, at Work 2
- Yes, Both 3
- No 4
- DK/RF..... 9

48. How do you spend the majority of your time on the Internet? [OPEN TEXT] [DK/RF=99]



49. What is your favorite type of music? [ONLY ASKED IF SAMPTYPE=2]

- Alternative
- Avant-Garde
- Blues
- Bluegrass
- Celtic
- Contemporary
- Classic Rock
- Classical
- Country
- Country Rock
- Disco
- Easy Listening/Light Sounds
- Electronic/Techno/Industrial
- Folk
- Gospel
- Hiphop
- Jazz/Big Band
- Latin
- Lounge/Bachelor Pad
- Metal
- New Age
- Oldies
- Opera
- Pop/Dance
- Punk
- R&B
- Rap
- Reggae
- Rock
- Ska
- Soul
- Soundtrack
- World
- Other
- DK/RF

50. Who is your favorite [enter music type from Q49] artist or group? OPEN TEXT [ONLY ASEKD IF SAMPTYPE=2]

51. What Texan or Texans would you like to see in future litter prevention campaigns? OPEN TEXT [ONLY ASEKD IF SAMPTYPE=2]

52. Would you visit a web site to enter a contest? [ONLY ASEKD IF SAMPTYPE=2]

- Yes 1
- No 2
- DK/RF..... 9

53. Would you visit a web site to report someone you saw littering? [ONLY ASEKD IF SAMPTYPE=2]

- Yes 1
- No 2
- DK/RF..... 9



54. Finally, I'll ask a few questions about you. What is your marital status? Are you . . .

Married.....	1
Living as Married	2
Single and never been married	3
Divorced	4
Separated.....	5
Widowed.....	6
Other.....	7
DK/RF.....	9

55. In what zip code do you live? [OPEN TEXT NUMERICAL FIELD] [DK/RF=99999]

56. How long have you lived in Texas?

UNDER 2 YRS	1
2-5 YRS	2
6-10 YRS	3
OVER 10 YRS	4
ALL MY LIFE	5 ⇒ Q59
DK/RF.....	9 ⇒ Q59

57. Where did you live prior to coming to Texas? [RECORD VERBATIM RESPONSE][DK/RF=99]

INSERT STATE LOOKUP LIST. INCLUDE MEXICO AND CANADA.

58. To what racial or ethnic group do you belong?

WHITE	1
ASIAN.....	2
BLACK.....	3
HISPANIC.....	4
OTHER [PROBE, RECORD VERBATIM RESPONSE]	7
DK/RF.....	9

59. What is your age? [OPEN TEXT NUMERIC FIELD][DK/RF=999] CREATE RANGES FOR RESPONSES

16-24.....	1
25-34.....	2
35-44.....	4
45-54.....	5
55-64.....	6
65+	7
DK/RF.....	9

60. HH Income. CREATE RANGES FOR RESPONSES

Less than \$20,000.....	1
Between \$20,000 and \$40,000	2
Between \$40,000 and \$60,000	3
Between \$60,000 and \$75,000	4
Between \$75,000 and \$100,000.....	5
Over \$100,000	6
DK/RF.....	9



61. GENDER (DO NOT ASK)

MALE 1
FEMALE 2

On behalf of WRS and the Don't Mess with Texas campaign, I'd like to thank you for your time and consideration in this very important study.



APPENDIX C: Master Questionnaire with Raw Frequencies

Litter Survey 2003 Master Questionnaire

Hello, this is _____. I'm calling on behalf of WRS, a public opinion research company. We're not selling anything. This is a survey of the opinions of Texas residents about environmental quality in the state. We want to include someone in your household. It's an interesting topic and will only take about 15 minutes.

IN CASE OF REFUSAL OR RESPONDENT WANTING MORE INFORMATION

We're conducting a study in order to better understand why people may litter, and how to prevent it. With the information that you and 1200 other households across Texas provide, transportation planners and public officials can develop strategies for making wise investments in preventing litter in you area.

