

# THE ONTARIO APPROACH

## Ontario's Commercial Vehicle Safety Regime



# Agenda



- **Historical Background and Context**
- **Commercial Vehicle Enforcement in Canada - National Safety Code**
- **Ontario Approach - CMV Safety Strategy**
- **Commercial Vehicle Operator's Registration (CVOR)**
- **Carrier Safety Rating**
- **Commercial Vehicle Impoundment Program**
- **Successes and Challenges**

# Impetus for Action



- **Rapid population growth – almost 12 million people**
  - **42% increase since mid 70's**
  - **9 million vehicles – over 8 million drivers**
- **Expanding international trade**
  - **North American Free Trade Agreement**
  - **3.2 million trucks cross Ontario-U.S. border annually**
  - **Ontario accounts for 41% of Canada's GDP**
  - **80% of Ontario trade with U.S. is shipped by truck**
  - **Trucking industry contributes \$3 billion to Ontario GDP**
- **Impact of deregulation of the trucking industry**
  - **Increased competition in trucking industry**
  - **Increased truck traffic on major highways – 106,000/day**



- **Concern for safety on the highways and in the commercial motor vehicle industry**

**In 1994:**

- **Ontario ranked 5<sup>th</sup> in Canada & 13<sup>th</sup> in North America in fatalities (per 10,000 licensed drivers)**
- **Commercial vehicle out-of-service rate was high at 43%**
- **A series of wheel separations resulting in fatalities caused alarm**
- **Insufficient resources applied to enforcement**

# Map of Canada



# Map of Ontario



# Commercial Vehicle Enforcement in Canada



- **In Canada, the federal government has responsibility for trucking movements across provincial boundaries whereas each province & territory regulates these movements intra-provincially.**
- **The federal government delegates authority for monitoring and enforcement of commercial vehicles to each province and territory.**

# Deregulation of the Commercial Vehicle Industry



- In the 1980's, deregulation of the airline, rail and trucking industries was underway in the United States
- Close trade relationship with the U.S. so Canadian government began to deregulate the trucking industry in Canada as well
- Prior to deregulation governments regulated the trucking industry on the basis of “public necessity and convenience”
- Most enforcement efforts were focused on licensing and monitoring commercial vehicle weights



# Deregulation ...



- **After deregulation it was feared that without controls there would be a proliferation of the number of trucking companies created and that safety would be compromised**
- **Increased competition would result in shortcuts in vehicle maintenance and driver training**
- **Due to this concern for commercial vehicle safety, the federal and provincial governments agreed to develop guidelines**

# The National Safety Code



- To achieve Canada-wide consistency the federal and provincial/territorial governments created the National Safety Code (NSC)
- The National Safety Code is a set of minimum safety standards that are intended to be uniformly applied across Canada
- The NSC was adopted in 1987 and new standards have been added or amended through a collective, cooperative process

# National Safety Code



**Two of the new standards created were:**

- **Standard # 14- Carrier Safety Ratings**
- **Standard # 15 – Facility Audits**

# Ontario's Commercial Vehicle Safety Regime



- To respond to national changes and concerns for road safety Ontario adopted a comprehensive safety and enforcement strategy for commercial vehicle transportation (trucks and buses)
- It was known as:

***Ontario's Road Safety Plan***

# A Four-Pronged Approach



- An overall philosophy employing a four-pronged approach was conceived involving:
  - ***Safety Standards***
  - ***Detection***
  - ***Deterrents***
  - ***Incentives***

# Safety Standards



- **Develop and improve the regulatory regime governing safety to reflect safety concerns**
- **Revised brake inspection and wheel installer requirements**
- **Revised inspection and maintenance standards**
- **CVOR Renewal**

# Detection



- **Programs aimed at identifying both safe and unsafe carriers so enforcement resources could be focussed appropriately**
- **41 truck inspection stations, 6 mobile inspection stations, 350 officers, 42 facility auditors, 200 patrol vehicles, 20 CVOR Analysts**

# Deterrents



- **Imposition of strong deterrent measures to encourage compliance**
- **Commercial vehicle impoundment program**
- **Absolute liability for wheel separations**
- **Anti-avoidance measures**
- **Increased fines**



