

# Clean Sweep

A Chicago suburb shares street sweeping program best practices

By Caitlin Cunningham

Once deemed a questionable if not ineffective means of reducing runoff pollutant loads, the practice of street sweeping has gained serious ground over the past couple decades in terms of research, technology, acceptance and implementation.

In urban areas especially, active street sweepers have become an everyday sight. Using brushes or air power, these machines remove sediment buildup and debris from roadways and curb gutters,

not only improving aesthetics but also keeping sewer systems clear to do their job and protecting receiving water bodies.

## Program Mission

Located on the northern outskirts of Chicago, the village of Lincolnwood, Ill., is home to roughly 12,700 residents and more than 700 businesses. In an effort to obtain and comply with Illinois Environmental Protection Agency MS4 and combined sewer overflow permits, over the past decade the village has transformed its long-standing, as-needed street sweeping procedure into an official program. Furthermore, the formalization has helped improve the program's ability to alleviate street and basement flooding, control dust and keep roadways clear.

A village street sweeper is out weekdays from 8:30 a.m. to 3:30 p.m. March through December, weather-permitting, with the occasional sweeping opportunity presenting itself in January and February. The program

covers 75 lane miles divided into 10 village zones. Ultimately, each street is cleaned approximately once every three weeks, according to Lupe Martinez, Lincolnwood's foreman for water and streets and a 28-year Public Works Department (PWD) staff member.

## Staff & Equipment

Lincolnwood PWD employees are cross-trained across various job functions, including that of street sweeper operator. During inclement weather conditions and the off-season, personnel normally assigned to street sweeping are reallocated to snow removal or work in the Vehicle Maintenance Division.

Operators utilize the village's two sweepers: a 2007 Elgin Crosswind (regenerative-air) and a 1996 Elgin Pelican (broom). "There's pros and cons to each type of machine," said PWD Director Manuel Castañeda, a 29-year department veteran. Vacuum-assisted sweepers generally are known to remove finer sediment more effectively, for example, whereas mechanical sweepers tend to have lower operating and capital costs. "It's good to have both for that reason and to have a backup on hand," Castañeda said.

The sweepers were purchased with money from the village water fund—made up of water bill payments—and Lincolnwood's chief mechanic maintains the equipment in house.



SWS Managing Editor Caitlin Cunningham and Associate Editor Rebecca Wilhelm pose in front of Lincolnwood's regenerative-air sweeper.

## Parking & Resident Relations

Each year Lincolnwood designs a street sweeping schedule and map. In doing so, officials must be sensitive to a multitude of resident needs; for example, Lincolnwood is home to a significant Jewish population, so efforts are made to avoid sweeping in predominantly Jewish neighborhoods during religious observances. The village communicates finalized information to residents via direct mail, a local cable channel and the village newsletter and website.

The day before a street is scheduled for sweeping, the village posts four temporary “no parking” signs per block. Lincolnwood has adopted an ordinance allowing for the enforcement of these temporary signs, and the PWD works with the Police Department to ensure violators are notified of their \$20 ticket.

“The largest challenge that the village faces is cars that are parked on the street that do not obey the ‘no parking’ signs,” Martinez said,

noting that residents often file complaints that they did not see a sign and ask for additional or more conspicuous village postings.

Post-storm event, the village fields many calls from residents requesting that their streets be swept. “The village does their best to sweep hard-hit areas after storms,” Martinez said, “but the schedule that is created each year is important to follow.”

## Best Practices

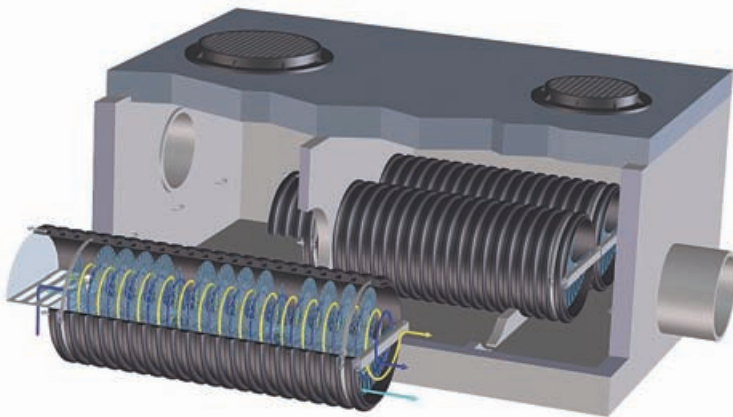
With decades of street sweeping program experience under their belts, Martinez and Castañeda have learned lessons through trials, errors and successes.



