



IMPROVING CANADIAN TRANSPORTATION EFFICIENCY THROUGH COLLABORATIVE INITIATIVES

Prepared for Task Force meeting on VWD Policy

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AGENDA



CONTEXT



PROJECT UPDATES



DISCUSSION

CONTEXT

- ❖ National research center specializing in the creation of engineering solutions.
- ❖ Research on innovative technologies and solutions to complex problems in the sector's value chain
- ❖ More than 430 employees. R&D located in Quebec City, Montreal and Vancouver
- ❖ Several members including provincial and federal governments
- ❖ Several departments including the Department of Transport and Infrastructure

FPINNOVATIONS TRANSPORTATION GROUP

OBJECTIVES

- ❖ Improve transportation efficiency and reduce transportation cost for the industry
- ❖ Reduce GHG emission
- ❖ Improve public safety
- ❖ Reduce impact on infrastructure
- ❖ Stimulate economy through provincial competitiveness
- ❖ Address driver shortage issues

HOW

- ❖ Corridor Truck configs
- ❖ Transportation Partnership Program
- ❖ WWP
- ❖ Improving truck loads on already approved vehicles
- ❖ Etc.



GREAT SUCCESS FACTOR (Win-Win-Win):

Close collaboration between FPInnovations/Universities/ Provincial Transportation Departments



- ❖ Several years of collaboration
- ❖ Collaboration in several forms:
 - Joint research activities and projects (major impacts)
 - Use of tools and technologies
 - Involvement in Technical Committees
 - Evaluation of Master's theses
 - Scientific articles

PROJECT UPDATES

HIGHLIGHT OF TRANSPORTATION EFFICIENCY SUCCESS THROUGH COLLABORATIVE EFFORTS BETWEEN FPI & DOTS IN CANADIAN PROVINCES

PROVINCE	CONFIGURATION	PROGRAM	CHANGE GVW	YEAR
B.C. (MOTI)	9 Axle B train tridrive	Corridor/ Weight increase through WBST	71.9t to 72.3t	2019
Alberta (AT)	8 axle Tridem drive tractor / 4-axle semi-trailer	WWP policy upgrade	63.4 t + 4.6t	2016
	9 axle Tandem drive tractor / 6-axle B-train	Reduction of the frost depth for the beginning of the WWP period from 1m to 0.75m	70.5t + 7t	
	9 axle Tridem drive tractor / Super B-train		71.3t + 7t	
	10 axle Tridem drive tractor / 6-axle B-train	Increased winter haul time by at least 9 days	78.3t + 10t	
Ontario (MTO)	9 axle B train Tandem Drive	Corridor program	72.5t approved corridor	2021
New Bunswick (DTI)	6 axle Tandem drive tractor / tridem semi-trailer	WWP policy upgrade	49.5t + 2t	2017
	7 axle Tandem drive tractor / 4-axle semi-trailer		55.5t + 2t	
	8 axle Tridem drive tractor / 4-axle semi-trailer	Corridor program	62.3t	2017
Newfoundland	7 axle Tandem drive tractor / 4-axle semi-trailer	Weight increase through Transportation partnership program	55.5t + 2t	2020
	8 axle Super B-train		62.5t + 3t	