N=1,253 Texans

NEW SCREENER

S1. Are you 16 years of age or older?

Yes CONTINUE
 No TERMINATE

1. In the past three months, have you seen or heard any ads or public service messages related to litter or littering?

Yes..... 40% ⇒ Q4
 No..... 58%
 DK/RF 2%

2. How about more than three months ago, have you ever seen ads or public service messages related to litter or littering?

Yes..... 32%
 No..... 65% ⇒ Q5
 DK/RF 4% ⇒ Q5

3. What did the ads or public service messages say, or show or who was in them? [DO NOT READ LIST]

None..... 3%
 "Don't Mess with Texas" 40%
 En Texas, No Se Tira Basura..... 0%
 The Don't Mess with Texas Road Tour 1%
 If your Mother were Texas, would you still litter?..... 0%
 Keep America Beautiful 3%
 Pitch In 0%
 It's Take-Out, Not Toss-Out..... 0%
 Please don't litter..... 6%
 Keep Texas Beautiful 1%
 Sign of the Fine for Littering 3%
 Keep (Name of City) Clean..... 1%
 Littering is unLAWFUL 3%
 Other, specify..... 11%
 Don't Know..... 33%



4. What was the main slogan used in the ads or public service messages? [DO NOT READ LIST]

None.....	4%
“Don't Mess with Texas”	56%
En Texas, No Se Tira Basura.....	0%
The Don't Mess with Texas Road Tour	1%
If your Mother were Texas, would you still litter?.....	2%
Keep America Beautiful	2%
Pitch In	1%
It's Take-Out, Not Toss-Out.....	0%
Please don't litter.....	3%
Keep Texas Beautiful	2%
Sign of the Fine for Littering	2%
Keep (Name of City) Clean.....	1%
Littering is unLAWFUL	2%
Other, specify.....	3%
Don't Know.....	22%

5. What slogans about litter have you seen or heard, either recently or in the past? [DO NOT READ LIST]

None.....	15%
“Don't Mess with Texas”	51%
En Texas, No Se Tira Basura.....	0%
The Don't Mess with Texas Road Tour	1%
If your Mother were Texas, would you still litter?.....	2%
Keep America Beautiful	4%
Pitch In	2%
It's Take-Out, Not Toss-Out.....	1%
Please don't litter.....	3%
Keep Texas Beautiful	3%
Sign of the Fine for Littering	2%
Keep (Name of City) Clean.....	2%
Littering is unLAWFUL	2%
Don't be a Litterbug.....	3%
Give a Hoot, Don't Pollute	4%
Other, specify.....	2%
Don't Know.....	19%

6. Have you seen or heard the slogan “Don't Mess With Texas”?

Yes.....	95%
No	5%
DK/RF	1%

7. What does the slogan “Don't Mess With Texas” mean to you? [RECORD VERBATIM RESPONSE. PROBE WITH “What else? UNTIL UNPRODUCTIVE].

Anti-Litter/RIGHT MESSAGE.....	60%
Something about clean; NOT EXACTLY RIGHT, BUT POSITIVE.....	18%
Breaking the law, fines, macho, toughness, Texas is tough; WRONG MESSAGE.....	11%
DK/RF	9%



8. Who sponsors the “Don't Mess With Texas” ads or public service messages? [DO NOT READ LIST]

Don't Mess With Texas	3%
Texas Department of Transportation (TxDOT)	19%
Keep America Beautiful	1%
Texas/State Government.....	19%
Local City Government	2%
Local City Organizations.....	1%
U.S. Federal Government.....	1%
Ad Council	0%
Keep Texas Beautiful	1%
Other, record.....	3%
DK/RF	51%

9. Thinking about the “Don't Mess with Texas” slogan, do any **recent and specific** advertisements come to mind? These could be billboards, TV ads, radio ads, or any other place you've recently seen the “Don't Mess with Texas” slogan. [DO NOT READ LIST. PROBE FOR SPECIFIC AD]

