Issues and Developments for Truck Transportation in the Prairie Region

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Outline

- The region and trucking activity
- Trucking developments to now
- Truck size and weight regulations
- Truck safety
- ITS-CVO
- Future issues and developments
Freight movements

- Local, regional, and international
- International movements growing \(~6\%\) per year in the region
- About 1,400 trucks per day enter U.S. through Prairie region border crossings
- Relative shift from E-W to N-S
Southbound truck volume

SB trucks per day


U.S. BTS

Pembina Sweetgrass Portal Other
Background on regional trucking

- Early initiatives
- Western Canada Highway Strengthening
- Rail rationalization
- Deregulation and safety response
- RTAC study
- FTA and NAFTA
- Globalization, logistics, intermodal, ITS
TS&W regulation

- Influence volumes, truck types, loads, efficiency, safety, economy
- Myriad of TS&W regulations in region
- In a simple world of small trucks, short trips, intra-jurisdictional focus—a local issue
- In today’s world of large trucks, long trips, across borders—local, regional, and international issue
Relax regulations

Bigger trucks

More payload/truck

Lower truck cost/unit payload

Possibly higher road/bridge costs

Shipper benefits
Cost of grain trucking

Figure 3-1
Comparison of Cost of Grain Trucking (cents per t-km in 1996 constant dollar)

Cents per t-km

Mid 70's
Mid 80's
Mid 90's

A. Clayton and J. Montufar, November 1998
Basic TS&W regulations

- Controlled and specified by many agencies
- Often enforced by others
- Many systems and details
- Key standards with wide influence are:
  - RTAC TS&W regs—primary highways
  - U.S. Federal TS&W law—grandfather rights
Winter weight premiums

- Extra weight allowed in frozen periods
- Apply everywhere except MT and IS in ND
- Variety of systems
- Fixed and variable timing
- Jurisdictional, zonal, route-specific
Spring weight restrictions

- Lower weight required in thaw periods
- Apply widely
- Variety of systems
- Fixed and variable timing
- Varying intensity
- Zonal, route specific
Roads subject to SWR (2004)
Seasonal weight limits in March 2004
Long combination vehicles

- RMD
- Turnpike
- Triple
In the Prairie region

- Turnpikes and triples
  - divided highway network

- Rocky Mountain doubles
  - two-lane highways with paved shoulders
  - SK and AB have made exceptions
Environmental scan

- MB, SK, AB, NWT, MT, ND
- Speed control
- Driver training and qualifications
- Geometric standards
- Weather and road conditions
- Temporal restrictions
- Safety monitoring and evaluation
- Vehicle-related requirements
Truck safety overview

- 14,838 heavy truck collisions
- Provincial highways and urban areas
- Three provinces
- 1993-1998
Principal findings

- 14,838 HTCs, 400 deaths, 5,000 injuries
- 1/2 of all HTCs occurred in urban areas
- 1/2 in winter and 1/4 in summer
- Winter collision rate is 2.5 times summer rate
- 40% under adverse road surface conditions
- In MB, night time rate is 60% higher than day
Source: Montufar (2002)
ITS-CVO developments

- Real-time information about weather and road surface conditions
- Virtual compliance monitoring
- Condition-based seasonal weight control
- On-line commercial vehicle permitting
- Expanded use of WIM and AVC