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Introduction to Transportation Ministry \ Industry Task Force cooperative model in Alberta

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Outline

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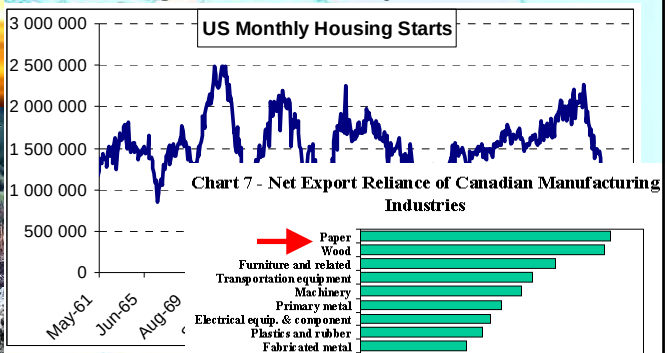
Background
State of the Forest Sector

The Canadian Forest Sector is evolving; due to many factors



- market de
  - US hous
  - evolving

Background
Alberta Response

These factors have led to:

- Mill closures and shutdowns
- Limited cash-on-hand to respond to these issues

In response, the Alberta Government created the Forest Industry Competitiveness Project (FISC) to:

- Improve Alberta's forest business model
- Enhancing industry competitiveness
- Improving delivery of policy

Transportation is a main FISC focus

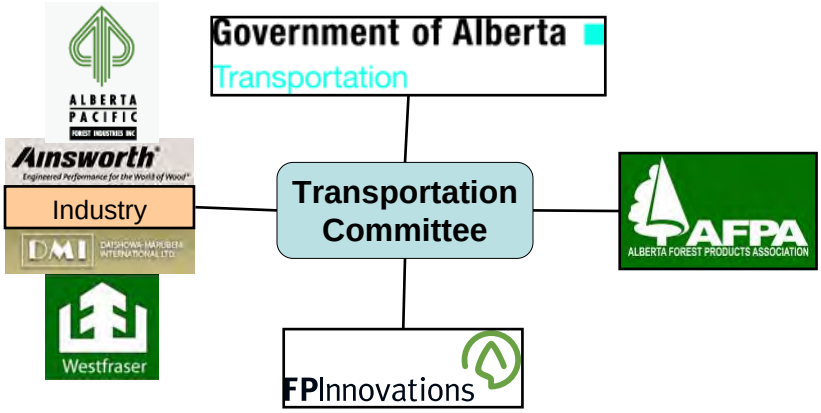
- Alberta has very long transport distances compared to other jurisdictions
- 25% transportation cost increase since 2004

Transportation Committee
Mandate

Based upon the FISC recommendations, a Transportation Committee was created. It was:

- to include government & industry representatives
- tasked with a mandate including:
  - Infrastructure planning
  - Supporting industry's self-regulated monitoring systems
  - Mountain Pine Beetle infestation issues
    - Drier logs = lower density = lower payload = lower pay
  - An increased winter weights program for log, chip & hog fuel
  - Supporting innovation in transportation

Transportation Committee
Makeup of Committee



Accomplishments
New Configurations

8-axle tractor/semi-trailer:
7 tonne payload increase for summer operation

10-axle B-train:
10 tonne (25%+) payload increase

Accomplishments
GVW Improvements

- Existing Alberta Winter Weights program
  - is a permit based system
  - recognizes that winter (frozen) roads are much stronger than in summer, and can thus carry heavier loads
  - is for log trucks only
- Expanded Winter Weights program will
  - include chip & hog fuel trucks
  - evaluate whether additional weight increases may be possible for log trucks
- It must not compromise public safety
  - evaluates configurations against existing TAC performance measures

Increased weights + good dynamic performance = increased safety + increased fuel efficiency + decreased GHG

Accomplishments
GVW Improvements – Methodology

- FPInnovations evaluated configurations using UMTRI Yaw/Roll model
- Each configuration examined at worst-case conditions:
  - maximum (practical) load height
  - minimum load density (to reach target GVW)
  - Using an expected load profile, as to not exceed axle group weights
- Initial simulations conducted at GVW's using (bridge and road impact limited) axle group maximum weights
  - Tandem group – (up to) 22 tonnes
  - Tridem group – (up to) 27 tonnes
- If performance was not acceptable, weights were decreased, & the configuration re-evaluated (until performance deemed acceptable)

▪Factors examined included:

