

Ensure road-weight restriction reflect technology and economic needs

Issue

The size and scope of equipment and machinery being used for industrial and agricultural purposes has changed dramatically over the past number of years. Transportation laws need to strike the delicate balance between maintaining public roadways and facilitating business operations.

Background

Municipalities, on behalf of the province, are responsible for the maintenance and upgrading of the majority of roads that farmers and industry access. Many of the aging roads were built poorly relative to today's standard. For example, trees and black dirt were used as fill, and are not constructed to be able to weight-bear today's large equipment, and are especially vulnerable to road damage during the spring and wet conditions. Unfortunately, most agricultural and many industrial operations are time and weather sensitive, requiring heavy equipment to be moved at times that are not always harmonious with current road conditions. Many of these roads service the rural area and are not a high priority for upgrades.

The permitting and exemption system is a complicated mix of legislation and application processes. Many municipalities have developed over-weight permits to exempt vehicles from road bans by using a bond system where the bond will only be forfeited if damage occurs. Transportation Routing and Vehicle Information System (TRAVIS) is a Government of Alberta system designed to easily achieve necessary permits, but does not function with all vehicle types.

Total axle load, number of axles, distance between axles, number of tires, tire size, tire pressure, steering axles, all affect pressure between the tire and surface. Historically, as equipment weight increased, so has tire size. Larger tires, tires filled with less air (lower pounds per square inch (psi), and more axles spread further apart all reduce the pressure of the tire on the road surface. The tire industry has recently designed radial tires to replace bias ply tires for larger equipment. This has helped reduce tire pressures to almost half the inflation rate of bias tires. The current legislative framework, permitting, and subsequently fining system, does not take fully take technologies that reduce psi transferred to the roadways in to account. The table below illustrates the load index depending on tire inflation and the number of axles.

Load index by axle and tire inflation^{42 43}

Tire Size	Inflation (psi)	6	10	12	14	16	18	20	22	24
18.4 R30	Load Index									
	SINGLE (LBS.)	NR	3520	3960	4300	4680	4940	5360	5680	5840
	DUAL (LBS.)	2290	3100	3480	3780	4120	4350	4720	5000	5140
	TRIPLE (LBS.)	2130	2890	3250	3530	3840	4050	4400	4660	4790

It is important that legislation governing the transportation of equipment reflect the technological realities of the equipment used while protecting roadways from damage and allowing business activities to be completed.

The Alberta Chambers of Commerce recommends the Government of Alberta:

1. Identify and publish the standards to which roads and bridges have been built and their weight bearing capacity, ensuring that information is used to set weight restrictions. Ensure a legislative mechanism exists for municipalities and the provincial government to waive weight bearing restrictions on a case-by-case analysis for roads that are a low priority for upgrading where the need is time sensitive;
2. Identify roads and bridges in need of upgrading to allow for a more efficient heavy load system and provide budgeting based on economic reliance on a particular road;
3. Undertake and continue in ongoing research to identify and ensure changes in vehicle and tire technologies reflect pressure transferred through to the roadway and update the legislative, permitting, and enforcement framework accordingly;
4. Take into account appropriate exemptions for agricultural and other necessary time-sensitive uses for public roadways;
5. Improve communication and education about how to obtain the proper permits; and
6. Ensure permit providers obtain the correct and necessary information to make the process standard with minimal red tape.

⁴² www.goodyear.com

⁴³ <http://www.extension.umn.edu/agriculture/tillage/tires-traction-and-compaction/#3b>