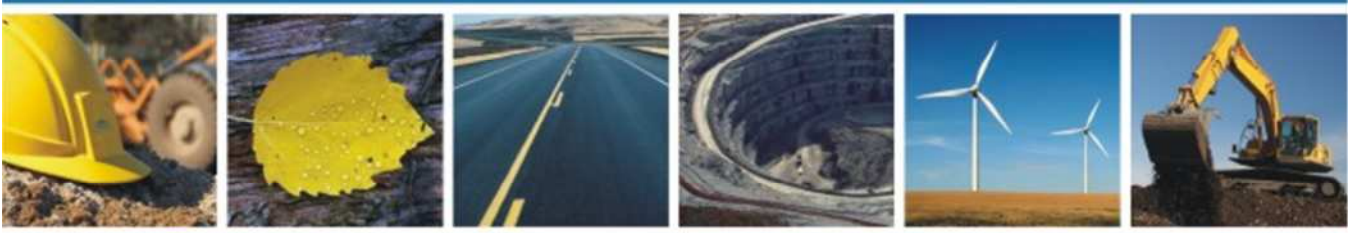


# ASSESSMENT OF POTENTIAL SAFETY BENEFITS OF SCHEDULED WEIGHT REDUCTION FOR SELECTED TRUCKS



## REPORT

DECEMBER 2012  
DRAFT 'FINAL REPORT' – REVISED ISSUE  
EBA FILE: V31201696

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## **EXECUTIVE SUMMARY**

### **BACKGROUND**

In 1988, the Federal, Provincial and Territorial Governments of Canada signed a Memorandum of Understanding (MoU) to adopt a uniform national standard for the dimensions and weight limits of interprovincial heavy commercial vehicles. Under this regulation, the maximum allowable weight for a quad-axle trailer would be reduced from 34,000 kg to 31,000 kg. The Commercial Vehicle Safety and Enforcement Branch (CVSE) of BC Ministry of Transportation and Infrastructure (MoT) wished to better understand the implications of the weight reduction changes, in particular the potential safety benefits that might be achieved with a reduced trailer weight allowance and the consequent economic costs associated with the reduction. CVSE also wished to undertake industry consultation on the potential effects on the trucking industry.

### **DATA REVIEW**

The study drew on available data from both CVSE and the Insurance Corporation of British Columbia (ICBC) and included consultation with representatives of the trucking industry. s.13

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### **HISTORIC TREND**

Almost 85% of the reported claims between 1997 and 2011 involving the selected power units and trailers were property damage only, and involved no casualties or fatalities.

In the period 1999-2011, the number of insured vehicles in the classes of interest increased at a rate of 5% to 10% per year. Over the same period, the number of claims increased at 4% to 9% per year resulting in the average number of claims per vehicle declining from 1999 to 2011. In 2011, the observed average claim rate for power units was 4.22 claims/Million Vehicle Km (MVK), and was much higher than the rate for trailers (0.49 claims/MVK). No evidence of increasing claim rates was found.

### **ASSESSMENT OF IMPACT**

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## **INDUSTRY CONSULTATION**

The Ministry of Transportation and Infrastructure (MoT) and the consultant jointly promoted industry participation in interviews concerning the proposed reduction. A backgrounder and a sample questionnaire were posted on a Ministry web site and distributed through trucking organizations. Interested participants were referred to the consultant to participate in the consultation. Questionnaire topics included inventory, safety performance, improvements to the fleet, general industry experience on safety and operational performance of subject heavy vehicles, and the anticipated impacts due to the proposed trailer weight reduction.

