

# THE EDITOR'S OVERVIEW



## EARTH'S LARGEST POWER SWEEPING RESOURCE™

### Welcome to our October 2007 newsletter!

**Are you keeping up with all the changes affecting our industry?**

by *Ranger Kidwell-Ross*

I've recently been consulting on behalf of the Washington DC Department of Public Works as part of that organization's effort to quantitatively conclude what the best three-wheeled sweeper is for their city. The process makes me realize that most municipalities, relatively speaking, either buy what they're sold or choose low bid regardless of their actual wants and needs in a sweeper.



The DC DPW is conducting a pickup testing process using a protocol by Roger Sutherland, and testing between Allianz's MX450 and Elgin's Pelican. In addition, however -- as a recognition that two similar broom machines are likely to be very similar in the amount of material they pick up in a controlled test -- a number of other tests have also been added. These include a check of off-loading capabilities, water on-loading and a number of maneuverability tests designed to see how much surface area can and cannot be reached by each sweeper in corners, when dgoing around parked cars, when sweeping in cul-de-sacs, etc.

Even then, there are a number of other factors that will weigh in on the eventual purchase decision since the two machines, though both of three-wheeled configuration, are so different from each other. In case you don't know it already, the Elgin, for example, is a rear-steer machine with a front-mounted hopper. The Allianz (formerly Johnston) sweeper is a front-steer with a center-mounted hopper -- and it has a larger hopper capacity than the Pelican.

So, even with the other tests in place, DC DPW is faced with an interesting set of internal questions to ask itself. What are the relative importances of these quite substantial differences in how debris pickup is accomplished by the two competing sweepers? Given how debris is picked up and disposed of in the Washington DC area, as well as street widths, parked car density and all the rest, are there any of the basic features of either machine that should be given a huge preference? If so, how is that quantifiable if not through the afore-mentioned testing process? At the end of the day it will be interesting to see which machine

gets picked and, even more interestingly, why.

During this process I received an email from Dan Federico, Vice President of Sales for Allianz. In it, Federico outlined some of the things he thinks all buyers of street sweepers should consider. With his permission, I adapted his information to be non-brand specific throughout and we [have it for you](#) in this issue's newsletter.

In our ongoing effort to make it easier for you to access our online information, many if not most of our articles now include audio interviews with the participants. The feedback we've received is that you prefer this format to having something written that must be read on your computer screen. Our audio interviews allow you to keep working in the background as you listen to a professional tell you about the latest in their area of specialization.

We have [a total of eight](#) of these types of interviews from speakers at this year's American Public Works show. Speaking on topics from the latest washdown regs and techniques to how to get more money from your used sweepers and other fleet vehicles, these interviews combine to provide an enormous amount of usable information for you.

Two of the APWA-based articles are about biodiesel and the experiences of others when it comes to this new fuel and your sweeper fleet. Information on biodiesel has been the most requested topic for call-ins to my office in the last months. So, I also left up a link that was in our last issue to my own award-winning book on this topic, [The Rise of Biodiesel](#). You'll find it's a great overview on this alternate fuel. If you really want to learn about what biodiesel is and is not (and have a spare \$20), I suggest you [use this link to the publisher](#) and buy a copy.

Two other audio interviews offer information from 20+ year veterans of their particular crafts. Laura Schmitt, currently a property manager for Equity One, Inc., [tells us](#) the many reasons why every sweeping company is missing the boat if they don't provide a variety of exterior maintenance services in addition to their core of sweeping. And, Gale Holsman, one of the most successful contractors in America, who has bought and sold a number of sweeping companies through his quarter-century in the business, [offers the information](#) you should consider before selling your sweeping company.

I'm also very pleased to bring you news of sweeping in another part of the world, Drammen, Norway. Like most every city located near a water body, Drammen is fighting pavement-based runoff pollution and associated resource degradation. Arild D. Moen, the Chief Engineer of Drammen Municipal Enterprises, offers a look into how the problems are being handled in his part of the world. Moen also provides [a glimpse](#) at how a sweeper brand you may have never heard, one that combines broom sweeping with a light suction, of is being used to help make a difference.

Another [gem of an article](#) is by Ron Roberts, The Contractors' Coach, who provides a number of ideas about where you can find quality, qualified employees when the time comes to hire. If you're still just putting an ad into your local newspaper, you'll find a host of alternate places and ideas for getting just the right people for the position(s) you need filled.

Finally, we have a link to Roger Sutherland's [latest article](#) on the sweeping industry, which

has just come out in the relatively new stormwater-related magazine, Storm Water Solutions. As always, Sutherland provides insight into the direction sweeping is headed and what we need to do in order to maximize its value when it comes to combating stormwater runoff pollution.

Our last newsletter issue marked the first where we compiled a pdf link to a print-friendly version of the newsletter that contained all the stories in one pdf file. The idea is to make it easy for our readers to print the articles out and read them at their convenience away from their computer. We're doing the same for this issue, even though many of the stories are audio-based and so have to be listened to in order to get to the meat of the topic. However, the printout will provide you with the background info you need to decide whether or not you want to listen to the rest. You'll find the pdf link at the bottom of the newsletter page.

I'm trying to bring you information you can actually put to use in your sweeping company or municipal sweeping operation. If there's something you'd like us to report about, please [let us know](#). Our goal is to write about what you want to read.

As always, if you have a sweeping-related need please tell us about it. We'll try to assist in any way we can. I routinely reference WorldSweeper.com articles and studies, provide information from my "[Fundamentals of the Power Sweeping Business](#)," manual and put contractors and city officials in touch with others who may have answers to their information needs. By the same token, if you have a story you can provide, additional information on any of the topics we've covered – or need more details – please [let me know](#). I'll be glad to help if at all possible.

Good Sweeping!



Ranger Kidwell-Ross, editor

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By the way, if you don't have a listing yet in our [Contractor Locator section](#), you are missing out on what is arguably the best advertising value in sweeping. At the same time, you'll be helping to keep WorldSweeper.com online and active. If you're a contractor who uses this website, please help support the site and, at the same time, increase the exposure for your company, by getting a [Contractor Locator listing](#).

And, if you're not yet a naPSa member, we are still offering you an incentive to do so. For a limited time, when you [become a member](#) you'll get a \$50 discount on any [Contractor Locator listing](#) here at WorldSweeper.com.

