Why TowPLows across North America

Salt Lake City, Utah
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Bob Lannert

Retired MoDOT Engr.

Viking Cives

www.TowPLow.com

MoSnowKing@aol.com

The original problem - Gang Plowing consumed massive resources in Missouri


WRONG WAY

What if…… We could:

1. Save 20% of the fuel burned in snow removal operations?
2. Save 20 to 50% in labor in snow operations?
3. Allow an operator to do more than TWICE the work without working harder?
4. While spending less in capital $$$$s for equipment?
5. While improving safety for operators and public?

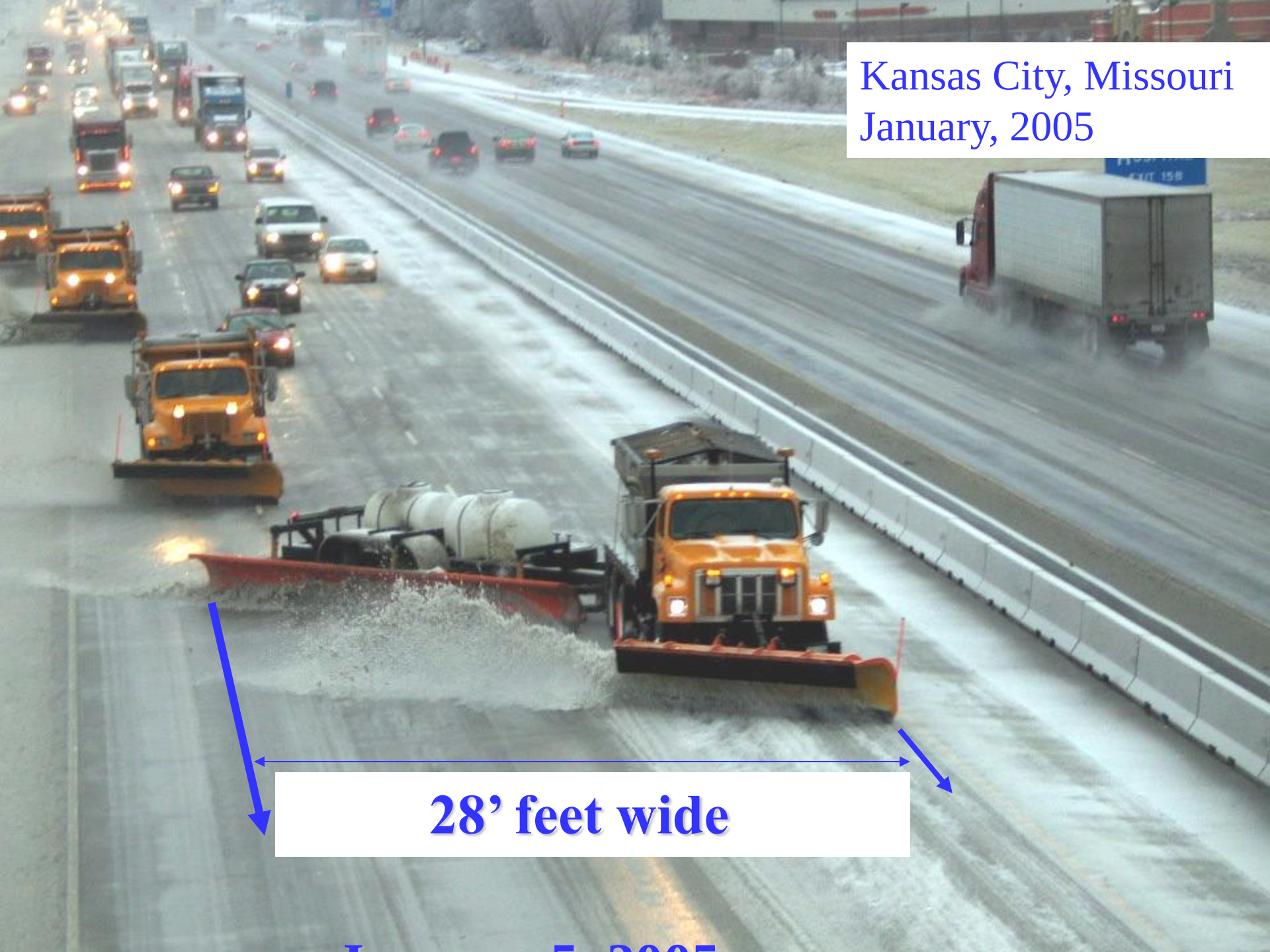
Possible solutions or strategies:

- Have operators work harder and longer
- Plow faster
- Plow wider but slower …. on each pass
- Using fewer trucks in gangs
- Implementing advanced equipment to help keep up with public demands

TowPLow goals:

- Double production per truck / operator
- Reduce labor costs
- Reduce fuel needs
- Reduce the total capital dollars invested in equipment while still maintaining services.
- Increase service in defined areas
- Reduce material usage
- Plow wider.. Then faster at ….. MPH

The goal was to eliminate half the trucks.