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## **CONCLUSION**

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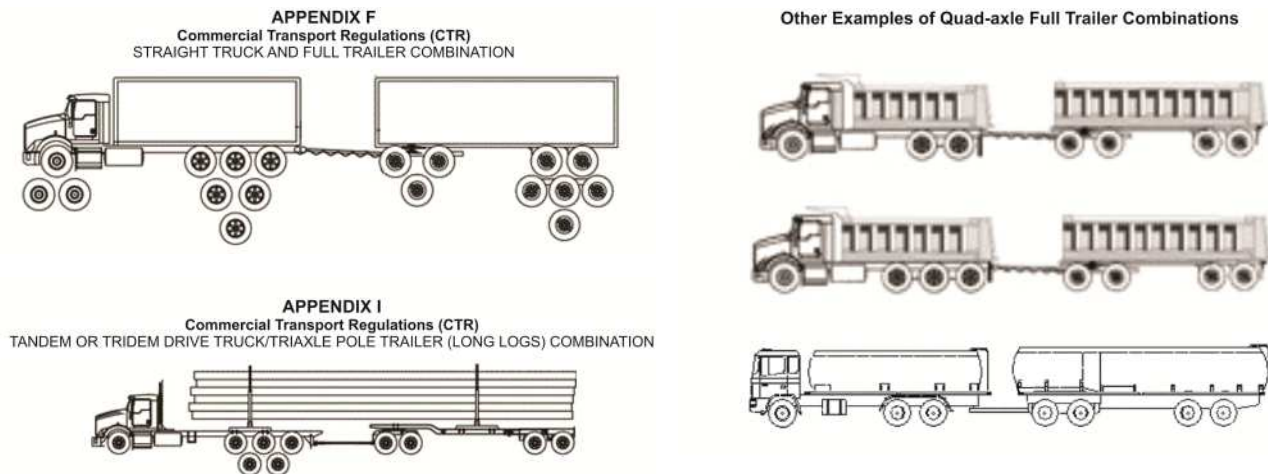
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- Appendix A Selected Commercial Vehicle Configurations for This Study
- Appendix B Adc Reference Guide: Body Styles
- Appendix C Comments From Stakeholders' Consultation

## 1.0 INTRODUCTION

In February 2012, EBA Engineering Consultants Ltd. operating as EBA, A Tetra Tech Company (EBA), was commissioned by the Commercial Vehicle Safety and Enforcement (CVSE) Branch of the Ministry of Transportation and Infrastructure (MoT) to assess the potential safety benefits of a scheduled reduction to the allowable maximum trailer weight for selected categories of truck and trailer combinations. The specific categories of interest are shown in the Commercial Transport Regulations (CTR) of B.C. Appendix F & I, and are shown in Figure 1 below. Vehicle configurations as shown in the CTR Appendix H are not quad-axle trailers that were not included in this study.

**Figure 1. Selected Commercial Vehicle Configuration for this Study**



### 1.1 Context and Scope

In 1988, a Memorandum of Understanding (MoU) was jointly signed by the Federal, Provincial and Territorial Governments, including British Columbia (BC), to adopt a uniform national standard for dimensions and weight limits of interprovincial heavy commercial vehicles. The majority of the recommendations contained within the MoU have been addressed, except for the issue of maximum trailer weight allowance for a quad-axle trailer.

Currently in BC, the maximum allowable trailer weight for a quad-axle trailer is 34,000 kilograms (kg). Under the MoU and the provincial Commercial Transport Regulations (CTR), the allowance was scheduled to be reduced to 31,000 kg in January 2011. For BC, the scheduled weight reduction is anticipated to primarily affect the transport of gravel/aggregates, logs, and bulk liquids. Vehicles in the affected classes operate almost exclusively within BC, and therefore are not considered to be interprovincial.



Before implementing this regulation, MoT through the CVSE branch wished to better understand the implications of the weight reduction changes. The specific areas of interests were:

1. To assess the potential safety benefits that might be achieved with a reduced trailer weight allowance;
2. To evaluate the consequent economic costs associated with the reduction; and
3. To undertake industry consultation about the potential effects on the trucking industry.

Accordingly, in February 2012, the CVSE commissioned EBA to undertake this study.

## 1.2 Study Objectives

The objectives of this study are to:

- Determine historical trends in the collision rate for specific tractor and trailer combinations;
- Assess qualitatively the potential benefits and the costs of the weight reduction;
- Understand the implication of the weight reduction from the point of view of fleet operators; and
- Make recommendations on the best way to quantify the potential safety benefits that could be achieved with a reduced maximum trailer weight allowances.