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[Newsletter Contents](#)

[Site Map / Table of Contents](#)



# Sweeping in Norway

**SWEEPING  
AROUND THE  
WORLD** **NORWAY**

## Sweeping in Drammen, Norway

by Arild D. Moen with Ranger Kidwell-Ross



*As Chief engineer for the Municipal Enterprises in the City of Drammen, Arild Moen has seen firsthand -- and participated in -- the struggles the city has gone through with trying to combat increasing levels of pollution. Earlier, these threatened the ability of its citizens to eat fish caught in the fjord and to continue to swim and enjoy recreation in the Drammen fjord.*

First, some background: Drammen, one of the larger cities in Norway, is a seaport located in the southern part of the country, near Oslo. The construction of "Spiralen" made Drammen nationally famous when it was built in 1961. Spiralen is a tunnel inside the mountain overlooking the city that winds six times upward in a spiral. At the end is a lookout point with a magnificent view over the city, the fjord, the river and the surrounding mountains.

The city center lies at the end of a valley, on both sides of the river Drammenselva, and where the river meets the sea in Dramsfjorden (Drammens Fjord). Transport is important for the Drammen trade and industry, and the city is a junction for road, rail and ship. Drammen Port is heavily used by international shipping companies, making the city the main harbor for car and fruit imports in Norway.



Drammen is also a railroad junction and an export center for one of the most productive forest districts of Norway. The food industry is prolific, and several big and small companies within the electronics and graphics industry are important sectors for employment in Drammen.

While previously important industries, including the processing of wood pulp, cellulose, and paper; the mining of zinc, nickel, and cobalt; shipbuilding, and other industries have been phased out, they have left pollutants. There is now an ongoing effort to clean up the heavy metals, PCBs and organic compounds left by these industries.

The number of pulp and paper industries along the Drammen River have gone down from 22 factories in the 1970s to three presently. The city made a major effort with new construction of intercepting sewer lines and treatment plants to clean up its sewerage effluent in the 1980s and finished the work in 1995. This has been celebrated every year since with the River Festival in August and the FIS World Cup Sprint Cross Country in March. You can now swim and fish for salmon in the river right in the middle of the city.

Drammen is also an area that's growing steadily. As of 2007 the city's population was in excess of 60,000, while the greater Drammen Region has a population of 160,000.



Most of the fjords lie innermost of bigger fjords and near industrial areas that have churned out some pollutants over the years. Recently, a number of these have had pollution levels -- including high levels of mercury, PCBs and lead -- high enough to make their fish and shellfish potentially dangerous for human consumption. The newspaper Dagsavisen reported in mid-July of 2007 that the country's food safety agency was advising caution in eating fish or shellfish from Drammen's fjord, as well as 33 other fjords on Norway's coastline.

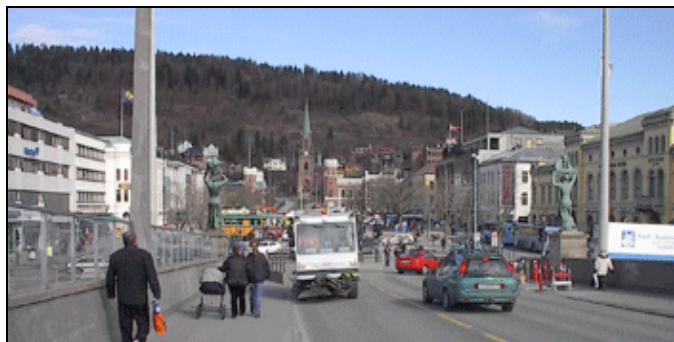
As a result -- plus the fact that Drammen's geography has it surrounding a river and on the sea -- Drammen officials now recognize the need to contain as much pollution as possible. Street sweeping is seen as one of the ways to accomplish this.

## Sweeping is used for both debris cleanup and to address pollution

In Drammen, which is located in the eastern part of Norway, we sweep in order to get rid of debris and grit, but also to improve our air and water quality. Because of the relatively harsh climate, we face some serious challenges in this effort. The main challenges for the sweeping technology in Norway are the regional differences in climate that can be freezing cold but also wet during the winter. Our heavy winters mean there is an extended use of studded tires, which are large contributors to creating fine dust and wear on the pavement. Around 75% of cars use studded tires during the winter months.

We also have a large number of pedestrian areas that are paved with cobblestones and stone slabs, which increases the difficulty of sweeping. In addition there can be inversions that trap the dust in cities like Oslo, Trondheim and Drammen.

We utilize both mechanical broom and vacuum sweepers in Drammen. Vacuum sweepers, using water for dust suppression, are used in various sizes. Due to their better ability to pick up the finer types of dust and pollutants, this is the dominating type used for roads and streets.



We also have some Dulevo broom sweepers, which are the ones shown in the photos, that offer low suction. These sometimes, but not always, used water for dust suppression. We use these primarily for winter sweeping, and for our pedestrian areas and airports.



Both types of sweepers are mainly produced in Denmark, Sweden, Germany and Italy. On the rainy western coast of Norway grit and garbage goes down the drain

immediately. Although that is what might be called 'a modified truth,' the western Norwegian city of Bergen is, because of its heavy rainfall, one of the cleanliest cities in the world. The drains are mostly of the combined type where the first flush goes to the sewage treatment plant. In addition, however, the city has many medium and small vacuum sweepers.

In Drammen we have had positive experiences with use of our two Dulevos. These are Italian made broom machines that are outfitted with a low pressure suction system and filters on the effluent air. We use these machines both on the main roads and in the pedestrian areas. They are especially useful in freezing weather, since they do a good job of removing a large part of the PM10 dust without use of water.

We find that this fine dust is best removed when the machines are used early in the morning before the traffic starts to whirl up the dust. For example, we logged 100 tons of fine dust we removed with just one machine that was used to sweep the main roads during a 21-day winter period. That's a lot of material kept out of the air and not allowed to run off as water runoff pollution.



Because of our heavy winters, afterward it is a considerable job to remove grit and sand from the streets. In Drammen, we use three or four sweepers that work two shifts throughout April and May. This job we have found is best done with traditional heavy vacuum sweepers and broom sweepers hooked on as a trailer to a lorry (large truck). We do use water for dust-suppression in this process.

### **Drammen's pedestrian areas have several challenges**

Central commercial areas reserved for pedestrian use only have been established in the old parts of the city. The total area of these has increased during the last 20 years. These areas have also seen the addition of furniture, sculptures, flowers and trees in what used to be streets with traditional driveways and sidewalks. The room between cobblestones and between granite slabs is filled with fine sand.



As one would expect, the traditional use of vacuum sweepers with heavy suction removes the sand that stabilizes this kind of pavement. Fortunately the Dulevos like the one shown, which are mechanical broom sweepers that also are outfitted with low suction,



also leave a lot of glass and garbage all over our marketplace and the central pedestrian areas. This is attacked at 6 o'clock each morning, 7 days a week, by one small and one medium Dulevo sweeper and a footman with shovel and broom. By the time the commercial business opens, or when people arrive for church on Sunday morning, everything is cleaned up.