- Summer vs. winter weights
- Axle track width (8.5ft to 10 ft)
- Bunk width (8.5 ft to 10 ft)

Accomplishments
GVW Improvements - Results to date

- Number of configurations analyzed to date: 13
- Average payload capacity increase: 10%
- Estimated Fuel Consumption/GHG reduction: 5%-6%

Configuration		GCW	Payload Increase
Tridem drive tractor/ quadaxle semi-trailer		68.0	3.0
Tandem drive/ tandem jeep/ tridem pole trailer		69.0	4.0
Tandem drive/ tandem jeep/ tridem semi-trailer		74.0	9.0

Accomplishments

GVW Improvements - Results to date B-trains (Winter Weights)

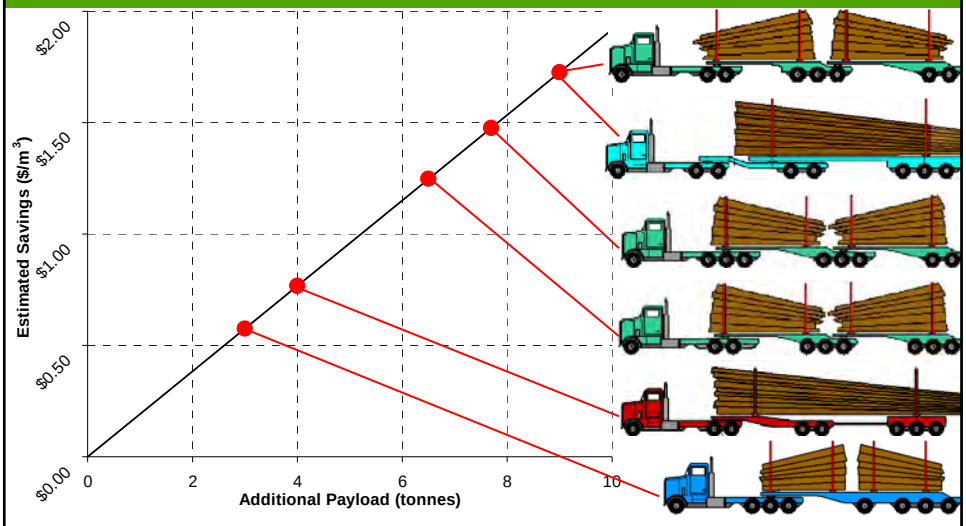
Configuration		GCW	Payload Increase
8-axle B-train (tandem drive)		74.0	9.0
8-axle B-train (tridem drive)		76.0	11.0
9-axle B-train (tandem drive)		77.0	6.5
9-axle B-train (tridem drive)		79.0	7.7
10-axle B-train		88.0	9.7

Accomplishments

GVW Improvements – Results to date B-trains (Summer Weights)

Configuration		GCW	Payload Increase
9-axle B-train (tandem drive)		70.5	7.0
9-axle B-train (tridem drive)		71.3	7.8
10-axle B-train		78.3	14.8

Accomplishments
GVW Improvements – Cost Benefit



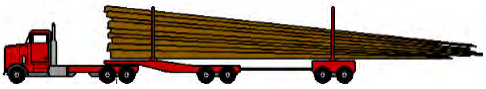
Accomplishments
Implementation of Results

- Recommended weight increases were presented to the committee and Alberta Transportation for review
- Alberta Transportation used these results to develop the 2009-2010 Winter Weight permits
- Not all carriers were able to take advantage of the increased Winter Weight allowances
  - Maximum bridge capacity was main limiting factor
  - Especially with the larger 9- and 10-axle b-trains
  - Alberta Transportation is initiating a program to evaluate potential upgrades to the most problematic bridges
- Further configurations are being evaluated for the 2010-2011 Winter Haul season

Ongoing Work
Further GVW Improvements

8-axle tridem drive tractor/ quad-axle semi-trailer (new design)

7-axle B-train

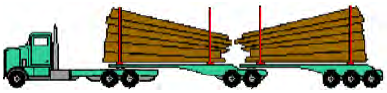


7-axle tandem drive tractor/ tandem jeep/ tandem pole trailer

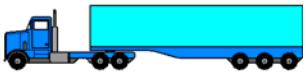
Ongoing Work
Further GVW Improvements

8-axle tridem drive J-train (single jeep)

9-axle tridem drive J-train (tandem jeep)



8-axle reverse B-train



6-axle tractor/ semitrailer (walking floor design)