## 1.3 Study Approach

At the start of the study, EBA met with CVSE staff to familiarize our team with the available data that would be relevant. The project team including CVSE and EBA also met with staff of the Insurance Corporation of British Columbia (ICBC) to discuss available information on vehicle registration, claims and collision records. ICBC is responsible for vehicle registration in the province, and maintains a database of claim records dating back to 1974.

The intent of this task was to obtain an understanding of the overall data structure. As part of this data exploration, we undertook an investigation of specific crashes involving the subject trailers.

The study was separated into two phases:

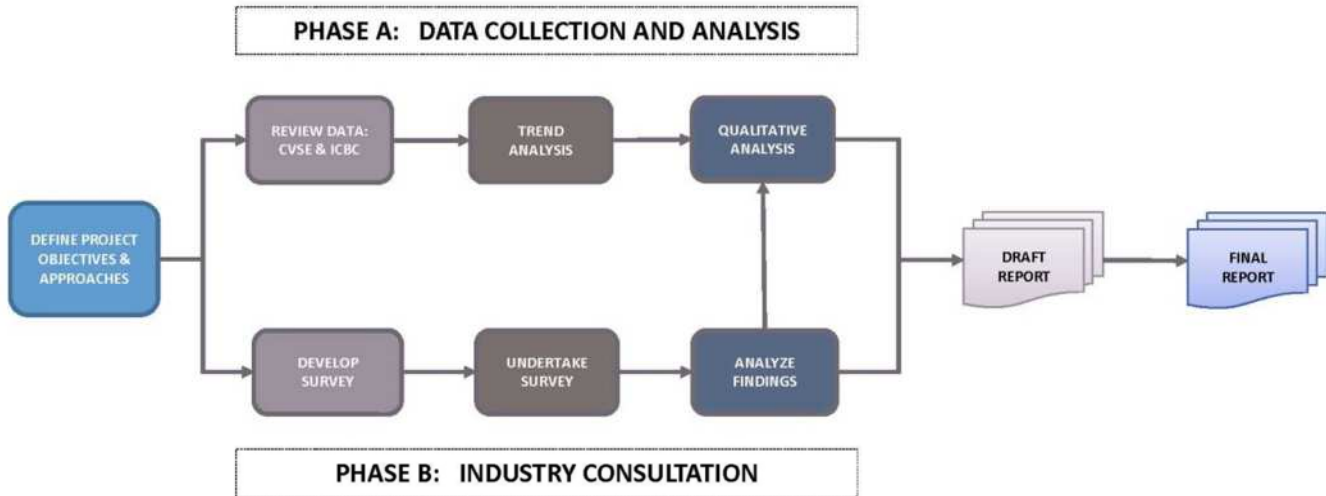
- **Phase A:** Data collection and analysis
- **Phase B:** Industry consultation

The overall approach to the study comprised four main steps:

1. Review available data from CVSE and ICBC;
2. Undertake trend analysis to establish whether claims involving the subject trailer type have increased faster (or slower) than the number of actively insured vehicles;
3. Consult with industry representatives to obtain information on typical use of the subject trailers and solicit feedback on the potential implications of the weight change on their operations; and
4. Establish the potential costs associated with a decrease in the maximum allowable weight (increased travel required to haul the same loads).

The relationship between the two phases is shown in Figure 2.

Figure 2. Study Work Flow Diagram



It should be noted that the analysis undertaken covered only truck and trailers registered in BC and collisions involving vehicles on BC public roads. The review excludes potential safety benefits for trucks operating on private roads such as logging roads and gravel extraction sites.

## 1.4 Report Structure

The following section of the report provides an inventory of the data that was reviewed. In Section 3, we present the results and findings from the data analysis including the initial qualitative analysis of the costs and potential benefits of the proposed weight reduction. Section 4 summarizes the results from the stakeholder interviews. The findings and comments from the industry consultation are discussed in Section 5. The overall conclusions are provided in Section 6.

## 2.0 DATA INVENTORY

In this section, we provide a summary of the available data that was reviewed in the study. This is separated into data collected by CVSE, data from ICBC and information obtained from the industry consultation.