None.....	43%
Jimmy the Cigarette Collector.....	1%
Matthew McConaughey	2%
Litter Minutes	1%
Keep Yer Butts in the Car.....	2%
Want \$500 fines with that?	3%
Tossin' one is a \$500 party foul.....	1%
If your (mother, grandfather, daughter, girlfriend) were Texas, would you still litter?.....	4%
It's take-out, not toss out.....	1%
Oversized food containers	0%
En Texas, no se tira basura	1%
The Don't Mess with Texas Road Tour.....	3%
Man on the street asking people to throw trash on others.....	1%
Other, record.....	10%
DK/RF	34%

10. Have you heard of the Don't Mess with Texas Road Tour?

Yes.....	13%
No	85%
DK/RF	2%



11. Please tell me if any of the following have happened. Try to be as accurate and honest as possible. Our main purpose is to understand how it sometimes happens that people litter. For each one, tell me if it has never happened, it happened but 3 or more years ago, it happened 1 or 2 years ago, or between 3 and 12 months ago, or it happened in the past 3 months. RANDOMIZE

	It has never happened	It happened but 3 or more years ago	It happened 1 or 2 years ago	It happened between 3 and 12 months ago	It happened in the past 3 months	DK/Refused
You noticed that some trash fell out of a pick-up or other vehicle you were driving or riding in	47%	11%	10%	12%	20%	1%
Someone in a vehicle you were in threw out trash in an area that already had lots of litter	62%	10%	9%	8%	10%	1%
Someone in a vehicle you were in threw out a can, bottle, or other litter out onto the side of the road	58%	14%	10%	8%	11%	0%
You had problems with a vehicle and left debris like a tire, part of a tire, or other stuff on the roadside	79%	7%	6%	4%	4%	0%
Rather than keep an alcohol container in the car, you, or someone in a vehicle you were in, threw out a can or bottle	80%	7%	5%	4%	4%	0%
You threw out a small item, like a candy wrapper, cigarette butt, a lottery ticket, or something like that	57%	9%	7%	8%	18%	1%
You or someone you were with got a ticket or a warning for littering	92%	3%	0%	1%	2%	0%



12. Where have you seen or heard the slogan “Don't Mess With Texas”? [DON'T READ LIST, BUT PROBE WITH WHERE ELSE?] ACCEPT MULTIPLE RESPONSES

The Don't Mess with Texas Road Tour	1%
TV.....	49%
Radio	22%
Newspapers.....	6%
Magazines.....	4%
Billboards or outdoor posters05	34%
Posters on buses or taxicabs.....	2%
Trash cans	3%
Street or highway signs	23%
Park benches or someplace in a park	3%
Movie Theater.....	0%
Bumper sticker	11%
T-shirts	4%
Drink cans or cups	1%
Fast food wrappers or bags	1%
Other food packages (such as chip bags, bread packages, etc.).....	0%
Plastic grocery bags	1%
Never.....	1%
Other, record.....	3%
Don't Know.....	7%

13. Just based on your own feelings, would you like to see the Texas Department of Transportation continue using the “Don't Mess With Texas” litter prevention campaign, or not?

Yes.....	84%
No	4% ⇒ Q15
Makes no difference DNR.....	8% ⇒ Q15
DK/RF	5% ⇒ Q15

14. Why do you think the litter prevention campaign should be continued?

Stop people from littering	45%
Like the ads/singers/actors	3%
Positive message.....	15%
We need to keep reminding people not to litter	26%
Other, record.....	12%
DK/RF	3%

15. Why do you think the litter prevention campaign should not be continued? OPEN TEXT

Doesn't help/ Doesn't stop litter.....	25%
Don't like the ads/singers/actors	1%
Stupid/annoying.....	3%
Don't need them.....	5%
Something else would be better.....	16%
Other, specify.....	6%
DK/RF	44%



16. Now I would like to ask you about litter in Texas. As you know, there are many different opinions about what is and what is not litter, and also about what is serious and what is minor litter. What types of materials do you think are a serious litter problem? [DON'T READ RESPONSE CATEGORIES BUT CONFIRM CATEGORY ASSIGNMENT WITH RESPONDENT]