## Out-sourcing is the in-trend

The Norwegian government Roads Administration and several municipalities, including Drammen and Oslo, have outsourced the upkeep of roads to private and public companies. As is often done, in Drammen the existing municipal organization was split into two separate organizations. One consists of the city hall engineers who contract out the jobs and who have the budget money. The other segment consists of the people doing the job. The latter is organized into an independent company that has to compete in the market in order to win jobs from city hall. Although the initial reorganization period was not easy, in the long term there will be savings and a more focused use of spare road resources.

One effect is that the new public enterprises start looking around and ask themselves: what can we do for other customers? Drammen Municipal Enterprises (DME), which is owned by the city and previously worked only for the city, now has about 100 sweeping contracts in the city centre. Most of these are for small sections of sidewalk sweeping that are the responsibility of the property owners. DME sweeps from housewall to housewall. The bill is split between property owners and the owner of the public road. Prices and standards for the sidewalk sweeping are regulated in an agreement with the property/business association for the city centre.

DME also sweeps for the harbour and in private parking areas. Unfortunately, in my view this kind of sweeping is not done often enough to prevent storm water pollution. The reason for this is money-pinching by the property owners and lack of focus on storm water pollution from the environmental regulating authorities. Over time, and as pollution problems become even more evident, I have hope that this situation will change. This will occur only when the responsible parties realize the relative overall cost savings available through removing the material before it can enter the waterways.

*Arild D. Moen is Chief Engineer of Drammen Municipal Enterprises, City of Drammen. You may reach him via email sent to: [Arild.Moen@drmk.no](mailto:Arild.Moen@drmk.no)*

have solved this problem.

Another challenge our sweeping team faces is cleaning up after the partying that often occurs on weekend nights. When youths leave restaurants and discos they



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[Countries Contents](#)

[Norway Home Page](#)

[Site Map / Table of Contents](#)



## Environmental Information for Sweeping Professionals

### Sweep Before You Treat

Street sweeping; it's more than just a cosmetic practice.

by Roger Sutherland, P.E.

This article first appeared in [Storm Water Solutions](#); October 2007; Volume: 4 Number: 5.

*In the early 1980s, a test of the effectiveness of street sweepers was conducted as part of the Nationwide Urban Runoff Program (NURP) studies. The inconclusive results it reached about the value of street sweeping as a best management practice (BMP) for storm water runoff pollution have dogged the sweeping industry since.*

In recent years, however, the mandates of National Pollutant Discharge Elimination System (NPDES) Phase I and II storm water permits and the increasing need for practical total maximum daily load (TMDL) implementation plans have spurred a number of studies that make it clear that sweeping deserves a more central role. In fact, street sweeping should be an important part of the management strategies for any urban storm water NPDES-driven runoff program or TMDL implementation plan.



**Many jurisdictions are now imposing storm water runoff fees and spending considerable dollars in an attempt to reduce runoff pollution. Paradoxically, many have also cut back on sweeping efforts. The only rational reason can be that they lack knowledge about the cost-effective impact a well-planned environmental sweeping program can now attain.**

Street cleaning has the greatest potential for reducing storm water pollution in the urban environment, and it can do so at a relatively affordable cost. That's because half of all of the

rain that falls on impervious surfaces goes onto pavement that is directly connected to an urban storm water collection system. In the past five years, sweepers that pick up even the finest particulate fractions have entered the market.

Another plus of street sweeping, since it picks up polluted material prior to its dilution into the runoff stream, is that it can remove soluble pollutants such as metals and nutrients that generally thwart structural BMPs, except media filters.

## Sweeper Options

There are three basic types of sweeping technology, all of which employ gutter brooms, or curb brooms. They sweep material located in gutters into the path of the sweeper, where it can be removed.

**Mechanical broom sweepers.** The technology tested during NURP, these pick up debris via a horizontal main broom that is deployed across the sweeping path. The broom throws the accumulated material onto a conveyer belt that, in turn, transports it to the hopper.

**Regenerative air sweepers.** These types have a "sweeping hood" that spans the width of the sweeper and features rubber flaps that maintain an air seal with the pavement. A powerful fan directs an air blast onto the pavement underneath one side of the hood in order to entrain debris. A corresponding suction system on the other side transports the material to the machine's hopper.

**Pure vacuum sweepers.** Sweepers of this sort use only suction to transport debris to the hopper. A positive attribute of this system is that its suction is usually strong and generally can maintain a consistent seal with the pavement.

All of today's machines are much more efficient than the older mechanical broom sweepers tested in the NURP studies. And, because the majority of sweeping jurisdictions still have older sweepers, a switch to any of the newer machines can bring about significant improvements.

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**Every sweeping program where Clean Water Act compliance is required -- which includes more than 6,000 communities nationwide -- should conduct an evaluation of the sweeper type best suited for the job. In some cases, a modification in sweeping frequency may be called for, and in others a shift from mechanical broom to air sweepers may make sense.**

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The least cost per pound of pollutant removed during some seasonal conditions may actually be achieved via tandem sweeping--typically mechanical broom sweepers followed by an air machine. Where needed, the tandem sweeping operation is still likely to cost less than a structural retrofit.

In any event, sweeping program designers must stop thinking of sweeping as strictly a practice cosmetic. Instead, they need to learn about the cost-effective role newer sweepers can have in removing pollutants from the runoff stream.

## Crunching Numbers

The California Department of Transportation (Caltrans) recently completed an assessment of the cost of pollutant removal from urban highway runoff using structural BMPs. Using the CalTrans data, noted Seattle area stormwater consultant, [Gary Minton](#), concluded that the average cost of removing one pound of total suspended solids (TSS) from the runoff stream ranged from \$10 to \$60, depending on the device (and not including any land costs associated with the treatment method).

In contrast, several detailed studies I have completed with my business partner, Seth Jelen, show that today's air sweepers do the same job for \$2 to \$5 per pound. The latest crop of mechanical broom machines weigh in between \$5 and \$10 per pound. Plus, with sweepers, no real estate needs to be purchased and there is minimal lag time needed for deployment.

In a 2001 study of the water quality benefits of street sweeping in Livonia, Michigan, Jelen and I computed TSS reduction costs for regenerative air sweeping of residential streets that ranged from \$1.80 to \$3.20 per pound removed. The cost differential was dependent upon cleaning frequency, which, in this instance, ranged from once every two months to once every two weeks.

Does this make street sweeping the new "silver bullet" for storm water pollutant runoff? Unfortunately, sweeping is not ready for that label; however, it does mean that jurisdictions should be evaluating the overall costs and benefits of street sweeping prior to investing in considerably more costly end-of-pipe infrastructures or retrofits.

## Suitable Sweeping

The fact is that many municipalities and jurisdictions are still sweeping for cosmetic reasons, with sweeping intervals set at whatever frequency has been determined to keep citizen complaints at bay. Others either abandoned or greatly reduced their sweeping programs in the 1980s when the conclusions of the NURP studies were made public.