### 2.1 Data from Commercial Vehicle Safety & Enforcement (CVSE)

CVSE maintains two types of data which were potentially useful for this study:

- **Overweight/oversize permit applications** - Permit applications are required for commercial vehicles that are intending to carry oversized commodities or loads where the gross vehicle weight (GVW) exceeds the level for which the vehicle is registered. s.13
- **Weigh scale records** – CVSE operates over 20 weigh scales throughout the province. All commercial vehicles are required to go through the scales when they are open. Vehicles that are deemed to be carrying loads exceeding the regulation for their specific vehicle class are detained at the scale. Unless the vehicle is found to be overweight, currently no specific data is recorded, such as time, date, vehicle license, vehicle combination, and vehicle weight, etc. s.13

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CVSE has access to Police Incident Reports for crashes involving commercial vehicles. Police attended crashes reduced significantly from 40,000 crashes per year to 33,000; in part due to the changes in BC Legislation in 2008, this allows police to attend such crashes at their discretion. Where a police incident report was filed, the report includes only limited crash data. s.13

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### 2.2 Data from Insurance Corporation of British Columbia (ICBC)

Through CVSE a meeting was arranged with the staff of ICBC to obtain historical records of vehicle registration and crashes. While the claim data goes back to 1974, only data from 1996 onward is stored in their Data Warehouse. Data prior to 1996 is not readily available in a form suited for this study. The data collected since 2000 include improved location information of reported incidents.

#### 2.2.1 Vehicle Registrations

In the ICBC database, vehicle data is classified by vehicle attributes such as body style, make, model and year. The number of axles in the vehicle combination is not currently captured. s.13

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Body styles are categorized according to the ADC Reference Guide for Body Styles (provided in Appendix B). The body types considered to be relevant for this study are Commercial Trucks (Type 2) and Commercial Trailers (Type 6). For the purpose of this study, the truck component of the tractor-trailer combination is referred to as the power-unit.

### **2.2.2 Claim Data**

ICBC claim data provides a record of the financial transactions and steps taken to process a claim through to completion. For commercial vehicle claims, where a tractor-trailer unit is involved, the claim record includes only the component of the vehicle combination involved in the incident. Where, an incident involved only a trailer, there are no records for the power unit and vice versa. Where the claim involves both the power unit and the trailer, separate claims are filed.

### **2.2.3 ICBC Database Extract**

To expedite the search process, CVSE provided ICBC with examples of known crashes that involved the vehicle configurations in question in this study. This was used to customize a search methodology in the database. EBA reviewed the extracted records and made the following observations:

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### **2.2.4 Quality Assurance on ICBC's Data**

The objective of this study was to review the historical trends in vehicle registrations and claim records for the selected truck and trailer combinations.

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## **2.3 Inputs from Industry Representatives**

Telephone interviews with selected industry representatives were carried out. The purpose was to record general industry experience on safety and operational performance of the subject heavy vehicles and document typical use, loading and transportation routes. In addition, the fleet size and composition, equipment use, level of exposure and adoption of new technology in the industry were obtained.

## **3.0 PHASE A – DATA ANALYSIS**

This section provides a summary of the preliminary assessment of the data obtained from ICBC, the findings from the trend analysis, and the qualitative analysis of the claim data.

### **3.1 Preliminary Data Assessment**

#### **3.1.1 Data Collected from ICBC**

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#### **3.1.2 Assessment of Vehicle Registration**

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### 3.1.3 Assessment of Claims

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### 3.1.4 Claims Analysis

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## **3.2 Trend Analysis**

### **3.2.1 Relationship of Claims to Number of Registered Vehicles**

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### 3.2.2 Mileage Based Collision Rates

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### 3.3 Qualitative Analysis

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## **4.0 PHASE B – INDUSTRY CONSULTATION**

### **4.1 Introduction**

Undertaking industry consultation to gather information about the on the ground operation of the subject configurations described in the Commercial Transport Regulations (CTR) was deemed essential information for decision-makers. The industry consultation exercise also provided independent information on the possible value of impacts and benefits.

