An Alternative Approach to Signage/Ticketing Programs for Cleaner Streets in Residential Neighborhoods

The proliferation of enforcement signs in residential neighborhoods is a form of visual pollution.

A Novel Approach – The following program proposes utilizing auto-reminder systems to provide a more effective and lower-cost alternative to existing efforts to prevent storm drain pollution.

The Problem – Street sweeping programs have two goals, cosmetic and environmental. However, current solutions fail on both of these measures. These issues can be summarized as follows:

- Many enforcement programs are layered onto low-density areas with existing sweeping programs, providing little benefit
- These programs typically serve as a revenue source, with those revenues earmarked for the general fund
- No sweeping/ticketing program achieves 100% coverage (cars are not towed, so parts of the street are always un-swept)
- In some cases (light residential), ticketing programs may actually show zero improvement over non-ticketing programs in terms of tonnage removed
- Low-density areas are relatively clean, with very little trash
- Street sweeping is grossly overestimated as the full solution to remove plastic and other residue from reaching storm drains

Mandatory Programs Cause Visual Pollution and are Expensive -- **"**No-parking" regulations are necessary in high-density areas with little curb space. But ticketing programs related to street sweeping in low-density areas are really an expensive form of tax and sign pollution, with marginal to no payback in terms of actually reducing plastic and paper from reaching storm drains. Cities will argue vigorously on this subject to preserve their revenue streams, but close scrutiny tells a different story. Recent research has proved what many people already suspected – ticket/signage/sweeping programs in low density neighborhoods are an ongoing burden that provide minimal to no pay back for the extra cost and visual impairment.

The Myth of Enforcement -- All of the extra expense in a ticketing/sweeping program goes to signage and enforcement, with none applied to actual pollution prevention or control. Parking enforcement officers do not pick up trash. So, any improvement can only come from incremental cleaning of "virgin" or un-swept curbside.

Cities argue that such programs generate large amounts of un-swept residue. This has actually been disproved through both

The sight of a parking enforcement car and officer causes significant stress and anger.

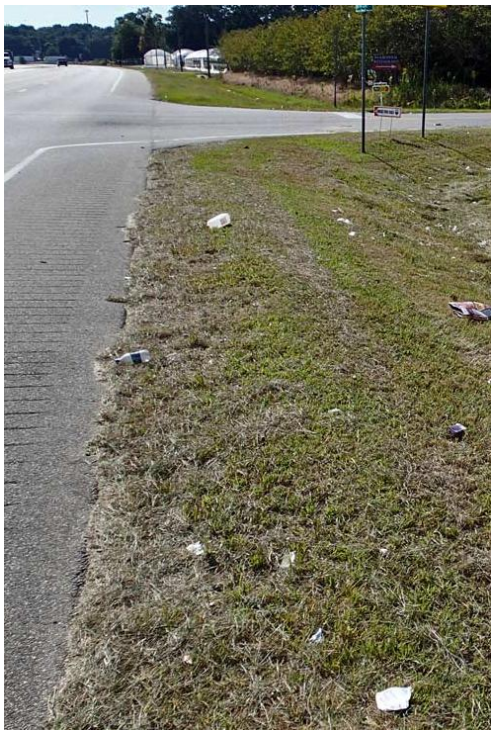
study and practice in low-density zones, though it is perpetuated as "fact" by virtually all revenue-seeking cities. This "fact" is easily disproved, because low-density areas do not require weekly sweeping. As a result, the natural movement of cars between sweeping periods almost completely eliminates any advantage from a ticketing program, by eliminating a majority of the un-swept surface. This is particularly true in arid parts of the West with few rain events. ***In truth, enforcement programs in low-density zones create tremendous expense, visual pollution, and an intrusion into daily life, with minimal impact on pollution prevention.***

Aggressive ticketing as a means of revenue generation is coming under increased public scrutiny, as witnessed by the recent resignation of the Ferguson, MO City Manager and the scandal over Beverly Hills' red-light camera manipulation. In low-density residential neighborhoods, the very sight of a parking enforcement officer is a source of significant stress that is not welcome in and around the sanctuary of citizens' homes.

Time, Location, And Event – These are the three real determinants of water borne pollution.