IMPACTS ANALYSIS

Overall Positive Impacts

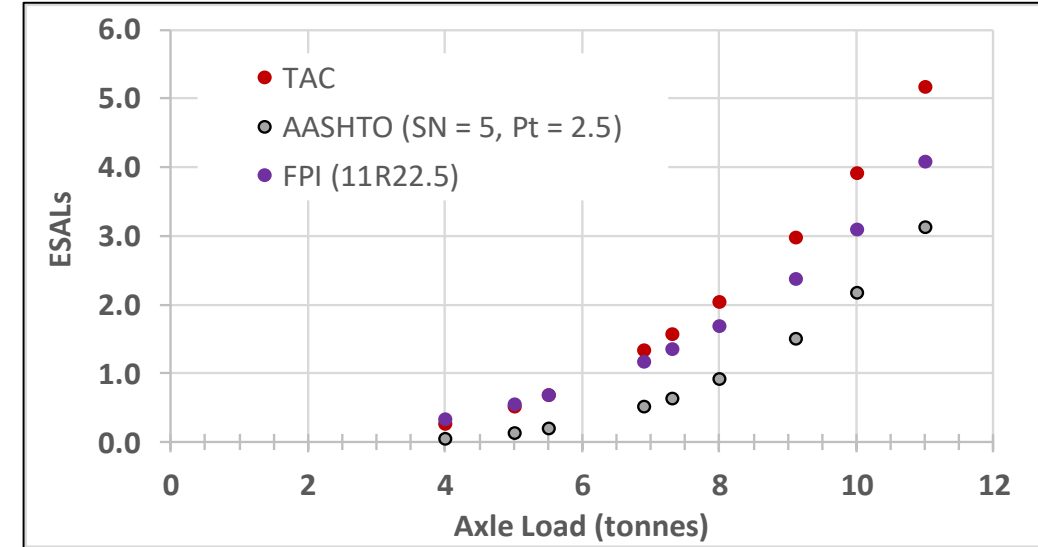
- Reduction of the annual traffic volume to transport the same volume
- Increased transport safety
- GHG Reduction

Benefits for Industries

- Annual savings of more than \$2 million for the forest sector alone
- Additional Savings for the Mining and Petroleum Sectors