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As a result, consultation was carried out to report on general industry experience on the safety and operational performance of subject heavy vehicles. This included familiarity with the inventory of subject vehicles, their use, and safety related fleet improvements. It was intended to undertake industry consultation about these proposed changes and provide MoT with testimonials, including experience, performance, operations, inventory information, and feedback about the province's quad axle inventory. Finally, the industry consultation allowed the consultant to informally gather input on the anticipated effects of the proposed changes in axle weights, and how industry representatives felt the change would affect them.

The industry consultation process is described in the following sections covering the methodology, analysis and findings.

### **4.2 Methodology**

#### **4.2.1 General Approach**

The industry consultation process consisted of three components: notification, promotion of participation and informal consultation. The MoT was an active participant in the first two components, undertaking the roles of notification and promotion of participation. The consultant undertook the consultation role independently of MoT.

#### **4.2.2 Notification**

On November 9, 2011, MoT issued a circular to notify owners and operators of the truck configurations that were subject to scheduled quad axle trailer weight reductions specified in Appendices F and I in the Commercial Transport Regulations (CTR) and Compliance Circular 09/09 was to be postponed until December 31, 2011. This date was subsequently extended to December 31, 2012. The MoT utilized its website which can be found at the following links:

[http://www.th.gov.bc.ca/CVSE/CTPM/Com\\_Circulars/2010/101109\\_comp\\_circ\\_06-10.pdf](http://www.th.gov.bc.ca/CVSE/CTPM/Com_Circulars/2010/101109_comp_circ_06-10.pdf)

<http://www.th.gov.bc.ca/cvse/whatsnew.html>

The website provided a high-level summary on the background of the study underway and noted that: "Stakeholder consultation will be an important component of the project combining input into the process with industry and industry knowledge". In the spring of 2012, MoT announced that they had retained EBA, A Tetra Tech Company to undertake this study.

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### 4.2.3 Promotion of Participation

The active involvement of stakeholders and interest groups was important to this project not only as a means to distribute foreseeable changes to the Commercial Transport Regulation, but also to draw on expertise, ideas and perspectives when assessing any potential impact of the weight reductions. As with all consultation, this phase may also have identified any early unintended side effects or problems with the proposed changes.

The industry operators of the subject vehicles are either independent owner operators or are represented by organizations including, but not limited to:

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s.13 MoT also published the same information on their website so that it would be available to all. A full package was provided that consisted of the background and the questionnaire. It served the secondary role of providing prior notification allowing stakeholders to decide whether or not they wanted to participate in the consultation process.

The following link provides access to the MoT website:

<http://www.th.gov.bc.ca/cvse/commercial transport/vehicle weight reducnd stdy/index.htm>

The backgrounder captured the essence of the proposed regulation changes. It also provided the consultation timeframe to give industry stakeholders time to prepare themselves for upcoming consultations. Interested participants were asked to contact MoT and were subsequently referred to the consultant to undertake the consultation. The questionnaire and its development are described below.

### 4.2.4 Consultation

This third component of the industry consultation process was designed to collect empirical information and analyze it. The consultation was carried out as a two-way flow of information and opinion exchange. Recognizing the travelling nature of this industry, a telephone questionnaire was considered the best medium to support the two way exchange of information and opinions.

The collection of empirical information was essential. In order to undertake a systematic information gathering process, a questionnaire was developed. The process used to develop and undertake the questionnaire included:

1. Developing appropriate questions to ensure participants provided an understanding of the impacts and effects of the weight reduction;



2. Distributing the questionnaire;
3. Undertaking the interviews and gathering responses; and
4. Analyzing and summarizing the questionnaire responses.

**The Questionnaire**

The questionnaire was designed to ensure it covered the topics of greatest interest to the CVSE, and ensured unbiased questions for distribution to industry representatives. Topics included inventory, safety performance, anticipated impacts, improvements to the fleet, and general industry experience on safety and operational performance of the subject heavy vehicles. There were several characteristics that needed to be considered in the questionnaire.