Kansas City, Missouri
January, 2005
28’ feet wide


Cleared path 28’ wide


Viking
Cives
Tow Plow


MoDOT
South St. Louis
High speed rural
Interstate
February, 2008

Minn DOT
Rural Interstate
2008

Utah DOT
Salt Lake City
January, 2009


15 NORTH
Salt Lake
WEST
West Valley
2100 So.
1300 So.
900 So.
EXIT ONLY
MACK

Right Hand Brine and Sander models
Kansas City
November, 2008

First Left hand model
Kansas City, Mo
November, 2008

First Left TowPLow in Kansas City

Left hand TowPLow plowing on 2 lanes rural MoDOT

What are the advantages when adopting the TowPLow concept?

- Ability to double operator production
- Doing more with less investment, less fuel and less labor. 20 to 50% less!
- Improve productivity to keep up with the public's expectations
- Reduce cycle times to achieve safer roads
- Actually doing more with less!!

What are the returns on your investment with the TowPLow concept?

- What is your cost of each snow plow truck?
- What are your labor costs?
- What are your fuel savings worth?
- What are the material savings with “one pass clearing”?
- What is the cost of each TowPLow?
- What does it cost to step up to one pass, high speed plowing?

Who has reviewed TowPLows?

- AASHTO Technical Implementation Group. Search AASHTO TIG TowPLow
- MoDOT published a white paper
- Maine first year report
- Ohio comprehensive report – very good

www.Towplow.com

Whose who in TowPLows?

MoDOT-

- 28% to 50% savings in labor and fuel
- Now using the two left hand TowPLows among over 85 TowPLows statewide.

MnDOT – "Roadworthy, versatile and operator friendly. Significant savings may be achieved in equipment and labor costs. 10+ in operation and adding….

Whose who in TowPLows?

Utah DOT – Tried their one, adding more.

Maine DOT- “TP freed up a truck and has potential of being a valuable tool”

North Dakota tried 2 and added 11; seeking 32 in operations.

Whose who in TowPLows?

In Canada

Ministry of Trans. of Ontario – “The cost savings is very attractive in today’s economic times. TP is actually a very efficient wing, capable of clearing an entire lane.”

Whose who in TowPLows?

Tennessee tried one and added
12 more

Georgia 2 units.

Oklahoma TP 2 units.

Whose who in TowPLows?

Clear Roads - Product experience surveys for 2008-09, where operators have made comments.

Drop me an email and I can provide you any of the TowPLow reports.

What else does the future bring?

- High speed rural interstate plowing, plowing within 10 to 20 MPH of the public's speed during snow storms to reduce rear end accidents, and to provide traffic flow and capacity

- How?

High speed, rural interstate plowing will be further refined and performed without a front plow.
2008

- Eliminating the front snow plow and using underbody plows and TowPLows to plow at high speeds up to 60MPH. Why?
- Front plows at high speeds cause several problems:

1. Blowing snow into radiator
2. Snow blocking engine air intake
3. Snow on windshield
4. Snow on cowling of heater intake
5. Snow packed on wipers
6. Creates large snow clouds!!!!


Done 2010/11….. Operating on I-44 Joplin, Mo….