Benefits to DOTs & Provinces

- Reduction of maintenance costs due to transport shift



ONGOING PROJECTS FOR FY2024

Ontario

- Additional corridor for 9 axle tandem drive B train



Quebec

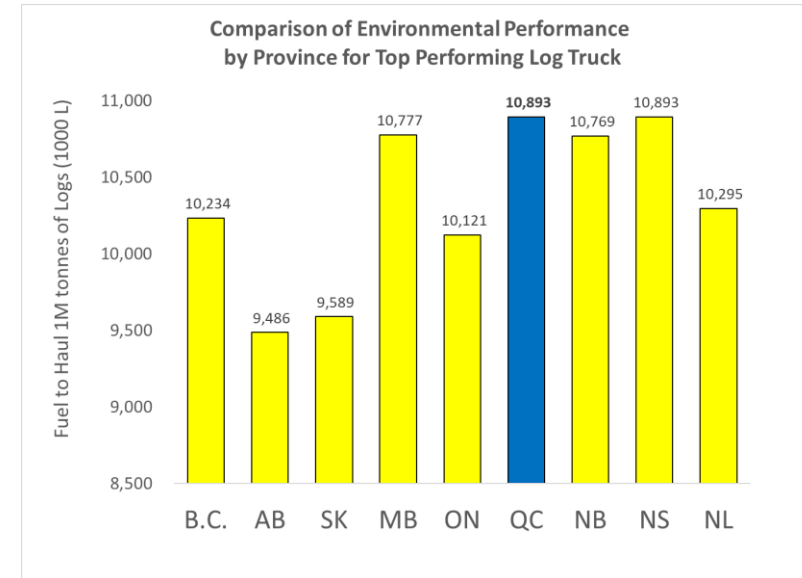
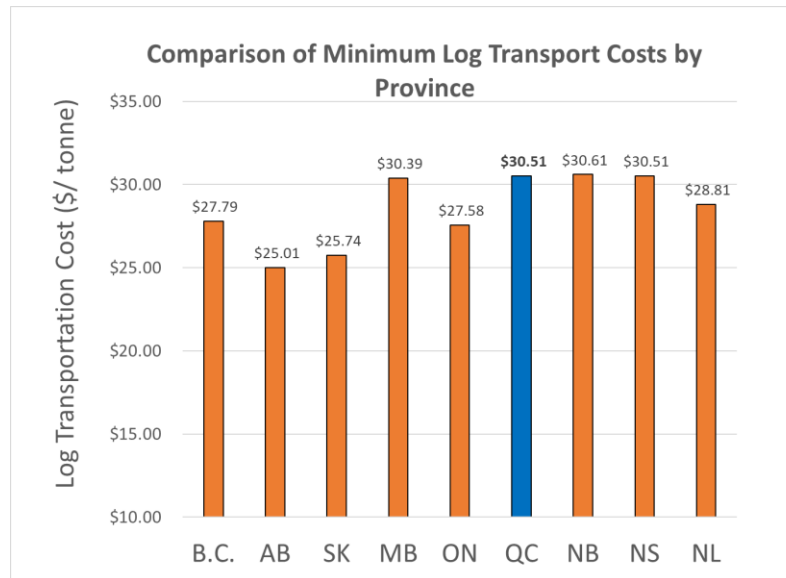
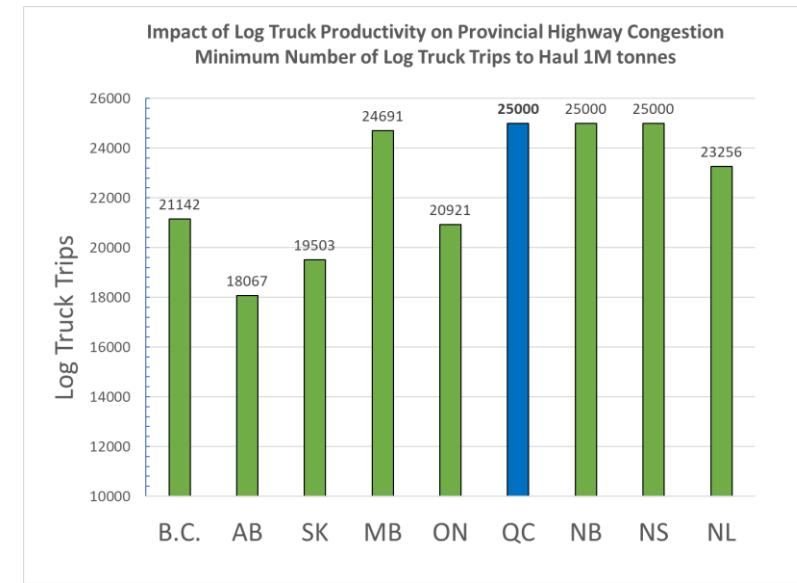
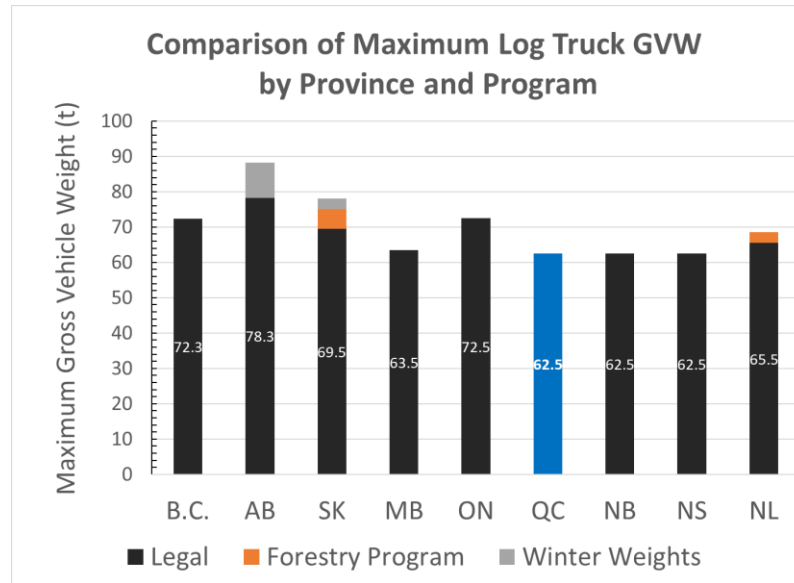
- Improving transportation efficiency in Qc through corridor and WWP



Nova Scotia

- 9 axle B train corridor
- Improving loads on 7 and 8 axle configs

IMPACTS ANALYSIS



The best performing configs (AB, BC, ON) come from collaboration between DOTs and FPI over the last 7 years

GHG EMISSIONS IMPACT

Configuration	Payload (t)	GHG intensity (kg/t)	Reduction
Quebec Quad	37.5	14.52	0.0%
Super B	41.5	14.25	1.8%
Ontario 9-axle	50.0	13.27	8.6%
Alberta 10-axle	52.8	13.07	10.0%
BC 9-axle	48.3	13.41	7.6%

- Currently 125 9-axle permitted trucks in B.C.
- Yearly haul estimated at 1.89 million t
- Compared to Super Bs hauling same tonnage:

Annual reduction of GHG emissions = **1588 t**

CONCLUSIONS AND OUTLOOK

REVIEW OF A SUCCESSFUL COLLABORATION

Assistance
in specific
areas of
research

Credibility
and
Diligence

Access to
state-of-
the-art
laboratories
and
increased
expertise

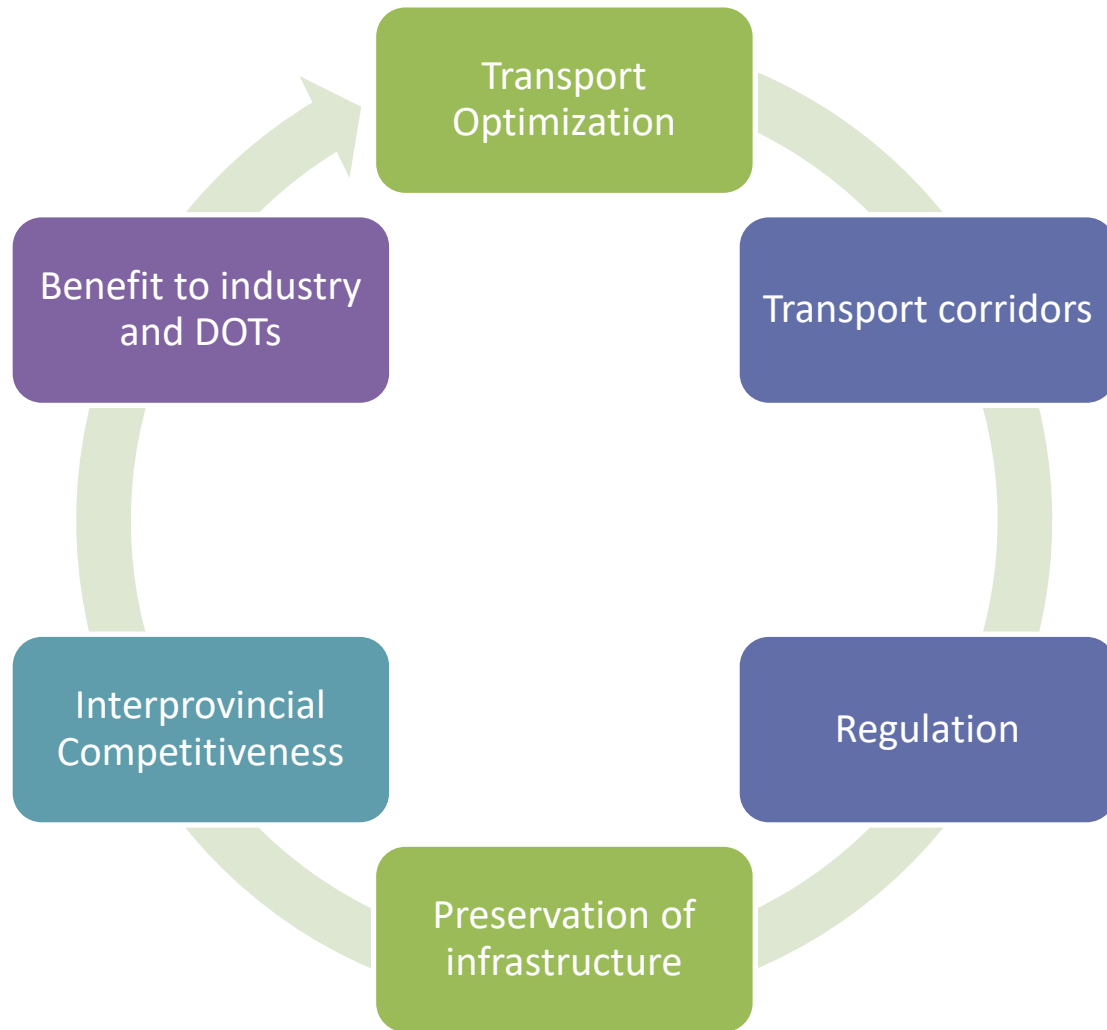
Networking
with other
experts

Adaptation
and focus
on the
needs of
the industry

Training the
next
generation

FPINNOVATIONS OUTLOOK

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Thanks

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