Instead, all of these communities should be utilizing pavement sweeping as the vanguard of their fight against runoff pollution. Every city and county that now has or will have a storm water permit needs to engage in an analysis of its sweeping program. The analysis should identify an optimal cleaning program based on cost-effectiveness comparisons with other practices, such as treatment. Most will discover that an optimal program involves an increase in sweeping frequency.

For example, the Livonia study found the optimal frequency (during the nine months when sweeping can generally occur in snow belt areas, since sweeping rarely occurs from December through February) for residential areas was about once every three weeks. Every two weeks is typically reasonable for higher-density residential and general commercial

districts. In major traffic areas, like arterials, optimal sweeping was determined to be once per week.

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**Optimal frequency depends on the accumulation of contaminated material typically called "street dirt." Monitoring street dirt accumulation can be of great value, as well as determining its particle size distribution and chemical component.**

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For more information on the various types of sweepers and any other aspect of the power sweeping industry, I highly recommend [www.worldsweeper.com](http://www.worldsweeper.com). This is the best source of dependable and tractable information on the topic of power sweeping in the U.S., if not the world. (Editor's note: "Thanks, Roger!")

At a May 2006 seminar sponsored by the WorldSweeper.com website I discovered that even in California, where nonpoint source pollution requirements are at the forefront, about half of the agencies Worldsweeper.com surveyed indicated they still were not requiring vehicle removal on sweeping days.

Although somewhat of a political hot potato, mandated vehicle removal can help pay for a city's sweeping program. Because of maneuverability issues when cars are left on the street, the sweeper misses about three car lengths of curb line for each car it has to swerve around.

## Get Swept Away

Because of sweeping's now-demonstrated lower cost per pound of pollutant removal, jurisdictions under NPDES Phase I or II mandates clearly should develop an optimal sweeping frequency designed to minimize the overall cost of meeting nonpoint pollutant reduction goals.

Only by comparing sweeping to end-of-pipe solutions—like sedimentation tanks and filters, grassy swales, detention ponds and other emerging infrastructure-based solutions—can the most cost-effective mix of sweeping and other technologies be attained.

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[Back to Environmental Information](#)

[Site Map / Table of Contents](#)



## Employees

# Places You Might Have Overlooked When Searching For Workers

One of the biggest headaches contractors face, especially when they're a non-union shop, is finding and hiring good help. If that's the case, the following suggestions could be a life saver for you.

by Ron Roberts, "The Contractors' Coach



**With most sweeping contractors, their struggles typically generate from three obstacles:**

1. **Providing full time work.**
2. **Getting the word out to potential candidates.**
3. **Can't afford proven, skilled workers.**

Let's take each one at a time and explore solutions.

### 1. Providing Full Time Work

Most workers keep very close track of the hours they work. Hours are about the most important issue to them. Depending upon the circumstances, these can be much more so than the hourly pay. If you want to be able to bring in and retain good workers, your task will be much easier if you manage to get them close to 2,000 hours a year.

You do that by aggressively marketing and selling your services.

If you need tips on how to market and sell, read my report (10 Biggest Mistakes Contractors Make and How to Correct Them) or contact me via telephone or [email](#). Back to our topic.

In cold weather states, many sweeping companies have trouble getting their workers 2,000 hours because their work requires good weather. In cold weather states, the construction season is pretty short and there isn't much you can do about it.

If you find yourself in that situation, you need to find temporary winter work for your key

workers. That way they can afford to work for you during the season.

You might want to provide snow plowing and snow removal, tenant move-out services or try to find another company whose seasonal work is the exact opposite of yours. They are not easy to find, but some are out there.

## 2. Getting the Word Out to Potential Candidates

If you struggle generating interest in your job openings, you probably are using the most common methods of publicizing your opening: newspaper help wanted classifieds and the online job search services such as monster.com.

There are two problems with those approaches. The first is that your ad competes against your competitors' ads. The second is that many construction workers do not read the local newspaper. Here are some out-of-the-box suggestions for you to try.

Right at the moment, one of the best places to find workers is on a web site named Craig's List ([www.craigslist.com](http://www.craigslist.com)). Craig's List is meant to be an online classified section and it is used primarily to sell used stuff, like furniture and household goods. However, it also has a Jobs section. The Jobs section has a category for skilled labor, which for the most part is a listing of open construction-related positions. Unbelievably, the job listings are FREE and the responses tend to be HUGE.

A handful of my clients have used the service recently and enjoyed spectacular results. They were flooded with quality candidates. The responses far exceeded the numbers and quality they were receiving from traditional, high cost help wanted ads. Apparently, younger workers have flocked to Craig's List to find jobs. Since results are listed by date, to maximize the effectiveness of your Craig's List ad, you need to update it daily. That keeps the ad at the top of the list and easy to spot.

If you are open to using Hispanic workers, which you should be, go visit their community churches and let it be known that you have openings. Often, churches know of young adults who are looking for a chance to prove themselves - a chance to better their lives through hard work.

Another proven approach is to place a help wanted ad in the local Hispanic newspaper. You will probably enjoy far better results than by placing a help wanted ad in your local big city paper.

Another place to network into is local high schools and vocational schools. They are jam-packed with young men who have no interest in going to college and no longer find the military to be an attractive option. Get to know the vo-tech teachers. They will point graduates in your direction once they know you are an upstanding businessman.

Other options are to scout out your competition. Watch them work. Do that cautiously. You don't want to start a labor war but, on the other hand, unless you are going to hire inexperienced workers, you are stealing your workers from someone else anyway. It's like the Godfather said "take it to the mat." You're in competition for both good clients and good

workers. You'd better embrace the fight. Otherwise, you will never achieve financial security.

### 3. Can't Afford Proven, Skilled Workers

Be prepared to train your new workers and foremen. If you are a small contractor you've probably already learned how difficult it is to recruit and pay for highly experienced workers. If they are available and interested in working for you, they usually bring either heavy wage demands or heavy personal baggage. Those that are experienced and don't have baggage are almost always gainfully employed and not easily pried away from their current company.

As a small contractor, you need to focus on finding eager to learn, hard working employees. Then mold them in the image that you want them to be. Teach them how to do the work the way you want it down. Encourage them to step up and take pride in their work. This type of worker can be hired for a much more reasonable rate.

What more could you ask for in a new worker anyway? Work ethic almost always trumps work experience when it comes to getting things done, when and as they need to be done.