Cans and bottles	53%
Tire and other car-related debris.....	28%
Small pieces of paper (receipts, lottery tickets)	19%
Diapers/plastic bags/other plastic	32%
Cigarette butts.....	17%
Construction debris.....	15%
Fast food wrappers.....	27%
Candy wrappers.....	11%
Cardboard.....	7%
Other, record.....	14%
DK/RF	5%

17. What types of materials do you think are pretty minor litter problems? [DON'T READ RESPONSE CATEGORIES BUT CONFIRM CATEGORY ASSIGNMENT WITH RESPONDENT]

Candy Wrappers	20%
Cigarette butts.....	24%
Small pieces of paper (receipts, lottery tickets)	14%
Food/organic material	14%
Cans and bottles	4%
Beverage tops/caps.....	2%
Gum/candy.....	11%
Diapers/plastic bags/other plastic	2%
Fast food wrappers.....	2%
Construction materials.....	0%
Tire and other car-related debris.....	1%
Cardboard.....	1%
Other, record.....	14%
DK/RF	23%

18. Can you think of items that you yourself might have discarded as litter, either because you didn't think much of it or because you thought of it as a minor item, or it was accidental, or you were messing around, or just not yourself? [YES, NO, DK/RF] IF YES, ASK: What were the items? [DON'T READ RESPONSE CATEGORIES BUT CONFIRM CATEGORY ASSIGNMENT WITH RESPONDENT IF NECESSARY]

No/Nothing/Never Littered.....	48% ⇒ Q21
Cigarette butts.....	16%
Candy wrappers, gum.....	21%
Small pieces of paper (receipts, lottery tickets)	11%
Food/organic materials (apple cores, banana peels, etc.).....	8%
Cans or bottles	4%
Fast food wrappers.....	3%
Diapers and other plastics.....	1%
Debris from tires, etc.....	0%
Construction materials.....	0%
Cardboard	0%
Other, record.....	3%
DK/RF	5%



19. What were the circumstances when something like that happened? Where were you? What were you doing? [DON'T READ RESPONSE CATEGORIES]

Driving/riding in car/traveling in vehicle.....	66%
Walking, playing outside	16%
Opened door and it flew out/ flew out of cab.....	6%
Flew out of truck bed.....	3%
No trash can around (not while in car).....	4%
Drunk/partying/drinking.....	3%
Can't remember/don't recall.....	3%
Other [RECORD VERBATIM RESPONSE].....	4%
DK/RF	9%

20. Were you alone when the littering behavior happened?

Yes.....	42%
No.....	42%
DK/RF	16%

21. I will read you a few items that are litter. For each one please tell me if you think it's an extremely serious problem, somewhat serious, a minor problem, or not a problem at all. The first one is: RANDOMIZE

	Extremely serious	Somewhat serious	Minor problem	Not a problem at all	DK/Refused
Litter that falls out of pick-up trucks accidentally	38%	37%	20%	3%	1%
Cigarette butts	36%	29%	28%	7%	1%
Fast food containers	50%	36%	12%	2%	0%
Beer cans and bottles	63%	28%	7%	2%	0%
Construction debris	56%	28%	12%	4%	1%
Soda cans and bottles	60%	31%	8%	1%	0%
Plastic bags from stores	53%	32%	12%	2%	0%
Candy wrappers	26%	35%	34%	5%	0%
Chip bags	34%	38%	24%	4%	0%
Small pieces of paper (receipts, lottery tickets)	26%	33%	35%	6%	1%
Junk mail, other paper items	36%	37%	22%	5%	1%
Cardboard	40%	35%	19%	6%	1%



22. Now think carefully about someone that might occasionally litter - someone you know, or a type of person most likely to do it. I will read you different types of messages to encourage people to not litter. For each one tell me how effective it would be for reducing littering. Use a scale of one to five where one is it would not help at all and five is it would definitely stop someone from littering. Use any number from one to five. RANDOMIZE