Standard Snowplow truck

Truck with wing plow

Snowplow truck with TowPLow

TowPLows used for:

Urban multi lane and signalized sections
Rural 2 and 3 lanes with shoulders
Alternating passing lanes
Truck climbing lanes
Shoulders on other routes after the storm
On inslopes to make room …. Do not endorse…


Maine DOT
Tony Ramsdell
In deep snow
2009

TowPlows in urban

TowPLows in rural

Questions on the TowPLow Concept for either application can be directed to:

Bob Lannert – Retired MoDot Engr.
Inventor of the TowPLow concept
Cell 573-690-7600

MoSnowKing@aol.com

www.Towplow.com

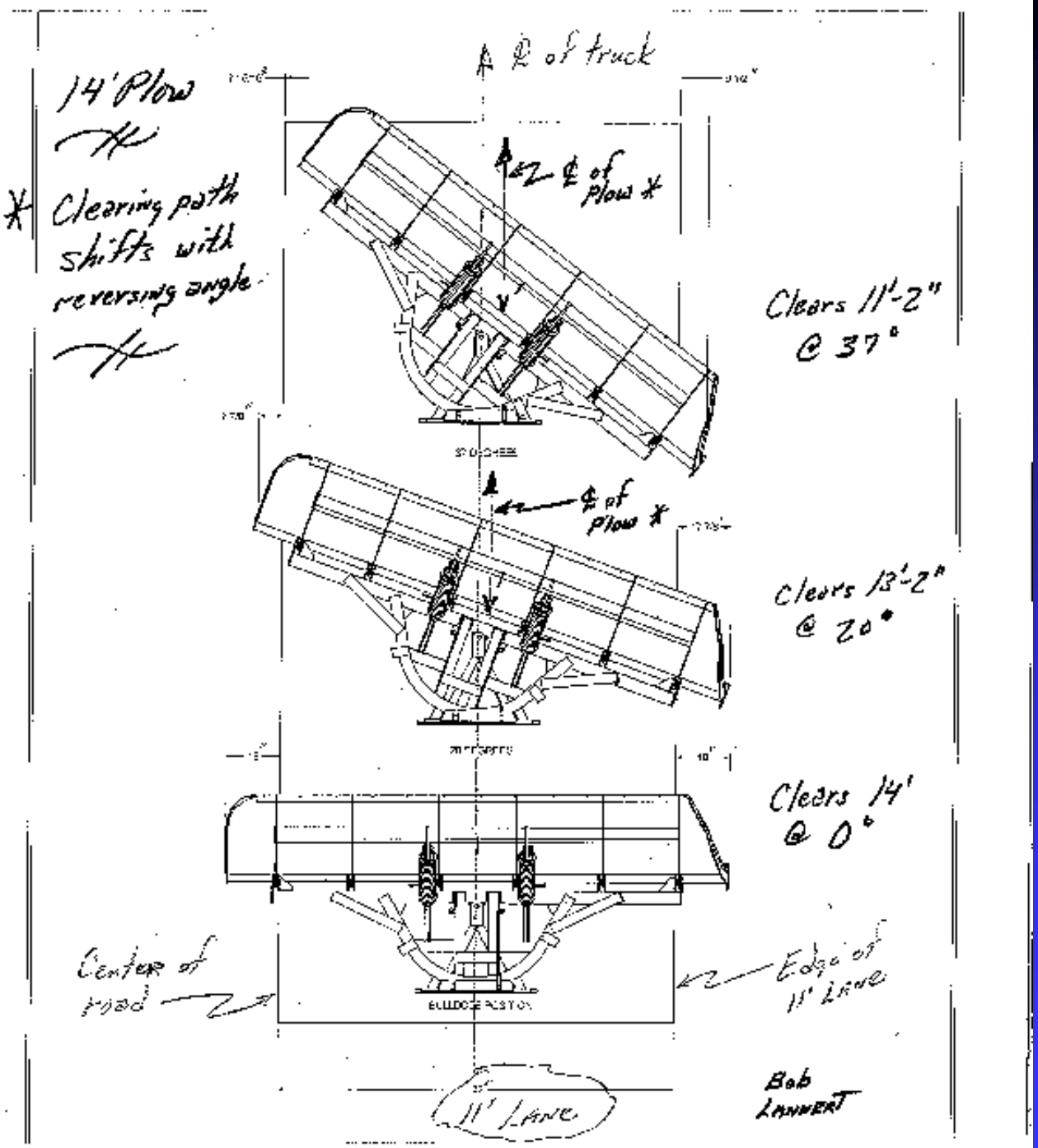
End of TowPLows FYI 14’ plows follow….. What is One Pass Clearing????

