



XIII
INTERNATIONAL
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CONGRESS

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Québec 

SUSTAINABLE WINTER SERVICE FOR ROAD USERS

*Two Plows – One Operator
The Use of Tow Plows on an Arterial Highway
in Northern NB*

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AGENDA

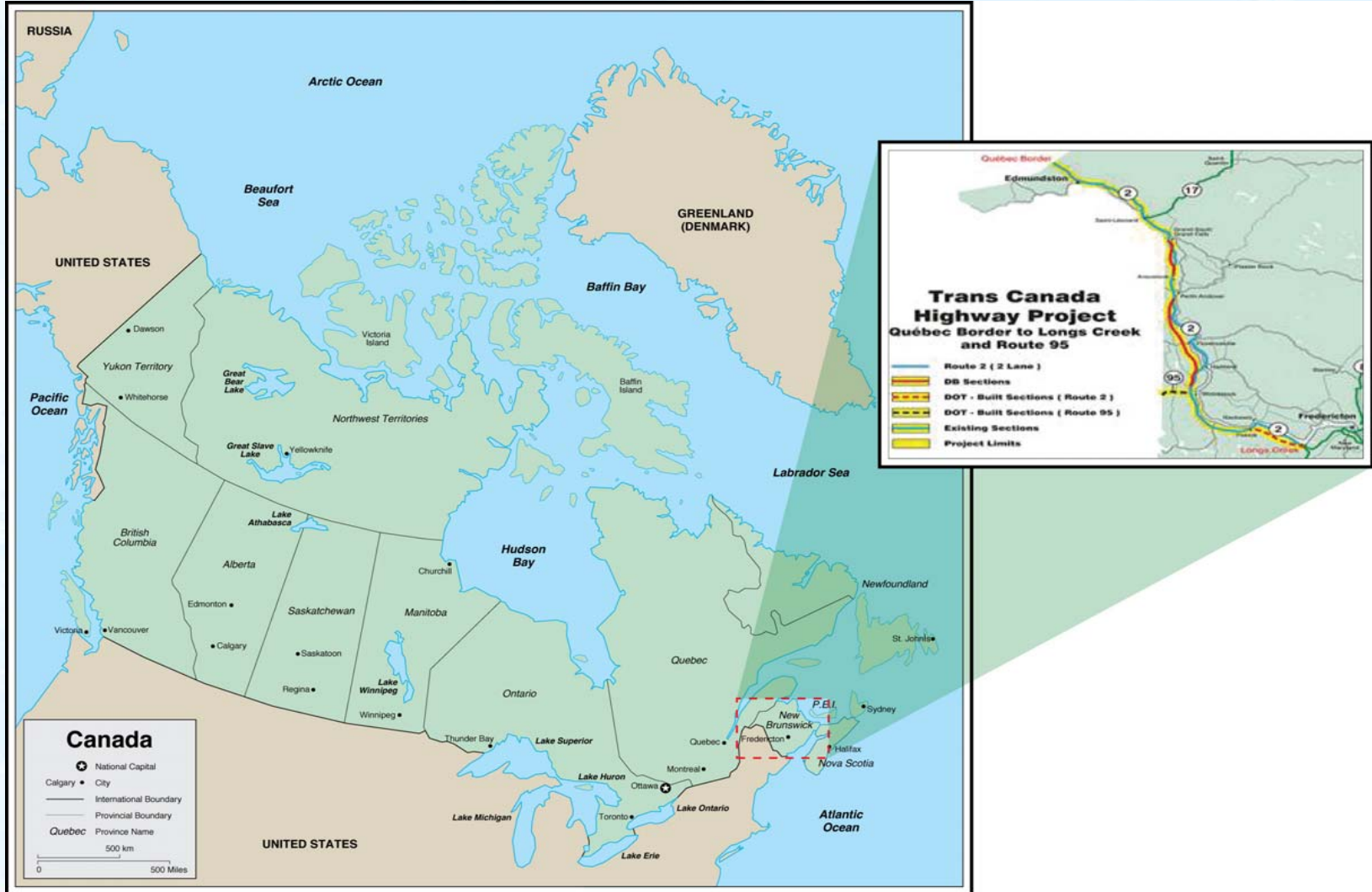
- Overview
- The Trans-Canada Highway Project
- The Challenges
- Tow Plow History
- Implementation
- Benefits
- Opportunities for Improvement

PROJECT BACKGROUND

- The Trans-Canada Highway Project is a Public Private Partnership (P3) between Brun-Way and the Province of New Brunswick.
- Brun-Way Construction designed and built 98 km of Trans-Canada Highway (TCH) and upgraded 127 km of existing sections.
- Brun-Way Highways Operations is responsible for the operation, maintenance and rehabilitation of 275 km of TCH until 2033.



PROJECT DESCRIPTION



THE CHALLENGES

- Improve Level of Service within a fixed fee contract
- New snow and ice control methods;
- New and untried equipment and;
- Rising fuel and equipment costs.



TOW PLOW

- The Tow Plow is a snow plow designed to be towed behind a standard plow truck.
- It can increase the snow clearing path to as much as 7.85 m.
- Designed primarily for high speed echelon plowing.
- There are about 100 Tow Plows in service in North America.