	1-It would not help at all	2	3	4	5-It would definitely stop someone from littering	DK/Refused
Love Texas? Don't litter	8%	13%	24%	27%	26%	2%
Hey, Texas, you dropped something	18%	16%	23%	20%	21%	3%
It costs \$32 million a year to pick up all the trash dropped on Texas roads	9%	10%	19%	25%	36%	3%
Stash your trash in a litterbag	11%	16%	28%	23%	20%	2%
It may be a small piece of litter, but it's still a big problem in Texas	9%	13%	24%	29%	22%	2%
Not littering is easy. Keep a litterbag in your car or look out for the next trash can	15%	21%	27%	18%	17%	2%
Keep the trash out of your truck bed	17%	21%	26%	15%	18%	3%
Road trips are cool...littering is not	15%	20%	24%	20%	17%	4%

23. What would you say to someone to convince them to not litter? OPEN TEXT

24. Now I will read you different types of actions to encourage people to not litter. For each one tell me how effective it would be for reducing littering. Use a scale of one to five where one is it would not help at all and five is it would definitely stop someone from littering. Use any number from one to five. RANDOMIZE

	1-It would not help at all	2	3	4	5-It would definitely stop someone from littering	DK/Refused
Concentrate the message on specific forms of trash, such as cigarette butts, bottles or fast food trash	10%	11%	23%	27%	26%	3%
Make more Don't Mess With Texas ads with new people in them	11%	10%	26%	28%	23%	4%
Make more ads with music in them	12%	14%	28%	23%	20%	4%
Create litter prevention awareness materials for elementary school age children	5%	7%	17%	27%	43%	3%
Travel throughout the state and talk to people about litter and its effects	9%	14%	25%	25%	24%	3%
Include real Texans in ads for Don't Mess with Texas	9%	9%	25%	24%	29%	3%



25. Now I will read you several things that people do or might do to help reduce litter on Texas highways. For each one, please tell me if it is something you have done, something you would definitely do, something you might do, or something you probably would not do. The first one is. RANDOMIZE

	Something you have done	Something you would definitely do	Something you might do	Something you probably would not do	DK/Refused
Pick up some litter you see and dispose of it	57%	20%	15%	7%	1%
Volunteer with a group to pick up road litter	21%	24%	29%	24%	2%
Anonymously report someone who litters to the authorities	7%	25%	30%	34%	4%
Tell someone you see littering that it's wrong to litter	35%	31%	18%	14%	3%

26. If you saw someone littering, would you be likely or unlikely to report it using an anonymous system?
 PROBE: VERY/SOMEWHAT

Very Likely	23%
Somewhat Likely	29%
Somewhat Unlikely	16%
Very Unlikely.....	24%
DK/RF	9%

27. Have you heard of or used the state's 'Report a Litterer" or "GOTCHA" program?

Yes.....	10%
No	89%
DK/RF	2%

28. Do you know anyone who has received a letter about littering?

Yes.....	5%
No	93%
DK/RF	2%

29. To the best of your knowledge, who picks up litter on Texas roads? [DON'T READ RESPONSE CATEGORIES]

TxDOT Workers	22%
Paid Contractors.....	6%
Volunteers	23%
Prisoners.....	37%
Adopt-a-Highway	9%
Others, record.....	7%
[PROBE, RECORD VERBATIM RESPONSE]	7%



30. Have you heard of the Adopt-a-Highway program?
 Yes..... 79%
 No 20% ⇒ Q32
 DK/RF 1% ⇒ Q32

31. What is this program about? [OPEN TEXT] [RECORD VERBATIM RESPONSE]

32. Would you be likely or unlikely to participate in a volunteer program to pick up litter on Texas highways?
 PROBE: VERY/SOMEWHAT

Very Likely 30% ⇒ Q34
 Somewhat Likely 23%
 Somewhat Unlikely 16%
 Very Unlikely..... 26%
 DK/RF 6%