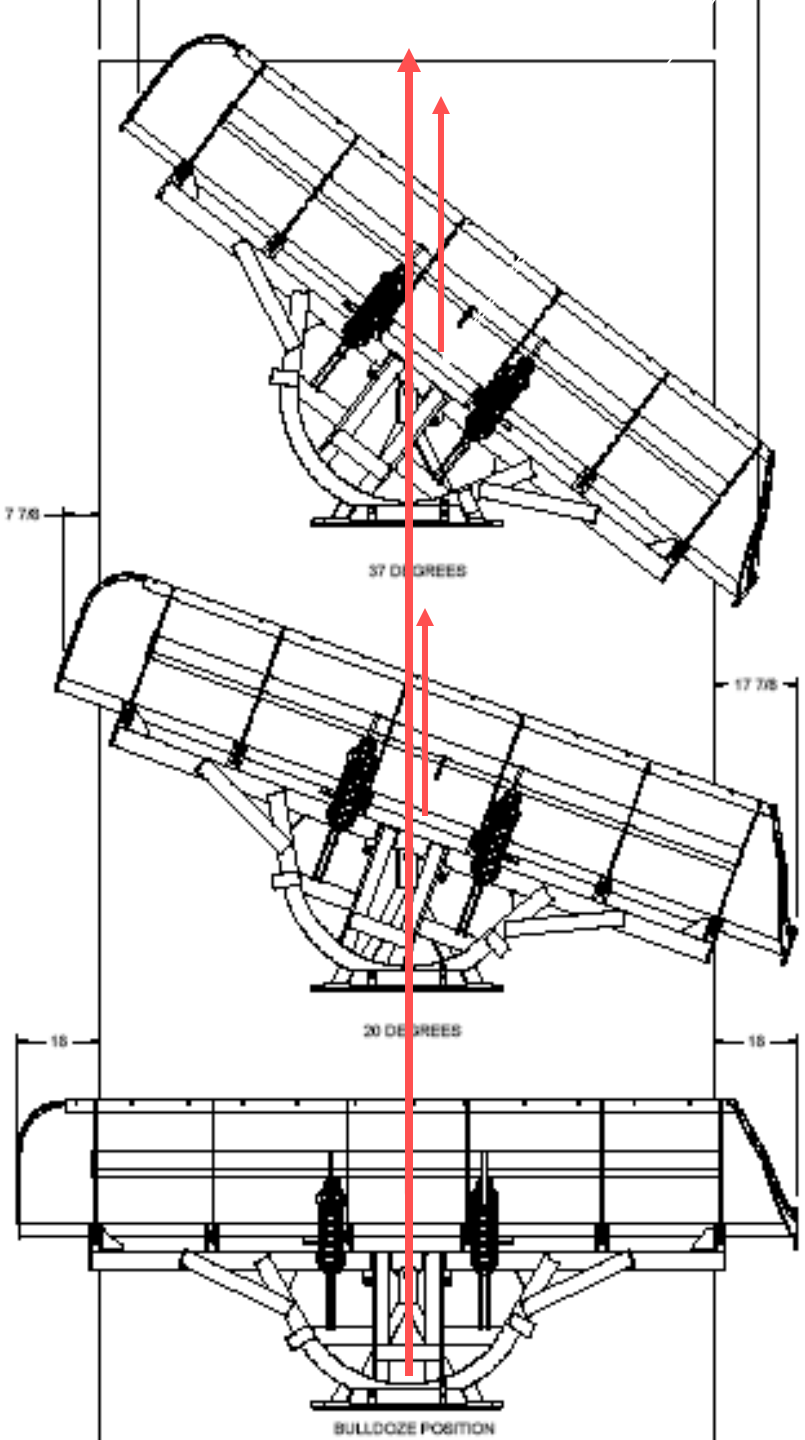

One pass clearing
Using 14’, 15’ and 16’ front plows


Mirrors 9’-9”
Clearing path
Raptor
Red Eagle

Lets talk clearing paths of snow plows!

Width of	******* Angle of plow **********		
moldboard	35 degrees	25 degrees	20 degrees
at 0 degrees	0.819	0.906	0.940
in feet	********Provides clearing path **********		
10	8.2	9.1	9.4
11	9.0	10.0	10.3
12	**9.8**	**10.9**	**11.3**
13	10.6	11.8	12.2
14	**11.5**	**12.7**	**13.2**


14' Plow
* Clearing path shifts with reversing angle *
℄ of truck
℄ of plow *
Clears 11'-2" @ 37°
℄ of plow *
Clears 13'-2" @ 20°
Clears 14' @ 0°
Center of road
Edge of 11' Lane
11' Lane
Bob Lambert


7 7/8
37 DEGREES
17 7/8
20 DEGREES
18
18
BULLDOZE POSITION