



Delaware Build a Better Mousetrap: Entry Form (2019 Example)

Project Name: Street Sweeper to Flatbed/Salt Brine Truck

Agency Name: Public Works and Water Resources City of Newark
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Problem Statement:

(What was the challenge/problem or objective you set out to solve? Fully describe the challenge. Provide specific details on the issues you faced and why it needed to be addressed.)

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:

(How did you develop and implement your solution? Provide details on how you developed, built, and implemented your solution to meet your objective(s). Address the originality of the solution and why you selected this solution.)

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Labor, Equipment, Plans & Materials Used:

(What did it take to make the solution work, to be a reality? Include design sketch, drawing and materials list as applicable.)

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





Cost:

(What was the cost of implementation, including supporting data such as salary time, cost of materials and equipment, etc.)

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:

(What was the positive impact / results / outcome of your efforts (long-term benefits, productivity, financial, personnel performance, benefits to the community, safety etc...)? Include a discussion of data or evidence to support the outcome and /or the revised level of effort upon implementation to complete the job or process. Has this been shared? With whom? Results?

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.

Video – demonstration of the converted truck

<https://www.youtube.com/watch?v=OPjAajBarro>



Please return your completed form to Sandra Wolfe via email at sandiw@udel.edu.

Questions? Please contact Sandi or any of us in the Delaware T²/LTAP Center.