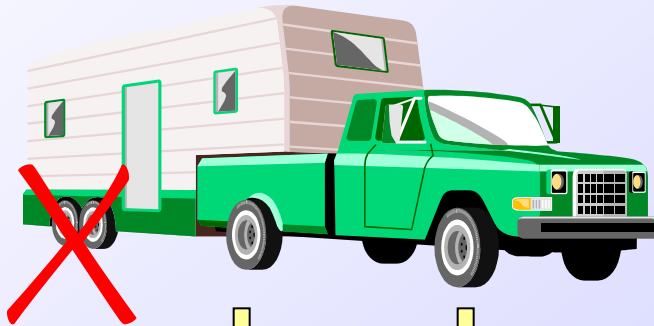
# Incentives



- **Introduction of meaningful incentives to make investment in safety pay**
- **Carrier safety ratings**
- **Pre-clearance for safe operators**
- **Fee exemptions**
- **Insurance premium reductions**

# Commercial Vehicle Operator Registration Program - CVOR

- The CVOR program is intended for all commercial motor vehicles registered or weighing over 4,500 kg's and buses designed to carry ten or more passengers (not for personal use)



Gross Weight

OR

Registered Gross Weight (RGW)

Two Ontario vehicle permit forms. The right-hand form has the value '5,000 kg' circled in red, indicating the weight threshold for registration.

- Carriers that fail to register under CVOR are not precluded from being monitored (including out of province, private carriers – primarily from the U.S.)

# CVOR Certificate



Name and Mailing Address / Nom et adresse postale


**WAKE & REYNOLDS TRUCKING INC.**  
**33 WARREN CRES**  
**ST CATHARINES, ONTARIO**  
**L8L 8L8**

The CVOR Certificate or a true copy must be surrendered on demand of a police officer. Not to do so is an offence.

*Le certificat d'immatriculation UVU ou une copie conforme de celui-ci doit être présenté à l'agent de police qui en fait la demande. Quiconque ne respecte pas cette directive commet une infraction.*



Detach here / Détachez ici

 Province of Ontario		Province de l'Ontario	
Issued pursuant to the Highway Traffic Act / Délivré en vertu du Code de la route			
<b>Commercial Vehicle Operator's Registration Certificate</b> <b>Certificat d'immatriculation d'utilisateur de véhicule utilitaire</b>			
Commercial Vehicle Operator's Registration No. <i>N° d'immatriculation d'utilisateur de véhicule utilitaire</i>	001-162-336		
Name / Nom WAKE & REYNOLDS TRUCKING INC.			
Office / Bureau 791-2	Issue Date / Date de délivrance Y/A M D/J 00 06 07		Minister of Transportation Ministre des Transports

SR-LH-123 99-06

This certificate or a true copy must be carried in each commercial motor vehicle being operated under the Commercial Vehicle Operator's Registration.

For replacement, correction or information change, complete and submit a new CVOR application form to: Ministry of Transportation, Carrier Sanctions & Investigation Office, 301 St. Paul St., 3rd floor, St. Catharines, On L2R 7R4.

*Ce certificat ou une copie conforme doit se trouver dans chaque véhicule utilitaire exploité sous couvert de l'immatriculation d'utilisateur de véhicule utilitaire.*

*Pour faire remplacement votre certificat ou pour y apporter des corrections, complétez et envoyez un nouveau formulaire de demande d'immatriculation d'utilisateur de véhicule utilitaire au : Ministère des Transports, Bureau des sanctions et des enquêtes concernant les transporteurs, 301, rue St. Paul, 3<sup>e</sup> étage, St. Catharines (Ontario) L2R 7R4.*

**00342725**

# CVOR System



- **Monitors carrier's on-road performance within Ontario over a two year sliding window that moves forward each day**
- **Evaluates carriers to determine their overall violation rate based on events on their safety record**
- **Points are assigned for Ontario convictions, accidents & vehicle mechanical safety inspections**
- **The CVOR record provides public information on a carrier's safety performance**
- **Facilitates MTO carrier interventions (warning letter, facility audit, interview or sanction)**