- Geographical coverage;
- Safety performance and annual mileage travelled;
- Coverage of the various commodities that are hauled in quad-axle trailers;
- Coverage of the various configurations that are included in the study, and
- Inventory and related improvements that spanned several years.

In addition to the inventory of the fleet, the questionnaire asked participants to provide a description of how, where and when their fleet is utilized, and to describe how their fleet had evolved since 1988, as many of these vehicles had evolved considerably. Another piece of relevant information was the age of the vehicles. An indication of the approximate annual kilometres driven was also requested s.13

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A summary of the topics covered by the questionnaire is shown in the following Table.

**Table 9. Topics in Consultation Interviews**

General	Specific Questions
Fleet Size and Composition	<ul style="list-style-type: none"> <li>▪ Fleet inventory, operations and experience</li> <li>▪ Percent of fleet with the subject configurations</li> <li>▪ Age of fleet</li> </ul>
Equipment Use and Level of Exposure	<ul style="list-style-type: none"> <li>▪ Main operating areas or regions</li> <li>▪ Predominant travel route types; i.e. resource roads, provincial highways or other</li> <li>▪ Average travelled distance or hours of operations</li> <li>▪ Typical trip lengths</li> <li>▪ Types of loads or cargo</li> <li>▪ Collision and/or roll over history</li> </ul>
Vehicle Technology Changes Since 1989	<ul style="list-style-type: none"> <li>▪ Technological enhancement undertaken to the vehicle fleet and when</li> <li>▪ New technologies or future trends involved in the renewal of older equipment in the fleet</li> </ul>
Feedback On Proposed Weight Reduction	<ul style="list-style-type: none"> <li>▪ Feedback</li> <li>▪ Economic Impact</li> <li>▪ Understanding of the changes on the existing fleet and the cost</li> </ul>

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## Notification

As mentioned earlier, the questionnaire had previously been distributed by MoT through a notification communications protocol. The questionnaire was also posted on MoT's public web site along with the backgrounder, and had been made available to all. Subsequently, MoT contacted the various organized trucking associations throughout the province and asked that all their members receive these materials. Once distributed, any party interested in participating in the industry consultation contacted MoT, and their names were added to the participant list.

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## 4.3 Findings from Industry Consultation

Participants completed the questionnaire over the phone. All participants were interviewed using the same questionnaire. Following the interviews a data base was prepared with all of the responses. The following tables summarize the findings for each of the questions categories.

### 4.3.1 Fleet Size and Composition

Participants were asked to provide a description of their current fleet, and to quantify the number of quad-axle units they owned and/or operated. This section of the questionnaire covered:

- Fleet inventory, operations and experience;
- Percent of fleet with the subject configurations; and
- Age of fleet.

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### 4.3.2 Existing Equipment Use and Level of Exposure

The intention of the Memorandum of Understanding was to unify the national standard for interprovincial trucks. This section of the consultation focussed on determining whether the subject vehicles were long distance drivers such that they covered national or inter-provincial road networks, versus those networks covered by local drivers. This section of the questionnaire also covered predominant routes travelled, and other trip descriptors as well as a description of their cargo. The level of exposure to accidents was also considered important.

This section of the consultation focused on:

- The main geographic operating areas or regions;
- Predominant travel route types; i.e. resource roads , provincial highways or other;
- Average travelled distance and hours of operations;
- Typical trip lengths;
- Types of loads or cargo; and
- Collision and/or roll over history.

Short hauls were defined as single day trips with trips half laden and half un-laden. A range of 15 to 800 km was provided for a round trip. The average minimum distance was 155 km and the average maximum distance was 457 km. It is estimated that the majority of short haul trips are in the range of 150 to 500 km.

### 4.3.3 Equipment Use and Enhancements to the Fleet

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### 4.3.5 Safety Performance of the Fleet

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### 4.3.6 Other Comments

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## 4.4 Summary of Feedback from Industry Consultation

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## 5.0 CONCLUSIONS

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### 5.1 Scope and Objectives

The objectives of this study are to:

- Determine the historical trend in the collision rate for specific tractor and trailers;
- Assess qualitatively the benefits and the costs of the weight reduction;
- Understand the implication of the weight reduction from the point of view of fleet operators; and
- Make recommendations on the best way to quantify the potential safety benefits that could be achieved with a reduced maximum trailer weight allowances.