1.) **Time** -- every piece of road can only be considered clean the few seconds after a street sweeper sweeps. Over the next seven days, until that sweeper returns, any piece of trash deposited on that street becomes fair game to travel to the storm drain.
2.) **Location** -- Street Sweepers have a finite scope, the curb to the edge of the sweeper, covering only 50-60% of most residential streets. Unfortunately, a great deal of potential residue resides on median strips, lawns, driveways, and similar inaccessible areas. Street Sweepers are not perfect, sometimes leaving behind small bits of plastic and other serious sources of pollution even on the surfaces they sweep.
3.) **Event** -- the most important moment in terms of trash and residue is a rain event that drives enough volume of water (with wind also contributing) to send trash from multiple surface areas into a storm drain.

In areas with some form of street sweeping, #1 is unsolvable by sweeping alone; #2 (location) is the biggest unmet contributor to waterborne trash; and #3 (event) is the most important in terms of when that trash makes its way into storm drains. So how do we tackle each of these problems?



No amount of street sweeping can capture a major contributor to waterborne waste -- trash from off-road areas that migrates during storm events (wind and runoff).

If you solve problems #2 and #3, you could actually sweep less often. In a perfect world, the only way to prevent the most trash from storm drains would be to sweep an entire road just moments before a rain event, and to use an army of personnel to manually pick up the trash on nearby ground. The street sweeping side of that equation is impossible, but the mass response is not. I suggest the following as a novel, new way to tackle this problem and to avoid the wasteful practice of signage pollution and ticketing in low density neighborhoods.

Alternative Proposal – Education and Auto Reminder System

Cities and agencies claim to have education programs, but education via a city website, public access television, or similar infrequently visited sites is a poor substitute for actual ongoing contact.

The following alternative is **a novel approach that will embed the concept of keeping our streets clean into the habits of a majority of a city's citizens, while removing the burden of**

ticketing and signage pollution from low-density neighborhoods. **As an education and prevention tool, it is also useful for high-density neighborhoods that require some enforcement.** The program is as follows:

1.) **Weekly Alert** - Implement an electronic alert system similar to that used by universities and other organizations to send a phone, text, and email reminder of street sweeping the evening before it will occur in each neighborhood, to promote voluntary removal of parked vehicles. This is similar to what Sparkletts and other vendors use the day before delivering bottled water. This would not necessarily have to occur every week in low-density neighborhoods.
2.) **Rain-Event Alert** -- Use this same reminder system to send out a "**pre-rain event**" message to citizens, with a message such as "**The National Weather Service expects our area to experience a rain event within the next 24 hours. Please check your curbside gutter, parkways, lawns, driveways and other areas near your property for plastic and other residue that could be washed into the storm drains. Thank you for helping to protect the environment**."
3.) **Outreach** -- Educate citizens on the importance of picking up transportable trash.
4.) **Anti-Liter** -- Increase ticketing for littering
5.) **Existing Laws** -- Enforce city regulations concerning abandoned or permanently-parked vehicles
6.) **City Pride** -- Incorporate this new "curb-side pride" into school and organizational (Boy Scouts, Girl Scouts, civic groups) agendas

Over time, a combination of these programs will create something more powerful than any other effort – a populace in the habit of picking up even the smallest piece of refuse near their own residence or business.

This type of mass-reminder is the only way to economically mobilize and sensitize an army of concerned citizens. It will have a far greater impact than any existing efforts, chiefly because it will target large amounts of trash beyond the scope of street sweeping, during those periods between sweeping, and most importantly, just prior to a rain event. This is similar to, but more widespread than voluntary email reminders for parking, such as the one used in Denver, which runs as more of a convenience program.
http://www.denvergov.org/StreetSweeping/Reminders/tabid/437893/Default.aspx

As the following table shows, the cost savings are enormous.

Enhanced Street Sweeping Program Options			
Estimates for City of 150,000 (Does not include sweeping costs)			
Programs	Minutes/Texts	Monthly Cost	Annual Cost
Basic Alert Program*	100,000	$2,500	$30,000
Bi-Monthly*	200,000	$5,000	$60,000
Weekly*	300,000	$7,500	$90,000
Ticketing/Sweeping basic cost (no tickets added)+		$63,778	$765,333
Ticketing/Sweeping With Tickets/fines added+		$230,444	$2,765,333
*General estimates from CallFire			
+Assumes 4 enforcement officers			

A new system of this type is not perfect for all locales, but in areas with few rain events per year, it represents a revolutionary way to tackle the problem of waterborne waste. I heartily recommend that some of our nation's most progressive cities implement this set of readily available tools in the battle against storm drain pollution.

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