# CVOR System



- **CVOR triggers a a review of a carrier's record when poor safety performance is identified based on its overall violation rate exceeding an established threshold:**
  - ◆ >35% Warning Letter - notification to carrier with a copy of its safety record
  - ◆ >65% Facility Audit – Examination of carrier's safety practices
  - ◆ >80% Interview – Carrier meets with ministry official
  - ◆ >100% Sanction – Carrier's operating privileges are suspended or cancelled
- **(interventions could be initiated due to a high profile incident, fatality, impoundment, wheel separation or public complaint)**

# Threshold Values



- The allowable CVOR points assigned to a carrier within a sliding two-year window is called the *Threshold*
- Threshold values for accidents and convictions are based on a carrier's adjusted fleet size (AFS), while values for inspections are based on vehicles inspected
- Two years was set as the monitoring period
  - long enough for a carrier to demonstrate improvement or deterioration of its overall safety performance
  - adequate time to demonstrate the impact of any interventions taken with poor performers

# Intervention Threshold



- The overall threshold value (for sanctioning purposes) was considered to be 100% of overall threshold.
- The percentage of overall threshold for progressive interventions was determined based on the following principles:
  - ◆ total volume of interventions per year was targeted at about 5% of all carriers (by national agreement)
  - ◆ triggers for each intervention stage were set to approximate historical volumes of each type of intervention (e.g. a warning letter at 35% of overall threshold was found to generate approximately the same annual volume of warning letters, but for a more appropriately targeted group of carriers).

# Sanction Threshold



- Calibration of the “threshold curves” was done by Ministry analysts with input from the Registrar and representatives from industry.
- In calibrating the curves, the following principles were followed:
  - ◆ larger carriers would be expected to perform at lower violation rates because their violation rates are not as sensitive to individual incidents.
  - ◆ once a “critical mass” was achieved (judged to be AFS > 25 vehicles), carriers were expected to perform at the same violation rates.
  - ◆ carriers identified for “sanctioning” should be reasonably in proportion to the distribution of carriers in industry (e.g. not predominantly all small carriers, nor all large carriers)
  - ◆ in calculating the overall threshold, for sanctioning purposes, accidents were double-weighted, because of their seriousness.
  - ◆ The overall threshold was set to identify at least the same volume of unsafe operators for sanctioning as was previously identified, but based on the new curves



# CVOR Violation Rate



- **Three separate violation rates are based on three pointing systems**
  - ◆ Accidents
  - ◆ Convictions
  - ◆ Inspections
- **“Adjusted Fleet Size” determines what thresholds are to be used for accidents and convictions (inspection threshold is based on the # of vehicles inspected)**
- **Violation rates are compared against the threshold values to determine the Percentage of Threshold**
- **Overall Violation Rate is then determined using all 3 violation rates**



- **Reportable Accidents only (\$1,000 property damage or personal injury)**
- **No points if no “impropriety” reported by investigating officer.**
- **Accidents with “impropriety” or charges laid are assessed a minimum of 2 points, maximum of 12 points per accident**
- **Monitors accident points per vehicle per month**

## Accident Weighting Formula

X	No Impropriety (0)	One/More Impropriety & No Charges (2)	One/More Impropriety & One/More Charges (4)
Property Damage (1)	<b>0</b>	<b>2</b>	<b>4</b>
Personal Injury (2)	<b>0</b>	<b>4</b>	<b>8</b>
Fatal Injury (3)	<b>0</b>	<b>6</b>	<b>12</b>





- **Only safety-related convictions carry points**
- **Points vary from 0 to a maximum of 30**
- **Monitors conviction points per vehicle per month**



- **1 point per out-of-service defect**
- **Maximum of 2 points/vehicle unit**
- **Maximum of 8 points/inspection**
- **Monitors points per vehicle inspected**
- **Must have a minimum of 2 inspections to start calculating an inspection violation rate**

### ● Scoring Inspection OOS Defects



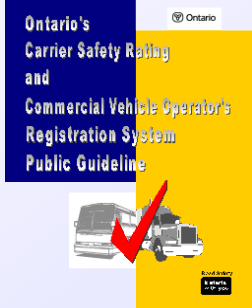
Insp #1:	Veh. #1	Veh. #2	Veh. #3	Veh. #4	Total
#OOS Defects in each vehicle unit	4	2	1	0	7
#OOS Defects assigned severity points	2	2	1	0	5x1 = 5pts
<hr/>					
Insp #2:					
#OOS Defects in each vehicle unit	3	1			4
#OOS Defects assigned severity points	2	1			3x1 = 3 pts
<hr/>					
Total OOS Defects	4	3	1	0	8

