

2011 YOU SHOW US CONTEST

SNOW PUSHER

COUNTY: Mercer County in North Dakota

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PROBLEM STATEMENT:

Large amounts of snow get piled up in sheltered areas and intersections. These walls of snow make it difficult to continue to plow and move snow far enough back for additional storage area for more snow. Every time additional snow is received or the wind blows, snow fills in causing the road to block. The intersections are dangerous for the traveling public because of poor visibility created by snow. With conventional snow removal equipment it's not possible to move the snow unless you drive into the ditches. Often time's equipment gets struck requiring additional personnel and equipment to pull it out which cost time and money.

SOLUTION TO PROBLEM:

It was necessary to design a piece of equipment to push snow back far enough from the roadway without getting equipment struck. The "Snow Pusher" makes that possible to do with the added 12 feet of length. A junked snowplow was modified by cutting the top portion off. Eight inch I beams ten feet long were added to get the length required. A quick attachment from an old plow was added for easy mounting on a 950 H Cat loader. The snow pusher makes it possible to stay on the road and not drive into the ditch reducing the possibility of getting struck.

MATERIAL USED AND LABOR COST:

3- 8 inch I-beams 10 feet long.

80 feet on drill stem pipe.

Junked snowplow modified by cutting off the top portion.

Built quick hitch attachment from 1 inch by 5 inch strap iron.

Welding and cutting supplies.

40 hours by two people equals 80 hours of labor.

Most of the material used was strap iron or parts from a junked snowplow. The cost of material was approximately \$300. The labor cost was approximately \$1000. The total cost was \$1300.

SAVINGS AND BENEFITS TO AGENCY:

Prior to the county building and using the snow pusher, they would attach a snow blower to the loader. The snow pusher can move more snow in one hour than what the snow blower could move in three hours. The rental rate for the loader and snow pusher is \$145 an hour compared to the loader and snow blower which is \$295 an hour. The loader with snow pusher attached can also travel faster than the loader and snow blower attached saving time and fuel. Over the course of a long and snowy winter the savings is considerable.

Another benefit to the agency is the savings in manpower and equipment by not requiring them to pull out the loader and snow blower which would often get stuck in the ditch. The road system is also improved in the spring because the snow has been pushed back and the run off is in the ditch and not on the roadway which causes soft spots and damage.

Impossible to measure is the safety to the traveling public by the improved visibility at intersections. Snow piled close to intersections causes vehicle accidents because the public doesn't take the time to make sure the intersection is clear before crossing. The snow pusher moves the snow away from the intersection to give better visibility and reduce the chances of vehicle accidents and save lives.





