



Sherry Matthews  
Advocacy Marketing



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## ***2013 Visible Litter Study Executive Summary***

Environmental Resources Planning, LLC (ER Planning), in cooperation with Sherry Matthews Advocacy Marketing and the Texas Department of Transportation (TxDOT), conducted a Visible Litter Study (VLS) to estimate the projected number of pieces and types of litter on Texas roadways in 2013. For this study, two separate litter surveys were conducted in which litter was tallied on 253 sites across Texas, each consisting of a one-tenth mile stretch of TxDOT-maintained roadway. In addition to the 163 original sites sampled in 2009, 90 new sites were also sampled in areas less represented by previous surveys. Data from the *Original Sites* were compared with the same areas surveyed in 2009. Data for the 90 *New Sites* were analyzed separately. This will provide TxDOT with the opportunity to compare changes in litter on *Original Sites* and *New Sites* in future surveys.

The increase in the number of sites in 2013 was designed to provide broader coverage of the state, since areas within sites tend to be more homogeneous than areas of different sites. The Executive Summary includes an overview of the methodology and results of the 2013 VLS. The full report provides an analysis of data from two full litter surveys in addition to the accumulated litter calculated as part of this study with a statistical analysis of the resultant data.

### **Study Highlights**

Highlights from the 2013 VLS are shown below. Comprehensive data can be found in the full report and appendices.

- The results of the 2013 VLS indicate that 434,509,848 items of *Visible Litter* accumulate annually on the TxDOT-maintained roadway system, a reduction of 34% since 2009.
- This decrease in Visible Litter occurred despite the rise in both adult population in Texas (5.8%) and an increase in traffic levels statewide (1.5 billion additional miles traveled annually in Texas) between the years in which the 2009 and 2013 VLS studies were conducted.
- Most *Total Litter* (71%) was comprised of *Micro Litter*, items that are not normally visible while driving. *Micro Litter* can result from mowing without prior removal of litter.
- *Cigarette Butts* continued to comprise the largest portion of *Total Litter* in 2013 (31%), similar to 2009 (36%) and 2005 (28%).
- *Tire Debris* was the second largest component of litter (24%) and was pervasive across all areas of Texas.



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Advocacy Marketing



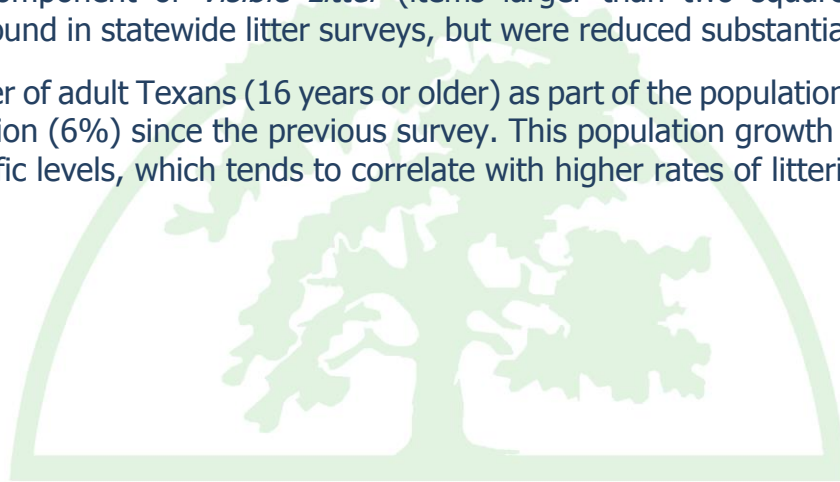
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- Litter on new sites, which focused more on roads with lower vehicle traffic, was higher than on original sites.
- Given the portion of litter attributable to tires and the effect of population and traffic, the *Don't mess with Texas* program is likely more effective than is realized.
- Statistical tests show only a mild correlation between litter and the proximity to fast food establishments, convenience stores and schools. This suggests that litter cleanups are becoming culturally ingrained even in the face of continuing littering.
- Littered beverage containers (especially beer cans, water bottles and soda cans) were a larger component of *Visible Litter* (items larger than two square inches) than normally found in statewide litter surveys, but were reduced substantially since 2009.
- The number of adult Texans (16 years or older) as part of the population grew by more than 1 million (6%) since the previous survey. This population growth has generated higher traffic levels, which tends to correlate with higher rates of littering.



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