*More information about Ron Roberts' and his company may be found on his website [FilthyRichContractor.com](http://FilthyRichContractor.com). You'll also find a link to sign up to his informative e-newsletter on his site. You may also reach Ron via email sent to [ron@filthyrichcontractor.com](mailto:ron@filthyrichcontractor.com).*



*This article was added to WorldSweeper.com in 10.07.*



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[Parking Area Sweeping](#)  
[Contents](#)

[Parking/Employees](#)  
[Contents](#)

[Site Map / Table of Contents](#)



## Fleet Management Information for Sweeping Professionals

### Biodiesel's Impact on Public Fleet Operability and Economics

**Biodiesel has many advantages and will soon be available nationwide. Make sure you make the right decisions about implementing biodiesel as a fleet fuel.**

by Dr. Richard G. Nelson,  
Member of National Biodiesel Board and  
Department Head, Kansas State University College of Engineering

**Editor's Note:** In the fall of 2007, when this interview was conducted as a part of our APWA 2007 coverage, the availability and use of biodiesel as a fuel for sweepers was just starting to take hold.



WorldSweeper.com's audio interview with Richard G. Nelson will assist managers of sweeper and related fleets in making an informed evaluation of the technical and economic aspects of using biodiesel instead of, or as an adjunct to, conventional diesel fuel. In it, Nelson:

1. Evaluates the technical and economic aspects of biodiesel that impact on public works fleet operability and economics.
2. Discusses implementation of a biodiesel fuel usage program that ensures the proper receipt and use of biodiesel and that ensures the fuel source meets the ASTM standards.
3. Assists listeners in making the correct decisions regarding the appropriate and effective use of biodiesel.

In short, Nelson's evaluation of biodiesel will help you make a better, more informed decision about implementing the use of biodiesel in your sweeper (and other vehicle) fleet. In the 14-minute (approx. 14mb) .mp3 audio interview, Nelson discusses how to implement a program that ensures the proper receipt and use of biodiesel, along with the importance of ensuring that any biodiesel you use meets the current ASTM standards.

The audio interview also covers what needs to be done for using biodiesel, both to the vehicles and in storage tanks prior to storing biodiesel, so you can make the correct decisions about those aspects of biodiesel usage, as well.

Nelson also provided [a PDF version of his APWA 2007 Powerpoint presentation on this topic](#) for those who would like more written information.

The editor of WorldSweeper.com, Ranger Kidwell-Ross, has also written a book entitled '[The Rise of Biodiesel](#).' In its 90+ pages, 'The Rise of Biodiesel' provides an overview of the current state of biodiesel use and production around the U.S. and the world.



*Dr. Richard Nelson is Director and Department Head of Engineering Extension at the Kansas State University College of Engineering. He may be reached via email sent to: [rnelson @ksu.edu](mailto:rnelson@ksu.edu) or by calling 785-532-4999.*



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[Back to Fleet Management Information](#)

[Site Map / Table of Contents](#)



## Fleet Management Information for Sweeping Professionals

### Fleet Washing and Stormwater Regulations

**In today's environmental climate, washing your sweepers and other vehicles without the proper procedures can result in more than just a large fine.**

by Jeff Taylor, National Sales Manager,  
[ESD Waste2Water, Inc.](#)



Jeff Taylor is National Sales Manager for the company many recognize as the worldwide leader in industrial wastewater and environmental remediation. The company provides solutions and services for addressing wastewater and related environmental issues.

In this 20-minute (approx. 20mb) .mp3 audio interview, Taylor discusses the emerging regulatory requirements for disposal of wastewater, such as from washing sweepers and other fleet vehicles. In the increasingly environmental climate of the 21st century, not only are the fines for non-compliance becoming stiffer. In addition, the results of polluting a business property through improper disposal of pollutants from washoff can result in forced remediation at a very high cost. The resultant press exposure from polluting can also become a public relations nightmare for those caught polluting.

Fortunately, proper disposal systems are both less expensive and easier to maintain than ever. However, there are some things to know prior to investing in a washoff system. Listen along as one of the wastewater disposal industry's top specialists discusses this topic in language that's easy to understand and, at the same time, provides information every person charged with wastewater disposal should know.



You may reach Jeff Taylor by calling 563-663-0543. Jeff's email address is: [jefftaylor@waste2water.com](mailto:jefftaylor@waste2water.com).



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[Back to Fleet Management Information](#)

[Site Map / Table of Contents](#)



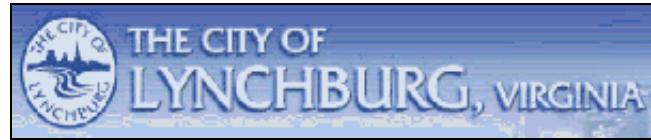
## Fleet Management Information for Sweeping Professionals

### Going Once, Going Twice -- Selling Used Fleet Assets For Top Dollar

Get the lowdown on how to increase your revenue stream by understanding the ins and outs of disposing of fleet assets via pre-purchase arrangements as well as conventional and online auctions.

by John McCorkhill, Jr, CFM, CAFM, CEM  
Director of Fleet Services, City of Lynchburg,  
Lynchburg, Virginia

When it comes to purchase, utilization and disposal of fleet vehicles, John McCorkill is clearly a pro. Rather than settling for the 'bottom dollar' that many municipalities -- and contractors -- are known for when trading in used sweepers and other fleet vehicles, McCorkill outlines his techniques for getting his agency 'top dollar,' instead.



In this 12.5-minute (approx. 12mb) .mp3 audio interview, McCorkill discusses how to orient the RFP process when buying new sweepers so as to maximise options and trade-in possibilities at the end of a sweeper's (and other fleet vehicles) usable lifetime.

He also covers the use of the Internet as an auction resource to dispose of fleet vehicles online, including utilizing different forms of online auction services to sell used fleet assets. In addition, [here is a link](#) to the pdf version of McCorkill's Powerpoint presentation, which includes auction sites to list on and other factors to consider in the process of selling your used fleet vehicles.



You may reach John McCorkill via calling 434-455-4429; his email address is [john.mccorkhill@lynchburgva.gov](mailto:john.mccorkhill@lynchburgva.gov).



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[Back to Fleet Management Information](#)

[Site Map / Table of Contents](#)



## Fleet Management Information for Sweeping Professionals

### Modernizing Fleet Operations

Here are some of the factors that will help you create a state-of-the art public fleet operation and establish a business enterprise that uses best management practices to compete successfully with private sector entities.

by Prab R. Rao

Director of Fleet Services, City of Minneapolis,  
Minneapolis, MN

The early 90s marked the beginning of a trend that brought about significant changes in the way many few fleet operations delivered services. These changes were typically marked by acronyms and actions like outsourcing, rightsizing, reengineering and managed competition. These became more than popular mantras; the result was that many government agencies used them to implement significant changes in their fleet operations.



For over 25 years, 21 with the City of Calgary (leaving with the position of Fleet Manager) and five years in that position with the City of Minneapolis, Prab Rao's goal has been to provide leadership in the area of municipal fleet management. Fleet services is an area, says Rao, where "the pressure is on. Frequently, we read about some government fleet operation or the other being criticized for lack of accountability. Moreover, our customers are demanding changes, often because of the consensus that has developed that somehow the private sector is more efficient, less costly and provides superior customer service than what a municipal organization can do."