33. What would convince you to participate? OPEN TEXT

34. During the past year, have you gone to any the following events or locations?
 RANDOMIZE AND ACCEPT MULTIPLE

A. Sporting events 43%
 B. Concerts with big-name artists..... 28%
 C. Local concerts featuring local artists 25%
 D. Community festivals (Fiesta, Taste of El Paso, Chili Cook-Off, etc.)..... 39%
 E. Amusement parks 32%
 F. The mall or shopping center 81%
 G. The beach, the lake or the river 44%
 H. None of the above 11%

35. In a typical day, how many miles do you drive or ride in a car? [OPEN TEXT NUMERICAL FIELD]
 [DK/RF=999]
 CREATE RANGES FOR RESPONSES

Zero 4%
 1-10..... 23%
 11-20 21%
 21-30 16%
 31-40 9%
 41-50 8%
 More than 50..... 16%
 DK/RF 5%



36. What type of vehicle do you drive? Is it a sedan, pick-up, SUV, Van or Minivan, Coupe, or something else?

Sedan	34% ⇒ Q39
Pick-up	19%
Sports Utility Vehicle (SUV)	18% ⇒ Q39
Van/Minivan	9% ⇒ Q39
Coupe	7% ⇒ Q39
Something else [PROBE, RECORD VERBATIM RESPONSE]	8% ⇒ Q39
DK/RF	6% ⇒ Q39

37. Do you put anything in the truck bed? READ

Always	21%
Sometimes	48%
Never	28% ⇒ Q40
DK/RF	3% ⇒ Q40

38. What kinds of items go in the truck bed? OPEN TEXT

Candy Wrappers	2%
Cigarette butts	1%
Small pieces of paper (receipts, lottery tickets)	4%
Food/organic material	4%
Cans and bottles	5%
Beverage tops/caps	2%
Gum/candy	3%
Diapers/plastic bags/other plastic	1%
Fast food wrappers	5%
Construction materials	31%
Tire and other car-related debris	21%
Cardboard	7%
Other, record	50%
DK/RF	4%



39. What kinds of trash accumulate inside your vehicle? RANDOMIZE AND ACCEPT MULTIPLE
- | | |
|---|-----|
| Candy Wrappers | 27% |
| Cigarette butts | 9% |
| Small pieces of paper (receipts, lottery tickets) | 34% |
| Food/organic material | 8% |
| Cans and bottles | 27% |
| Beverage tops/caps | 9% |
| Gum/candy | 9% |
| Diapers/plastic bags/other plastic | 7% |
| Fast food wrappers..... | 20% |
| Construction materials..... | 1% |
| Tire and other car-related debris..... | 1% |
| Cardboard | 0% |
| Other, record..... | 17% |
| DK/RF | 19% |
40. Do you have a litterbag or trash can in your vehicle?
- | | |
|-------------|-----------|
| Yes..... | 63% ⇒ Q42 |
| No | 35% |
| DK/RF | 2% |
41. Would you use a litterbag or trash can in your car?
- | | |
|-------------|-----|
| Yes..... | 60% |
| No | 28% |
| DK/RF | 12% |
42. Approximately how many evenings per week do you go to parties, bars, or other nighttime entertainment places?
- | | |
|-------------|-----|
| Zero | 0% |
| One | 46% |
| Two | 16% |
| Three | 6% |
| Four | 4% |
| Five | 2% |
| Six..... | 1% |
| Seven | 0% |
| DK/RF | 26% |
43. How many times per week do you go to a fast food restaurant? [OPEN TEXT NUMERICAL FIELD]
 [DK/RF=99]
 CREATE RANGES FOR RESPONSES
- | | |
|-------------------|-----|
| Zero | 17% |
| 1-2 | 48% |
| 3-4 | 18% |
| 4-5 | 5% |
| More than 5 | 5% |
| DK/RF | 6% |