### 5.2 Data Inventory

Available data from both CVSE and ICBC were reviewed:

- CVSE collects limited data at the weigh scales s.13
- ICBC provided data for both commercial vehicles (power units) and commercial trailers from 1997 to 2011. This included vehicle registration/actively insured vehicles and trailers and claim records related to these.
- The ICBC records do not provide specific data for the subject truck configurations. To narrow down the data, records of the potentially relevant commercial vehicles and trailers for selected body styles and maximum gross vehicle weight were used for the analysis.

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### **5.3 Data Analysis and Trend Analysis**

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### **5.4 Qualitative Assessment of Weight Reduction**

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### **5.5 Industry Consultation**

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### **5.6 Recommendations and Next Steps**

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## 6.0 CLOSURE

We trust this report meets your present requirements. Should you have any questions or comments, please contact the undersigned at your convenience.

EBA Engineering Consultants Ltd.

Prepared by:

Duncan Lo, M.Eng., P.Eng., PTOE  
Sr. Engineer – Transportation Systems Planning  
Direct Line: 604.685.0017 Ext. 343  
dlo@eba.ca

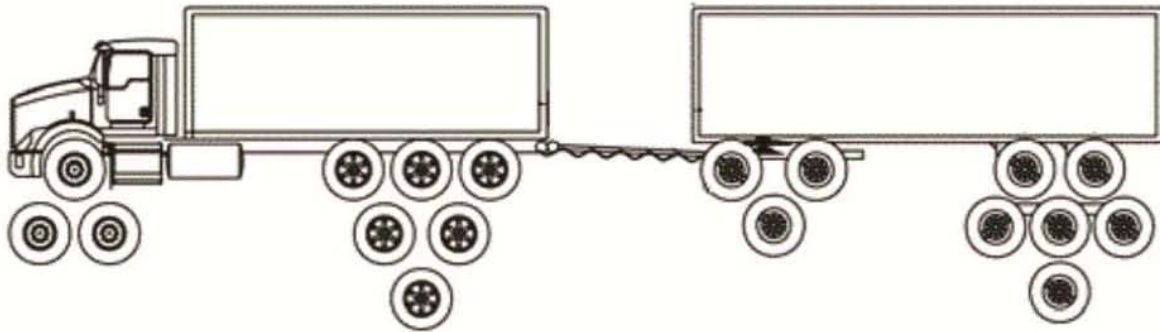
Connie Nicoletti, P.Eng.  
Senior Asset Management Specialist  
Direct Line: 778.440.4450