**Note:** 2 Inspections, involving 6 vehicles

# CVOR Threshold Rate



Adj Fleet Size	Accident Thresh pts/v/mth	Max Accident pts/24mth	Conviction Thresh pts/v/mth	Max Convict pts/24mth	Number Vehicles Inspected	Inspection Thresh pts/v/insp	Max Inspect pts/24mth
1	0.2226	5.3	1.0452	25.1	1	5.3841	5.4
2	0.1574	7.6	0.7059	33.9	2	3.9826	8.0
3	0.1285	9.3	0.5611	40.4	3	3.3386	10.0
4	0.1113	10.7	0.4767	45.8	4	2.9459	11.8
5	0.0995	11.9	0.4201	50.4	5	2.6734	13.4
6	0.0909	13.1	0.3789	54.6	6	2.4695	14.8
7	0.0841	14.1	0.3472	58.3	7	2.3094	16.2
8	0.0787	15.1	0.3219	61.8	8	2.1791	17.4
9	0.0742	16.0	0.3012	65.1	9	2.0702	18.6
10	0.0704	16.9	0.2837	68.1	10	1.9775	19.8
11	0.0671	17.7	0.2688	71.0	11	1.8972	20.9
12	0.0643	18.5	0.2559	73.7	12	1.8267	21.9
13	0.0617	19.3	0.2446	76.3	13	1.7642	22.9
14	0.0595	20.0	0.2345	78.8	14	1.7082	23.9
15	0.0575	20.7	0.2255	81.2	15	1.6577	24.9



# CVOR Adjusted Fleet Size

- To ensure fairness, the intervention threshold and violation rates are based on carrier's adjusted fleet size, (exposure in Ontario) calculated by:

- ◆ Number of commercial motor vehicles operated in Ontario and
- ◆ The percentage of Ontario travel
- ◆ (important to verify km's and total km's)

Example:

$AFS = \# \text{ power units} + \# \text{ double shifted} \times \% \text{ travel in Ontario}$

**E.G.**

**# power units operated in Ontario = 100**

**# power units double shifted = 50**

**Total = 150**

**% travel in Ontario = 60%**

**Adjusted Fleet Size = {100 + 50} X {60%} = 90**



# CVOR Violation Rate

- **Overall Violation Rate**

- 1. 2 x Accident violation rate % (AVR)**
- 2. 1 x Conviction violation rate % (CVR)**
- 3. 1 x Inspection violation rate % (IVR)**

$$\text{Overall Violation Rate} = \{ 2 (\text{AVR}) + \text{CVR} + \text{IVR} \} / 4$$

# CVOR Violation Rate

## Example - Points



Accident Breakdown								
Period	Months (M)	Fleet Size (FS)	# of Events	Total Points (P)	Violation Rate (VR)= P/FS/M	Threshold Rate (TR) From Appendix D	Violation Percentage % $\frac{VR}{TR} \times 100$	
1	24.00	3	5	12	0.1667	0.1285	129.73	
					<b>12 ÷ 3 ÷ 24</b>			
Conviction Breakdown								
Period	Months (M)	Fleet Size (FS)	# of Events	Total Points (P)	Violation Rate (VR)= P/FS/M	Threshold Rate (TR) From Appendix D	Violation Percentage % $\frac{VR}{TR} \times 100$	
1	24.00	3	5	22	0.3056	0.5611	54.46	
					<b>22 ÷ 3 ÷ 24</b>			
Inspection Data								
				Data		Violation Rate (VR)	Threshold Rate (TR)	Violation Percentage
Number of Inspections				2	OOS Rate	$\frac{TP}{VI}$	From Appendix D	$\frac{VR}{TR} \times 100$
# OOS Inspections				2	100.0%			
# OOS Points (max 2/unit)				4	Surcharge points added (1 point for every 10% over 35.3%)			
# Vehicles Inspected (VI)				5	6			<b>10 ÷ 5</b>
Inspection Points + Surcharge (TP)				10		2.0000	2.6734	74.81
Overall Violation Rate:								
Accident Violation Rate				129.73	<b>X 2</b>	259.46		97.18
Conviction Violation Rate						54.46		
Inspection Violation Rate						74.81		
Total						388.73	<b>/ 4</b>	

