Idea EXCHANGE

Green Bay leaf collector unit saves money, labor

ALONG WITH beautifying a city, urban trees save energy, intercept storm water runoff, help clear the air, and raise property values. One study says that trees help business; shoppers will stay longer, return more frequently, and spend more money in a tree-shaded retail district. The trees also have a cost, as city streets departments know well. Spring and fall leaf collections are a major budget item.

In the City of Green Bay, staff in the DPW's Motor Equipment Section came up with a creative idea: convert a retired recycling truck into a one-person leaf collection unit. They fabricated the unit by modifying the recycling body, mounting a vacuum leaf collector onto the chassis, and changing the hydraulic system and controls. It was ready for the fall 2004 loose leaf collection.

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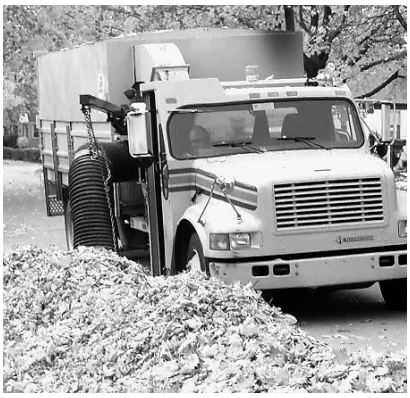

"To say that they successfully accomplished the task would be an understatement," says T.J. Sorensen, Motor Equipment Public Works Superintendent. "They not only completed the unit, but what this unit can actually do out on the street exceeded all our expectations." It worked so well that they built a second one.

Last fall during the heaviest two weeks of collection each one-operator unit collected on average 73.5 cu yd per day. By comparison, the "old standby" rear trailer mounted vacuums with two operators, averaged 65.5 cu yd per day in the same two weeks.

"They collected more leaves with half the staff," says Tom Steffel, Street Section Public Works Superintendent. "And that includes operator training time and some adjustments on the newer one. They will do even better next year," he says.

For specs on equipment and details on fabricating the leaf collector unit, contact City of Green Bay Motor Equipment Public Works Superintendent T.J. Sorensen at: 920-492-3751, or tjso@ci.green-bay.wi.us

The Department will build two more units, in 2006 and 2007, and keep four in their yard waste fleet, along with two leaf balers, and the rear load garbage trucks that are used to collect brush, leaves, garden waste, and other debris. The two-person trailer mount units will be deployed last, and may be phased out.

It cost about $29,000 to build the first unit: $15,000 for the leaf vacuum and $14,000 in conversion costs, including the new hydraulic pump and other parts. The second unit cost about $8,000 to $10,000 less. "We knew more about what we were doing, and we made it a little smaller and used less material," says Sorensen.

The retired recycling truck, which had minimal trade value, was a 1993 International Model 4600LP single axle chassis equipped with a 23 cu yd Leach Model RC23 recycling body, originally built as a right hand stand up drive conversion unit. The leaf vacuum unit was a diesel powered skid mount ODB Model SKB700. It was mounted behind the cab on the truck frame where the front of the recycle body was removed. They raised the roof of the remaining body about four feet and outfitted it with perforated sheet steel to allow the large volume of air to escape, and enclosed the remainder of the existing body and tailgate with sheet steel. The unit holds about 28 cu yds, (2.76 ton) when full.

Other modifications included changing the pivot point of the hydraulic hose boom, substituting a Force America hydraulic pump and valve assembly for the vacuum unit's original hydraulic pump, and moving the pump's operating tower into the cab. To help eliminate operator fatigue, the staff also fabricated a thumb control assembly to operate the hydraulic hose boom functions.

With more than 80,000 cubic yards of leaves and yard waste to pick up in the fall, and nearly 100,000 cubic yards of yard waste to manage each year, the savings will mount up fast. "As the City's operating budget continues to shrink, it is necessary to come up with new and creative ideas to do more with less," Sorensen says. "With this unit, the Motor Equipment staff has proven it can meet that challenge."