*Water and Streets Foreman Lupe Martinez stands in front of the village's broom sweeper, which was undergoing maintenance in the PWD garage at the time of SWS' visit.*

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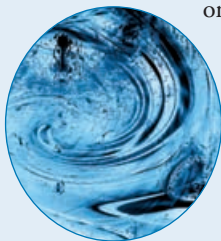
# Street Sweeping Program Tips & Tricks

## Removing Pollutants Once and For All

“All of the debris removed from our streets every week is contained and disposed of properly, with none of it getting back out to harm the environment. Sweepings are dumped on a concrete pad and are loaded into trailers to be taken to a landfill daily. The sweepers are then washed out on the same pad, with all of the wash water going through a series of clarifiers to remove sediment and motor oil before going to our sanitary sewer system for further treatment to acceptable levels before release.

Our ‘closed-loop’ system ensures that everything removed from our streets is kept from ever getting back into the environment to pollute. We collect over 50 tons of debris from our streets every week and about 1,200 gal of used motor oil annually from the clarifier system.”

– Bryan Forward, Ordinance Enforcement Supervisor,  
Public Works Department, City of Oceanside, Calif.

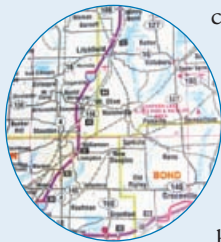


## GPS for Efficient Permit Compliance

“The city of Tacoma is using the Zonar GPS system to track lane miles swept, coordinate arterial sweeping and for catch basin and tree issues within the city. Catch basin inspections are performed by the sweeper operators, whose GPS locate cleaning issues. The same effort is used to contact homeowners for trimming trees that are causing issues with street sweeping.

Drivers use the GPS system to coordinate sweeping efforts on arterials to prevent duplicating efforts and to track sand pickup during the winter months. Supervisors can clearly evaluate what has been swept and have used the information to address claims and complaints by customers.”

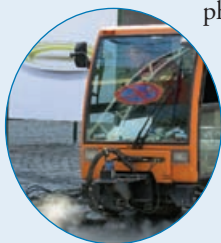
– Hugh Messer, Assistant Maintenance Div. Manager,  
Environmental Services, City of Tacoma, Wash.



## Citizen Engagement

“Our communications include a business card-sized information card that route drivers can offer to residents with questions. The card contains street sweeping-day tips, a phone number for questions, a website address where residents can find a detailed schedule and a general ‘we’re doing this to keep the city clean and prevent storm water contamination’ message.”

– Alicia Lawver, Community Relations Specialist,  
Surface Water/Wastewater Management,  
City of Tacoma, Wash.



The seasoned professionals offer the following advice to other groups interested in starting up or fine-tuning a street sweeping regimen:

- Provide equipment operators and laborers with solid training.
- Divide the community into sections scheduled for cleaning, and know your sweeping route inside and out.
- Be realistic about how often streets are to be swept.
- Have a backup piece of equipment so as to prevent schedule interruptions.
- Ensure proper placement of notification signs.
- Promote two-way communication between staff and residents.

Another noteworthy endeavor the village of Lincolnwood has undertaken is a comprehensive study of its sewer system. Officials are seeking to identify any blockage-prone areas and determine whether some form of extra attention would be useful.

Because factors including geography, climate, demographics and budgets vary so greatly from place to place, there is no one-size-fits-all approach to street sweeping. The program design considerations and ideas presented here, however, should serve as a guiding light and provide street cleaning solutions that can be tailored to fit the unique needs of diverse communities. **[SWS]**

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