IMPLEMENTATION – WINTER 06 - 07



IN ACTION



DEVELOPMENT CHALLENGES

- Keep to legal maximum width.
- Allow for options such as brine tanks, sand spreader, etc. while retaining ballast.
- Ensure integrity of the frame using Finite Element Analysis.
- Keep operation simple.



MODIFICATIONS REQUIRED

- The Tow Plow was evaluated by Brun-Way in conjunction with the Province of New Brunswick, which resulted in several recommendations.

Cycle fenders were added to move with the skewed wheels.
Additional lighting was added to illuminate the trailer when in plow mode.





Rear bumper was chamfered 30 degrees;

Side light mount was made frangible



Back end of the plow blade was cut off to allow closer plowing to guiderails.



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ON-THE JOB TRAINING



Tow Plow Operators are required to have Class 1 air brake licenses.

Experienced Tow Plow Operators train and shadow the new operators.

PUBLIC COMMUNICATIONS

- **The Challenge**
 - Some road users were not willing to wait behind a plow during echelon.
- **The Actions**
 - Canadian Broadcasting Center (Local Radio) storm reports during drive time.
 - Fall media kits for local newspapers, etc.
- **The Results**
 - fewer instances and complaints in the past winter.



BENEFITS REALIZED

- Vehicle Maintenance?
 - Yes – when compared with a plow truck.
- Cutting Edges?
 - Yes – one replacement every 2 years as compared with at least twice per year with conventional front plows.
- Personnel?
 - Yes – One operator – Two plows.
 - Operator Incentives

OPPORTUNITIES FOR IMPROVEMENT

- Improve Tow Plow visibility;
- Improve hydraulics speed; and
- More power on grades over 4 percent and in heavy wet snow.

CONCLUSIONS

- Introduction of the Tow Plow:
 - Enabled Brun-Way to augment the fleet with ten plows without adding ten operators.
 - Enabled Brun-Way to improve on the level of service each year.
 - Did not result in measurable fuel savings.
 - Resulted in lower maintenance costs.

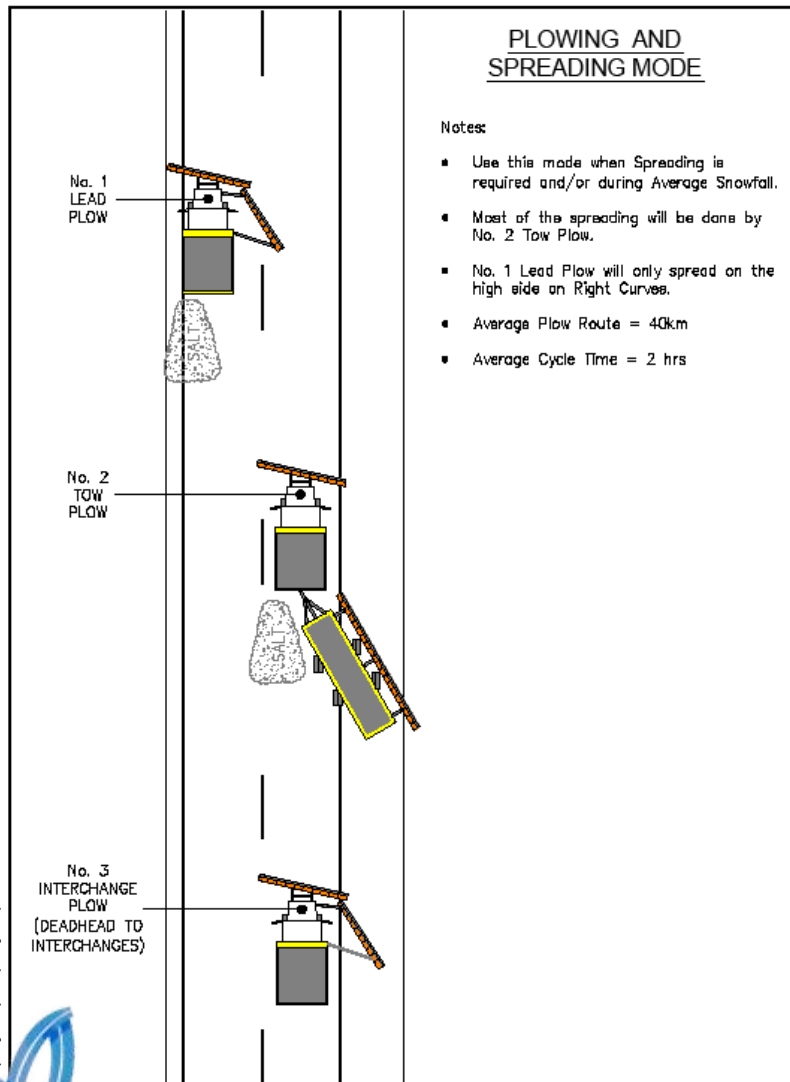


Questions ??

Thank You! And remember –
“SNOW MEANS SLOW!”

PLOWING STRATEGY ADOPTED

Appendix A



Appendix B