# Carrier Safety Rating



- **A safety rating is a public label that is issued to all operators of commercial motor vehicles (trucks and buses)**
- **It provides information on safety performance to shippers, insurance companies and the public, to make more informed marketplace decisions. (Available on Internet & Public Safety Records)**
- **Marketplace forces will dictate the importance of safety as the safest carriers will attract more business**

# Carrier Safety Rating



- **Carrier Safety Ratings are based on the CVOR violation rate and the most recent MTO Facility Audit (if available)**
- **Five Safety Ratings**
  - ◆ **Excellent**
  - ◆ **Satisfactory**
  - ◆ **Satisfactory-Unaudited**
  - ◆ **Conditional**
  - ◆ **Unsatisfactory**

# Role of Facility Audits in Carrier Safety Rating



- Facility audit results are entered onto a carrier's CVOR record.
- A facility audit is an examination of a carrier's safety practices, programs and record keeping to determine its compliance with laws and regulations.
- An auditor examines three key areas or profiles:
  - The vehicle profile
  - The driver profile
  - The safety programs and training profile

# Role of Facility Audits ...



- **Points are awarded based on the level of compliance within each profile**
- **The total score in each profile is expressed as a percentage**
- **Only those percentages achieved in each of the driver and vehicle profiles are used for safety rating purposes**
- **A score of 55% in both profiles is required for a Satisfactory safety rating**
- **A score of 80% in both profiles is required to obtain an Excellent safety rating**

# Role of Facility Audits ...



- A score of less than 55% in either profile is considered failed and the carrier will be assigned a Conditional safety rating
- A carrier must pass a re-audit in order to improve its rating from Conditional
- Audits have no expiry date unless the carrier's rating drops then the audit can be no more than 36 months old or another audit must be conducted

# Carrier Safety Rating

## The Approach

### Review of Safety Record

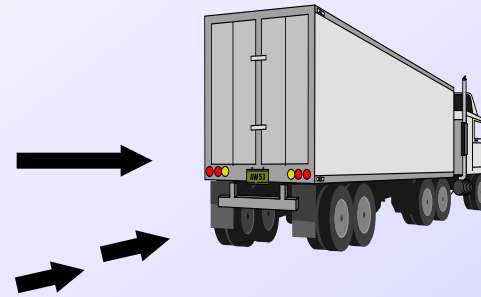


On-Road Profile  
(CVOR)



Facility Audit  
If Available  
(Off-road  
Inspection)

**\*Note:**  
Operators can Dispute  
proposed Ratings



Safety Rating  
Proposed by MTO



Safety Rating  
Issued

CSR Information  
Available to  
the Public



# CVOR & Carrier Safety Rating

CVOR Profile	Audit Assessment	Intervention	Safety Rating
Over 100%	Pass	Suspension / Cancellation	Unsatisfactory
	Fail		
Between 80.1 – 100%	Pass	Interview or Facility Audit	Conditional
	Fail		
Between 65.1 – 80%	Pass	Facility Audit or Interview	Conditional
	Fail		
Between 35.1 – 65%	Pass	Warning Letter	Satisfactory
	Fail		Conditional
Between 10/10 * - 35%	Pass	N/A	Satisfactory
	Fail		Conditional
Below 10/10% *	Pass, with 80%	N/A	Excellent
	Pass, below 80%		Satisfactory
	Fail		Conditional
New Entrant	N/A	N/A	Satisfactory - Unaudited

\* To be eligible for an Excellent Safety Rating the carrier must not exceed 10 % of its overall CVOR threshold and not exceed 10 % of its accident threshold.