In a majority of cases and, as far as Rao is concerned, because most public agencies are operated with a lack of true cost and service details, that is not necessarily the case. His analysis shows that the privatizing actions undertaken by a number of municipal organizations in the last two decades are now regretted when viewed with the clarity of hindsight.

In this 19-minute (approx. 19mb) .mp3 audio interview, Rao discusses the lessons he's learned through his quarter-of-a-century of fleet management, and offers listeners a synopsis

of some of the techniques he uses to make his city's fleet both cost-effective and accountable.

In addition to granting the audio interview linked below, Rao also has provided WorldSweeper.com readers with two handouts on this topic, which are in PDF format. [The first](#), which he calls "chapter one of my presentation," covers his seminar on fleet management given at the 2005 APWA Congress. [The second](#) is the handout for his presentation at the 2007 APWA event.



*You may reach Prab Rao by calling 612-673-5775.*



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[Back to Fleet Management Information](#)

[Site Map / Table of Contents](#)



## Operational Tips for Sweeping Professionals

### Protecting Your Crews in Traffic: Work Zone Safety Practices

Improve your agency's overall safety record, including motor vehicle safety and hazardous exposures, by adopting measures and techniques to better protect employees in the work zone.

*John J. Meola, CSP, ARM  
Safety Manager, [VMS, Inc.](#), Richmond, VA*



VMS, Inc. provides asset management services for infrastructure of a wide variety of municipalities, DOTs, etc. As Safety Manager, Meola's job is to make sure their clients do everything possible to keep their jobsites safe for workers and others at all times. At APWA 2007, Meola provided a seminar designed to help attendees better:

1. Assess the risk to employees who operate vehicles and machinery and set up highway work zones.
2. Identify and evaluate the effectiveness of protective devices, equipment, and high visibility apparel.
3. Determine what steps to take to improve your organization's overall safety record.

In this approximately 12-minute synopsis of that information, Meola provides an outline designed to provide ideas to highway-oriented safety managers about how to take steps to emphasize safety procedures and practices. In addition, Meola provided his [speaker's notes on the topic in PDF](#)

[format.](#)



*John J. Meola, Safety Manager for VMS, Inc., may be reached by calling 804-261-8040. His email address [jmeola@vmsom.com](mailto:jmeola@vmsom.com).*



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[Back to Operational Tips](#)

[Table of Contents](#)

[Site Map / Table of Contents](#)



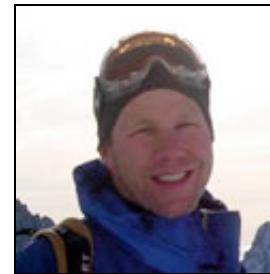
## Fleet Management Information for Sweeping Professionals

### Switching Your Vehicle Fleet to Biodiesel

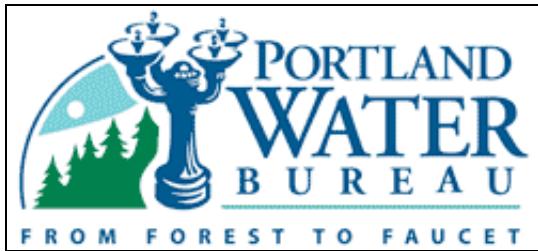
Considering a switch to biodiesel? Hear about the experience of two Pacific NW agencies when they implemented biodiesel as a fleet fuel.

by *Don Holmes, Sustainability Coordinator,  
Portland (Oregon) Water Bureau*

**Editor's Note:** In the fall of 2007, when this interview was conducted as a part of our APWA 2007 coverage, the availability and use of biodiesel as a fuel for sweepers was just starting to take hold.



WorldSweeper.com's audio interview with Don Holmes, of the [Portland Water Bureau](#), (PWB) discusses the experience his agency and the City of Portland, Oregon, had with switching their municipal vehicle fleets to almost pure (up to B99) biodiesel operation.



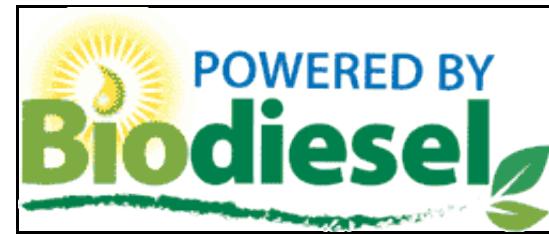
Although clearly successful, the switch did involve a number of items to consider, as compared to the previous operation of the fleets on petroleum-based diesel. Holmes covers these, providing the information needed for other agencies or sweeping contractors who are considering the use of biodiesel in their sweeper (and other) fleets.

In the 14-minute (approx. 14mb) .mp3 audio interview, Holmes outlines the experience of PWB with switching its entire fleet to biodiesel, an initiative that was so successful that the City of Portland, Oregon, ended up following suit.

[Link to Audio Interview](#)

The editor of WorldSweeper.com, Ranger Kidwell-Ross, has also written a book entitled '[The Rise of Biodiesel](#).' In its 90+ pages, 'The Rise of Biodiesel' provides an overview of the current state of biodiesel use and production around the U.S. and the world.

*Don Holmes is Sustainability Coordinator for  
Portland Water Bureau. He may be reached via  
calling 503-823-4724.*



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[Back to Fleet Management  
Information](#)

[Site Map / Table of Contents](#)



## General Business Tips

### The Added Value of Sweeping Contractors That Provide Extra Services

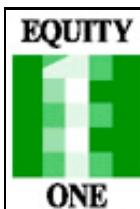
Massachusetts-based Laura Schmitt has been involved with property management for over 20 years, and currently manages a slate of properties for [Equity One, Inc.](#) You'll want to hear what Schmitt has to say about the added value she places on a parking lot sweeping company that provides many other, related, services.

*audio interview with Laura Schmitt by Ranger Kidwell-Ross, editor*



Much emphasis is placed on 'consolidation' in the 21st century power sweeping marketplace. Gone are the days when a sweeping contractor can comfortably choose to offer only sweeping. And, it's not just that profit margins have eroded from the 'good old days' when parking lot sweeping was a developing industry.

The property management industry has changed enormously in the last several decades. Technology allows today's property managers to handle more remote centers than ever before. This means they want more than just a sweeping company they know they can rely on to be their 'eyes and ears' on the ground. Nowadays, the sweeping contractors who aren't able to take care of, at the very least, basic pavement and other exterior maintenance-related side tasks will soon find themselves replaced by someone who can.



