

Green Cleaning Innovation

Continuous improvement is helping the King County Metro Transit embrace cleanliness.

By: Beth Bittenbender

Continuous improvement, innovation and environmental sensitivity are watchwords for the state of Washington's King County Metro Transit, a philosophy strongly embraced by the power and facilities section and its custodial workgroup tasked with maintaining the health, safety and overall appearance of Metro's facilities.

When Transit Supervisor of Facilities Maintenance Peggy Meyer and Transit Chief of Facilities Maintenance Lorri Traylor decided to transition to greener ways of cleaning the bus complexes, they did so to stay ahead of the King County mandate that new buildings be certified under the Leadership in Energy and

Environmental Design (LEED) criteria; but, in fact, more was involved.

While much of the two million plus square feet of cleanable space in the 30 bus transit buildings, four parking garages and the downtown Seattle bus tunnel consists of older facilities not under the LEED directive, Meyer, Traylor and their manager, Jerry Rutledge, saw it as a chance to grow their shared expertise and transform their processes and personnel.

"We wanted to do our part and proactively gain LEED points for new facilities, but we also saw an opportunity to better ourselves and enhance the professionalism of our 54 custodians by becoming educated

and proficient on green, healthy and more productive methods," says Meyer.

After extensive research into green cleaning processes and disciplines as diverse as Team Cleaning, Zone Cleaning, Day Cleaning, APPA guidelines, ISSA's Cleaning Industry Management Standard (CIMS), Green Seal's Environmental Leadership Standard for Cleaning Services (GS-42) and the "systems thinking" of Dr. Edwards Deming and others in the quality movement, Meyer and Traylor grasped that departmental changes and policies must be preventative, well-thought-out, standardized, holistic and system-wide to be effective.

In response, the department produced a



Image courtesy of the King County Metro Transit

With microfiber cloths and activated water, workers are able to clean fingerprints and other soils from stainless steel without fear of chemical residue.

new custodial maintenance policy that states their mission, in part as: "To ensure clean facilities by using products responsibly, encompassing not only environmentally preferred cleaning products but equipment, tools, processes, standards, task schedules and frequencies that contribute toward implementation of a total green cleaning program."

The custodial workgroup also updated their operating manual to reflect new standards and product and process changes, such as:

- Reducing cleaning products from 30 traditional formulations to two or three Green Seal-certified cleaners
- Eliminating aerosols
- Using green concentrates and chemical proportioning and dispensing systems to ensure accurate dilutions and minimize chemical waste and transport
- Using color-coded microfiber cloths and mops that clean better with less water or chemical and less ergonomic stress
- Ensuring consistent entrance matting and mat maintenance
- Increasing use of post-consumer recycled paper products.

In addition, as part of its continuous improvement mission, the department has successfully tested and increasingly applied water-only cleaning processes including the use of:

- Activated water throughout facilities
- Dry steam vapor in lunchrooms, offices and on touch points throughout facilities
- Chemical-free pressure washing in the bus shop areas
- Chemical-free autoscrubbing of tile floors.

Meeting Challenges

The transportation facilities present unique challenges that the department has risen to meet.

"We maintain the transit operating and maintenance buildings, including industrial shops and offices, and the downtown Seattle bus tunnel. The bus buildings serve the bus drivers and mechanics, our employees and the public, 24/7. The bus tunnel hosts a constant flow of public commuters and others. We need to be sensitive about products we use," Traylor added.

Modified Team Cleaning — groups of specialists that rotate specialties can complete tasks quickly and safely while working around others — helps crews get in and out of busy areas with minimum disruption.

Training has been a big part of their success and includes a focus on restrooms in-use 24/7, the correct use of cleaners, dispensing equipment, new tools and repetition to instill standardized operating procedures.

"Leads and chiefs spend a lot of time training new hires, and we also do refresher training," Traylor says. "When we get new products, we train one-on-one. Documented monthly safety meetings are also required attendance."

While early changes involved switching to Green Seal-certified chemicals, a more recent transition was to non-chemical interventions such as activated water, steam vapor, pressure washing without chemicals in bus shops and scrubbing floors using just water.

Part of the program capitalizes on the availability of local vendors to provide expert knowledge and educational support, including demonstrating equipment and training to both staff and employees on the use of products.

"Our job requires us to clean while the facilities are in use by occupants, so what we use makes a difference. The activated water is just modified water, but also has sanitizing properties; this is important to us. Steam vapor has also been a great fit for many of the same reasons. We started using dry steam vapor in the restrooms along with activated water, and some workers have gotten to where they can use just the steam vapor for everything. And, as with activated water, you can work around people without concerns of causing chemical reactions or sensitivities," adds Traylor.

In the bus maintenance areas, team specialists pressure wash heavily soiled surfaces using both cold water and heated units without additional chemicals.

Many tile floors in Metro facilities are cleaned regularly with autoscrubbers that apply only water, scrub, rinse and vacuum away the soiled solution.

Results

The elimination of many chemical products has yielded supply cost reductions and

enabled the purchase of new capital equipment.

Moreover, buildings are actually cleaner and occupants and workers seem happier.

"The bus bases or buildings are cleaner. The use of green processes has removed the buildup of old cleaning products and residue on many floors, and they have never been cleaner. The employees are amazed at the difference in the building — no smells," says Traylor.

In addition, Meyer says that with their success and newfound knowledge, they have become more proactive in offering input on the design of new buildings.

"We are now more involved where possible to lobby for features that help rather than hurt the cleaning process," Meyer says.

Importantly, the new tools and processes have raised the profile of facility services.

"There is always a crowd around when the steamer is out," says Meyer. "The new tools help us communicate the change we have created."

As a result of their ongoing efforts, in 2008, the custodial workgroup won an award for green cleaning excellence from King County.

"We have higher morale — the employees value themselves and what they do more. I really want the employees to understand the importance of what we are doing — the improved effect on their health day in and day out," says Traylor.

According to Jerry Rutledge, manager, the biggest benefit is the improved health of custodial workers and building occupants.

Reducing the daily exposure to cleaners and chemicals in the workplace, improving the indoor air quality and providing a safe and sanitary working environment are goals everyone wants to achieve.

Rutledge hopes the King County Metro Transit's policy and program will be a model that others will consider. **CM**

Beth Bittenbender is president of Elliott Affiliates Ltd., a highly focused, niche consulting service providing management solutions from sustainable outsourcing to LEED APPA audits to green cleaning consulting to performance measurement and management. Bittenbender is also a member of the U.S. Green Building Council (USGBC) Maryland Chapter and president of the Board at City Neighbors Hamilton.