



## Delaware Build a Better Mousetrap: Entry Form

**Project Name:** Street Sweeper to Flatbed/Salt Brine Truck

**Category:** Facilities Improvements (specifically operations and services)

**Contact:**

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**Problem Statement:**

The back engine of the City of Newark's street sweeper was no longer working, but the truck front engine and chassis were fully functional. A street sweeper has two engines, one in the front to operate the vehicle and one in the back used for powering the sweeping machine. Giving the truck chassis another purpose will allow the City to increase the utility of the fleet at a low cost without purchasing a new vehicle.

**Discussion of Solution:**

Repurposing the street sweeper to a flatbed for moving materials to various jobsites and adding a brine tank that Newark can use to pretreat the roadways before winter storms was determined to be the ideal use for the unit. This was done by taking off the sweeper body and engine and attaching a used flatbed to the rear of the truck. The flatbed was refurbished with new wood decking that serves as the base for the water tank. The decking doubles as the flatbed flooring when the water tank is removed. In addition to the water tank, the back segment of the street sweeper is clad in new electric valves and PVC piping to allow for brine application. Updated emergency lighting was also added to the truck. The truck performed exceptionally well when running the brine application rate testing (50 gallons per lane mile at 20 MPH).

**Labor, Equipment, & Materials Used:**

Used bed, water tank, electric valves, PVC piping, and wood decking.

**Cost:**

Used flatbed: \$1,200, water tank: \$1,000, electric valve and PVC piping: \$420, wood decking: \$175. Total for the entire project is \$2,795.



**Savings& Benefits:**

Instead of buying a new brine truck, one was built by utilizing an old street sweeper. This conversion is significantly cheaper than buying a new brine truck. Not only is the conversion cost-effective, but it also keeps a functional truck out of the landfill, reducing waste. Having another brine truck on the City of Newark's fleet will increase the efficiency of how the City handles snow in the winter, creating safer road conditions for residents. Lastly, the new brine truck has dual capabilities, also serving as a flatbed for moving materials to various jobsites.

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