In today's fast-paced business climate, property managers want to be able to make one phone call and know, *know, know* that whatever has cropped up on their property will get handled quickly, professionally and with minimum trouble for tenants and their customers. In this interview, Schmitt discusses the type of services and value a sweeping contractor needs to provide in order to keep busy property managers satisfied. She has learned she can count on that kind of service with their current sweeping contractor, NAPSA-Certified [East Coast Lot and Pavement Maintenance](#).

East Coast's Uri Ben-Yashar knows that by having a 'one call does it' organization its much less likely that his sweeping services will be seen as a commodity. The fact is, when you

offer a wide selection of services to your customers, and do them well, then it's much less likely anyone will be tempted to switch contractors for a few dollars per sweep.

**Laura Schmitt is a true veteran of property management, and in [this .mp3 audio interview about the value of service consolidation](#) (approximately 8 minutes; 7.5 mb download) she offers a host of information that underscores why property managers want to see multiple services from their sweeping contractors.**

Even if you already provide a number of services, this audio interview will still provide some tips for how you may be able to do things even better. In the event you haven't yet taken the plunge into other services, it's required listening. You won't want to miss the compelling reasons why Laura Schmitt says you can't afford to just sweep.

*The easiest way to reach Laura Schmitt is to [send her an email](#).*

If you have any questions or comments about this audio article, please [let us know](#).



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[\*\*Parking Area Sweeping  
Contents\*\*](#)

[\*\*Parking/Business Tips  
Contents\*\*](#)

[\*\*Site Map / Table of Contents\*\*](#)



## General Business Tips

### The Keys to Getting More \$\$ When You Sell Your Sweeping Company

**Gale Holsman, Jr., has been in the sweeping business for almost a quarter of a century. During that time, he has bought and sold numerous sweeping companies spanning several midwestern states. Here are Gale's tips for what process you should follow prior to selling your sweeping company.**

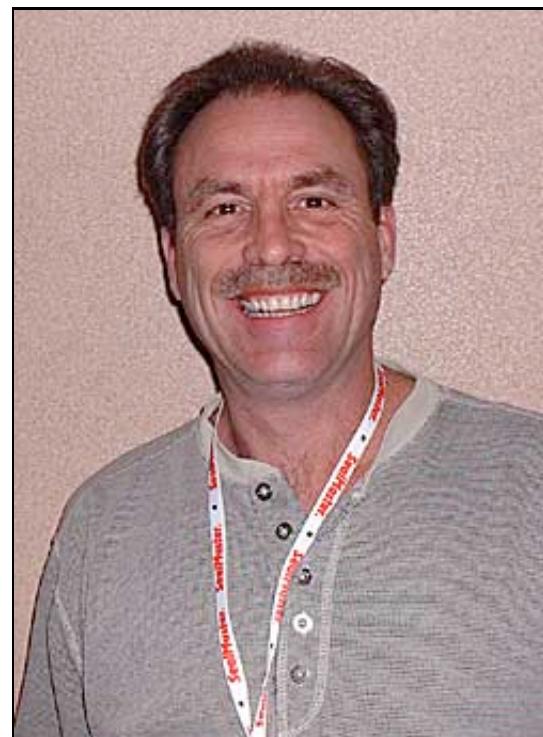
*audio interview with Gale Holsman by Ranger Kidwell-Ross, editor*

Through the years, Gale Holsman has been an icon of the power sweeping industry. His company, [American Sweeping, Inc.](#), was [the recipient](#) of WorldSweeper.com's Award of Excellence in Sweeping for 2006. He was also chosen as the judge when sweepers were built on the [Junkyard Wars](#) television show.

Most importantly when it comes to the information he provided for this interview, Holsman has proven to be an extremely savvy businessman when it comes to operating a sweeping company. As the song says, Holsman knows when to hold 'em and when to, in his case, sell 'em.

**American  
Sweeping  
Inc.**

You are invited to [listen to this .mp3 audio interview](#) (approximately 16.5 minutes; 15 mb download).



In it, Holsman provides very topical information you should know before you even think about selling your company. The techniques he covers include ideas for what you can do whether you are selling a successful company in order to retire or move on to another business, or, as he puts it, in the case of "selling in order to stop the bleeding" from a sweeping company that is not doing well.

*The easiest way to reach Gale Holsman is to [send him an email](#).*

If you have any questions or comments about this audio article, please [let us know](#).



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[\*\*Parking Area Sweeping  
Contents\*\*](#)

[\*\*Parking/Business Tips  
Contents\*\*](#)

[\*\*Site Map / Table of Contents\*\*](#)



## Environmental Information for Sweeping Professionals

### Toronto, Canada's 'Clean Roads to Clean Air Program'

The City of Toronto is successfully implementing a street sweeping program that significantly contributes to meeting clean air and stormwater standards. Dr. Morgan discusses Toronto's process in developing a methodology for evaluating sweeper efficiency and operational best practices.

by Dr. Christopher Morgan, Senior Air Quality Scientist,  
City of Toronto, Toronto, ON

The City of Toronto's "Clean Roads to Clean Air" initiative was conceived as a potential means of cleaning the city's air of a citywide and year-round health-based problem linked to 'invisible' fine particulate matter, which is defined as particulate matter less than 10 microns in diameter (PM10). This also includes particulates less than 2.5 microns in diameter (PM2.5).



The City's recent purchase of 'new technology' sweepers has been determined in large measure -- but not exclusive of regular operational and economic considerations -- by a performance standard that was incorporated into sweeper purchase requirements. This was done to ensure particulate matter was both removed from the streets being swept, and was not redistributed into the air Torontonians breathed.

The 'new technology' sweeper purchases are being subjected to citywide and street-specific ambient air quality monitoring to confirm that such new sweepers do indeed 'clean the air.'

The audio interview includes a discussion of the air quality problem identified in Toronto, as well as the thought processes surrounding development of a testing protocol for determining sweeper effectiveness.



Dr. Morgan and co-author, Vesna Stevanovic-Briatico, Transportation Coordinator for City of Toronto, also wrote an article on this topic for the September 2007 edition of the magazine of the [American Public Works Association](#), [APWA Reporter](#). By permission of its editor, a pdf version of this article is also [available here](#) on the WorldSweeper.com website.

*You may reach Dr. Christopher Morgan by calling 416-392-6903. His email address is [cmorgan1@toronto.ca](mailto:cmorgan1@toronto.ca).*



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[Back to Environmental Information](#)

[Site Map / Table of Contents](#)



## Choosing Sweeping Equipment



# When You Consider a Sweeper, Look at the Big Picture

by Dan Federico, Sales Manager for [Allianz Madvac Sweepers](#)

*Industry veteran, Dan Federico, provides some excellent tips for anyone to review prior to purchase of sweeper.*



There's no question that conducting tests to see how well a particular sweeper picks up has merit. However, that should just be a relatively small part of the total picture. The fact is, in many cases there will be only infinitesimal differences of sweeping performance, usually much too small a difference to actually determine what constitutes the "best" sweeper for a given customer.

