CASE STUDY: MINNEAPOLIS—ST. PAUL AIRPORT

THE CHALLENGE

\$5 million to \$6 million. That was the estimated cost faced by the Minneapolis – St. Paul (MSP) International Airport to reroute drainage from their parking structures into the airport's sanitary sewer. After signing a new agreement with the Minnesota Pollution Control Agency in the spring of 2013, MSP could no longer allow runoff from cleaning operations to discharge directly into the storm sewer system, which ultimately drained into the Mississippi River tributaries. Cleaning the parking facilities also held aesthetic importance, as it was often the first part of the MSP customer experience.

"We have to maintain a very aggressive cleaning schedule," explained Paul Sichko, MSP's Assistant Director of Operations. "Previously, we would close a 500-space section for seven days; use high pressure hoses, scrubbers and agitators to clean the pavement; then flush the surface with water."

This cleaning process led to runoff water tainted with salt, oils, and solid waste matter, and was now a multi-million dollar problem. MSP's only other alternative to rerouting their drain system was to completely change the way water runoff was managed during the cleaning process. Sichko knew MSP needed to find a way to radically improve their cleaning operations.





THE SOLUTION

At a winter conference, Sichko found the answer to MSP's cleaning challenge – the **Triverus Municipal Cleaning Vehicle (MCV)**. Utilizing highefficiency cleaning and recovery technology originally developed to restore the proper coefficient of friction on flight deck surfaces of U.S. Navy aircraft carriers, the MCV is purpose-built onto a Bobcat Toolcat all-wheel steer carrier. Featuring a 60-inch cleaning deck, the widest in its class, the MCV is unmatched in achieving regulatory compliance through removal and containment of restricted or controlled materials that are more and more often the target of EPA regulations and inspections. With the MCV, MSP would no longer need to reroute their plumbing and would avoid costly operation disruptions.



Along with four MCVs, MSP purchased two **Triverus Water Treatment Trailers (WTT)**. WTTs are standalone units that filter out contaminants and return gray water for additional cleaning, allowing the MCVs to continue operations with minimal disruption to offload.

The purchase totaled about \$1 million and saved MSP more than \$4 million over rerouting the parking garage drainage system, even after accounting for equipment maintenance expenses.

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THE RESULTS

Using the new MCVs, MSP crews were able to clean the same 500-space area in two days, instead of the usual seven.

"If you multiply 500 spaces by a maximum (parking fee) of \$20 per day, that is \$10,000 in lost revenue," Sichko explained. "Theoretically, by reducing the cleaning time to two days, **we are realizing an additional \$50,000 in parking revenue**."

"The contaminated sludge that remains is tested by our environmental personnel. Thus far, they have determined that the waste is not hazardous and we are able to dispose of it in our standard dump areas," said MSP Field Maintenance Manager Lee Spangrud. "We lose a little water in the cleaning process, but most of it is reclaimed for reuse."



- 111% faster results than manual cleaning, resulting in less downtime and financial losses
 95% water recovery= small disposal footprint
 - Removes solid waste, salt, and chemical pollutants
 - Aids in Storm Water Pollution Prevention (SWPP)
 - High-efficiency cleaning technology is dust-free and uses no chemicals
 - Able to clean single parking spaces with no overspray
 - Helps meet EPA requirements
 - Reduces number of facility drains plugged with solid waste
 - \$4+ million saved



PURPOSE-BUILT & MISSION-DRIVEN

Triverus vehicles are designed and built specifically for high-efficiency surface cleaning. Our customers' operations take priority during the design process.

"We enjoy working with manufacturers and always appreciate their willingness to listen to the end user and to make adjustments and design changes," said Sichko.

"Some hooks here, some clips there, a valve system that might work better - things like that," explained Spangrud. "Our mechanics do a good job working with vendors. M-B and Triverus have been really good listening to us and implementing changes."

Contact Triverus today and see how our technology can benefit your organization!

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