44. Do you smoke?

Yes..... 26%
No 73% ⇒ Q46
DK/RF 0% ⇒ Q46

45. How do you dispose of a cigarette butt when in the car?

46. Do you use the Internet?

Yes..... 60%
No 40% ⇒ Q54
DK/RF 1% ⇒ Q54

47. Is that at home, at work, or both?

Yes, at Home..... 56%
Yes, at Work..... 8%
Yes, Both..... 35%
No 2%
DK/RF 0%

48. How do you spend the majority of your time on the Internet?



49. What is your favorite type of music? [ONLY ASKED IF SAMPTYPE=2]

Alternative.....	4%
Avant-Garde.....	0%
Blues.....	2%
Bluegrass.....	1%
Celtic.....	0%
Contemporary.....	2%
Classic Rock.....	5%
Classical.....	4%
Country.....	23%
Country Rock.....	2%
Disco.....	0%
Easy Listening/Light Sounds.....	4%
Electronic/Techno/Industrial.....	1%
Folk.....	0%
Gospel.....	3%
Hiphop.....	3%
Jazz/Big Band.....	4%
Latin.....	2%
Lounge/Bachelor Pad.....	0%
Metal.....	1%
New Age.....	1%
Oldies.....	4%
Opera.....	0%
Pop/Dance.....	3%
Punk.....	0%
R&B.....	5%
Rap.....	3%
Reggae.....	1%
Rock.....	10%
Ska.....	0%
Soul.....	0%
Soundtrack.....	0%
World.....	0%
Other.....	6%
DK/RF.....	4%

50. Who is your favorite [enter music type from Q49] artist or group

51. What Texan or Texans would you like to see in future litter prevention campaigns [ONLY ASKED IF SAMPTYPE=2]



52. Would you visit a web site to enter a contest? [ONLY ASKED IF SAMPTYPE=2]
- | | |
|-------------|-----|
| Yes..... | 47% |
| No..... | 44% |
| DK/RF | 9% |
53. Would you visit a web site to report someone you saw littering? [ONLY ASKED IF SAMPTYPE=2]
- | | |
|-------------|-----|
| Yes..... | 35% |
| No..... | 49% |
| DK/RF | 16% |
54. Finally, I'll ask a few questions about you. What is your marital status? Are you . . .
- | | |
|-------------------------------------|-----|
| Married..... | 53% |
| Living as Married | 2% |
| Single and never been married | 26% |
| Divorced | 8% |
| Separated | 2% |
| Widowed | 7% |
| Other | 1% |
| DK/RF | 2% |
55. In what zip code do you live?
- _____
56. How long have you lived in Texas?
- | | |
|-------------------|-----------|
| UNDER 2 YRS | 4% |
| 2-5 YRS | 4% |
| 6-10 YRS..... | 5% |
| OVER 10 YRS | 22% |
| ALL MY LIFE | 65% ⇒ Q58 |
| DK/RF | 1% ⇒ Q58 |
57. Where did you live prior to coming to Texas
- _____



58. To what racial or ethnic group do you belong?

WHITE.....	59%
ASIAN.....	1%
BLACK	10%
HISPANIC.....	29%
OTHER [PROBE, RECORD VERBATIM RESPONSE].....	1%
DK/RF	1%

59. What is your age? [OPEN TEXT NUMERIC FIELD][DK/RF=999] CREATE RANGES FOR RESPONSES

16-24	19%
25-34	19%
35-44	19%
45-54	17%
55-64	11%
65+14%	
DK/RF	1%

60. HH Income. CREATE RANGES FOR RESPONSES

Less than \$20,000	13%
Between \$20,000 and \$40,000.....	18%
Between \$40,000 and \$60,000.....	17%
Between \$60,000 and \$75,000.....	9%
Between \$75,000 and \$100,000	8%
Over \$100,000.....	5%
DK/RF	29%

61. GENDER (DO NOT ASK)

MALE	50%
FEMALE	50%

On behalf of WRS and the Don't Mess with Texas campaign, I'd like to thank you for your time and consideration in this very important study.