Most all buyers will benefit from having additional criteria beyond the pickup testing process. And, it is important what these criteria are and how they are evaluated. Let's take, for example, the level of customer support likely to be received for a given make of sweeper. I have seen a number of cases where a municipality has issued a spec that requires a number of "yes or no" answers. After getting "yes" answers from a vendor to questions such as: "Do you offer 24-hour service response times?" or "Do you have ample replacement parts inventory for the model bid?" they later find out that the vendor can't or doesn't perform. However, seldom have they bothered to build in a recourse clause that covers in the event of non-performance.

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**Taking a line from the old Wendy's commercial "Where's the beef?" Unless you have something that's quantitative and measurable, testing or evaluating it has little-to-no merit as it becomes solely subjective and cause for disagreement.**

---

Let's take the example of usable debris capacity, which all manufacturers list on their

specifications along with total hopper capacity. These numbers are oftentimes not accurate reflections of reality, whether the hopper cannot actually hold that much or whether other systems, like the dumping hydraulics, can't handle the rated full load.

Hopper capacity, in my opinion, should be something that's actually measured during performance; i.e., keep each machine sweeping until it's full and then actually measure the capacity differences. Simply asking manufacturers for their payload capacity many times results in what might be called 'a liberal interpretation of reality.'

Sometimes, there will be overriding items of 'night and day' difference in the sweepers being considered. One of our models, for example, has front steering and its basic competitor is a rear-steer machine. I think this is an enormous difference to be factored in. A layperson with a driver's license can master driving, turning and backing up a front-steer machine very quickly since it's intuitive and very similar to driving a car. The same cannot be said of a rear-steer vehicle. If you take an existing city operator of a rear-steer sweeper, this isn't an issue.

But, as older operators retire and new hires take their place, the learning curve -- and thus productivity -- can be more quickly realized with a front steer sweeper. If there are other big differences between sweeper models you're evaluating -- high dumping vs. low dumping come to mind -- those are issues you would be well served to make your mind up about prior to going through any testing or final evaluation process.

Some other areas that lend themselves to quantitative comparison, especially when it comes to purpose-built chassis, include visibility. This is something that can usually be measured, for example forward/side/rear ground point visibility; i.e., how far away from the vehicle does someone or something have to be in order for the operator to be able to see it?). Another visibility issue is that of the gutter brooms themselves. Every time an operator has to look down at the gutter broom to ensure contact at or near the curb, the likelihood of an accident becomes more prevalent. The same is true for any controls that require the operator to take his/her eyes off the road.

Training is another topic where prospective purchasers often either ask yes or no questions or simply ask for a list of the training materials available, dvd, cd, etc. What most city officials don't realize is that they'd be better off specifying what they'd like in the way of training. This can include initial start-up operator training, mechanic training in the areas of preventive maintenance, adjustments, troubleshooting, etc.; refresher courses at particular intervals; DVD/PowerPoint materials for new operator training, and more. By approaching their sweeper training in this way, the city determines what they want and the vendor(s) must comply with the requirement. All suppliers are then on a level playing field and city officials get what they truly want in the bargain.

Another area that comes up often, especially with purpose-built machines, is transport speed. There's no question that faster travel speed to the job site, or when deadheading from one route to another, clearly translates to increased productivity. Once again, don't just take the vendor's word for it, especially since this is something that's so easy to test. Although a given sweeper may, indeed, be able to travel at the listed top speed, my suggestion is to determine if there are any issues of stability when driving at the manufacturer's listed

transport speed.

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**Although transport might be a variable based on the "risk position" operator A is prepared to take as compared to operator B, I think most management teams would be well served to assess this on behalf of their organization prior to purchase.**

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Once you take delivery of your shiny new sweeper, cost of upkeep inevitably becomes the next issue. Over time, I've seen a number of examples where someone, whether city or contractor, had a sweeper just sitting because they hadn't realized that it would be so expensive to operate. When customers tell me they are spending too much on repair and maintenance costs, I tell them that I have a solution that will save them tens of thousands of dollars -- but they have to give me the key to the sweeper...

It's a light-hearted way I use sometimes to bring someone to a realization of the folly in what they're asking. However, some number of those people were sold a 'bill of goods' about what their sweeper would cost to keep running throughout its usable lifetime. What everyone needs and deserves is to have a good idea of total life cycle operating costs prior to purchase, as well as information designed to teach them how to decrease their operating costs per productive hour in every feasible way possible.

One good solution is, of course, to get better information up front. Better yet, much total cost risk can be removed if the purchaser issues a total cost of operation (TCO) specification. In that type of specification, the purchaser can require response time within X number of days and a complete repair consummated within X number of days or the vendor has to either provide a functionally similar machine as a loaner or pay financial penalties.

These types of arrangements can include a steady payment per month throughout the sweeper's life. In return, it can spell out exactly how repairs will be made, parts will be costed out -- the availability of loaner equipment in the event of downtime can even be mandated. Most also include punitive financial penalties that encourage the vendor to respond quickly and thoroughly in getting a "down" machine back operational quickly.

This type of spec is very popular throughout Europe since it allows municipal entities to absolutely budget their entire sweeper cost for, typically, five years. The spec will address parts replacement costs, parts availability, response times and more, all of which is of valuable benefit to the long-term budgeting process. To make this concept more understandable, I've included [a pdf file of a generic specification](#) that Allianz offers to customers who are contemplating a total cost bid. At the least, such a document provides a generic level playing field by which all vendors will be compared.

---

**Also, when you compare the parts cost of consumables, be sure they are related to both the average life cycle and the time required for**

**replacement. For example, if one dirt shoe is three (3) times more expensive than another, but lasts four (4) times as long and takes 1/2 the time to change, which one represents the better value?**

---

Relating this all to the start of the article, what good does it do to have a sweeper that can pick up 5% more material in some type of controlled testing process, but is down 15% more of the time and/or costs twice as much to own over its life cycle? That's why I stress the importance of customers testing and measuring those things that are of true value to their particular organization.

So, if you think it would be helpful, by all means hold a "sweep off." However, in addition I suggest that you assign points, based on your own determination of priority and importance, to any and all points raised in this article and any others of importance to your organization. Ultimately, the real issue should be what presents the "best value" to the you, the customer. We all know the adage that it's not what it costs to buy but rather what it costs to own that determines the best value for the money expended.

Organizations that are serious in their endeavor to get the "best" sweeper are doing themselves a disservice if they don't consider the bigger picture as part of their purchase decision.

*Dan Federico is Sales Manager for Allianz Madvac, Inc. You may reach him by calling 813-713-1455; his email address is [DFederico@allianzmadvac.com](mailto:DFederico@allianzmadvac.com)*

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