# Disputing a Safety Rating



- The CVOR System triggers a proposed safety rating
- A letter is sent to the carrier advising them of its proposed safety rating and advises that it may dispute this rating within 40 days
- If a carrier chooses to dispute the rating it must make a written submission outlining its reasons for the dispute to the Registrar of Motor Vehicles
- The Registrar may uphold the rating or assign another rating
- All decisions of the Registrar are final and may not be appealed

# Safety Ratings Assigned

- # of ratings assigned as of June 30/02

● Excellent	-	188
● Satisfactory	-	741
● Satisfactory-Unaudited	-	84,191
● Conditional	-	2,024
● Unsatisfactory	-	52

**Total carriers rated = 87,196**

## Public Access

[www.carriersafetyrating.com](http://www.carriersafetyrating.com)

or

[www.mto.gov.on.ca](http://www.mto.gov.on.ca)



# Commercial Vehicle Impoundment Program



- **The CVIP program takes critically unsafe commercial vehicles off the road for a minimum of 15 days**
- **If a vehicle (truck, trailer or bus) is found to have one or more critical defects an impoundment order is issued and the defective vehicle is impounded at a facility at the carrier's expense**
- **A critical defect is defined by criteria and is beyond the out-of-service limits established by CVSA**
- **825 vehicles have been impounded since 1998**

# How Have We Done?



## **Starting to see improvements in commercial vehicle and overall road safety**

- Ontario now (2001) ranks 1<sup>st</sup> in Canada and 2<sup>nd</sup> in North America in fatalities per 10,000 drivers
- Truck related fatalities down to lowest ever from over 300 to 150 in 2001
- 'RoadCheck' OOS rate decreased from 43% to 22.4%
- Wheel-separations down from 215 in '96 to 65 in 2001
- 84% of carriers receiving an intervention show noticeable improvement (average VR = 20%)

# What's Next?



- **The attitude shift toward safety has begun to occur in the commercial vehicle industry**

## **Now we need**

- **More targeted research to focus efforts and resources – especially hours of service**
- **Improved use of technology to permit more reliable info to officers at roadside**
- **More accurate carrier data to improve monitoring of carriers**
- **More and better incentives to encourage road safety**

# Future Initiatives



- **CVOR Renewal (Phase 1) – Conversion October 2002**
- **Inter-provincial Data Exchange**
- **North America Load Security Standard**
- **Improved Commercial Driver Licence Standards**
- **Improvements to Driver Hours of Service Rules**
- **Nationally Harmonized Trip Inspection Standards**
- **Road-side Data Capture**
- **Enhancements to Internet Access**
- **Re-modelling of thresholds based on exposure**
  - kilometres travelled



# Publications



Ontario

Your Guide to

## MTO's Facility Audit

Road Safety  
It starts with you

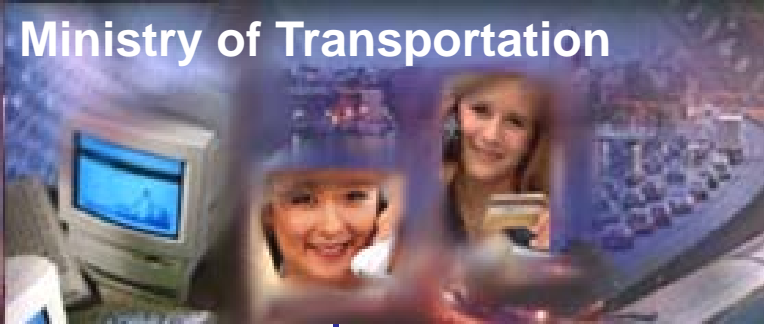
This is the cover of the publication 'Your Guide to MTO's Facility Audit'. It features a dark blue background on the left with the title in white. The right side is yellow with the Ontario logo at the top. At the bottom, there is a white illustration of a bus and a truck, with a large red checkmark overlaid on them. A small black box at the bottom right contains the text 'Road Safety It starts with you'.

Ontario

## Ontario's Carrier Safety Rating and Commercial Vehicle Operator's Registration System Public Guideline

Road Safety  
It starts with you

This is the cover of the publication 'Ontario's Carrier Safety Rating and Commercial Vehicle Operator's Registration System Public Guideline'. It features a dark blue background on the left with the title in white. The right side is yellow with the Ontario logo at the top. At the bottom, there is a white illustration of a bus and a truck, with a large red checkmark overlaid on them. A small black box at the bottom right contains the text 'Road Safety It starts with you'.



# THE ONTARIO APPROACH

## Ontario's Commercial Vehicle Safety Regime