# APPENDIX A

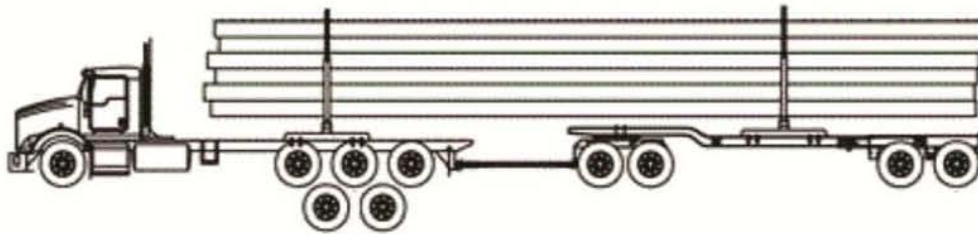
## SELECTED COMMERCIAL VEHICLE CONFIGURATIONS FOR THIS STUDY

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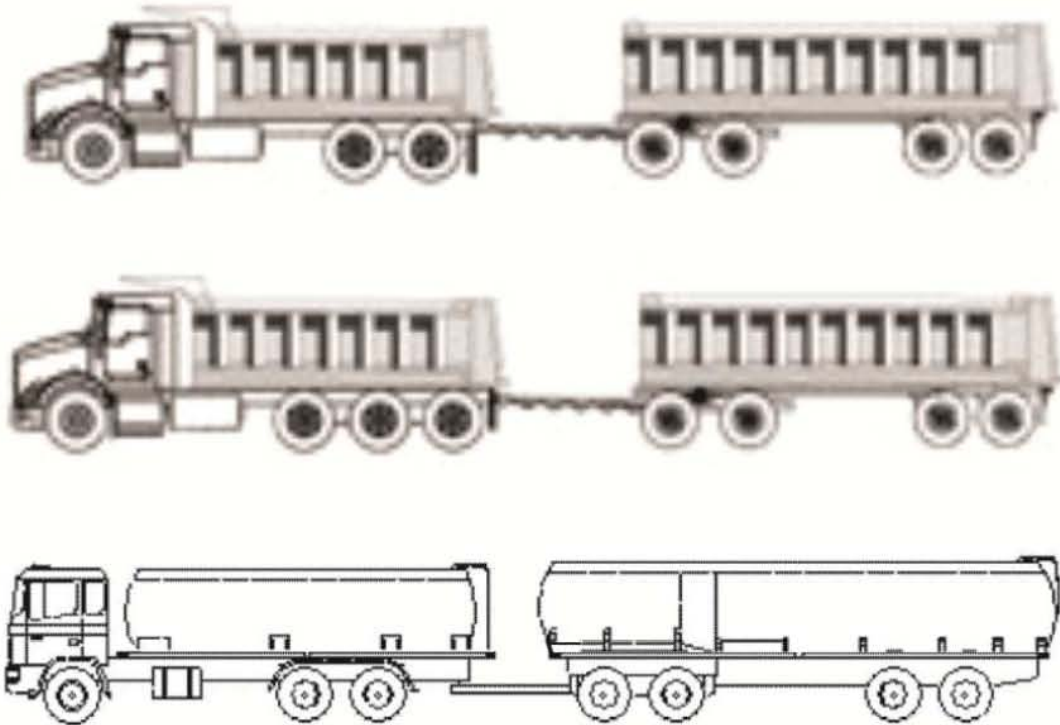
**APPENDIX F**  
**Commercial Transport Regulations (CTR)**  
STRAIGHT TRUCK AND FULL TRAILER COMBINATION



**APPENDIX I**  
**Commercial Transport Regulations (CTR)**  
TANDEM OR TRIDEM DRIVE TRUCK/TRIAXLE POLE TRAILER (LONG LOGS) COMBINATION



## Other Examples of Quad-axle Full Trailer Combinations



# APPENDIX B

## ADC REFERENCE GUIDE: BODY STYLES

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**ADC Reference Guide: Body Styles**

PASSENGER - VEHICLE TYPE 1			TRUCKS - VEHICLE TYPE 2					
BODY STYLE	ABBREVIATION	CODE	BODY STYLE	ABBREVIATION	CODE	BODY STYLE	ABBREVIATION	CODE
CONVERTIBLE			ARMOURED CAR	ARMCR	HB	PALLET	PALET	DF
2 door	2DCON	01	BOOKMOBILE	BOOK	BK	PANEL	PANEL	AC
4 door	4DCON	02	BOX	BOX	DA	PICKUP	PJ	AD
sport	2DSPT	05	BULK CARRIER	BULK	DB	PUMPER	PUMPR	EJ
STATIONWAGON			CAB & CHASSIS	CABCH	DJ	SEDAN DELIVERY	SDEL	AE
2 door	2DRSW	11	CAB OVER	CBOVR	DK	SEISMOGRAPH	SEISM	SE
4 door	4DRSW	12	CEMENT MIXER	MIXER	EP	SNOW BLOWER	SNOW	SN
TWO DOOR			COMPRESSOR	COMPR	EA	SPREADER	SPRED	SD
coupe	2DCPE	22	CONCESSION	CONSN	CN	STAKE	STAKE	DE
fastback	2DRFB	23	GREWCAB	CRGAB	BB	SWEeper	SWEEP	EM
hardtop	2DRHT	24	DUMP	DUMP	CA	TANK	TANK	CE
sedan	2DSON	25	EMERGENCY	EMGCY	ET	TOW CAR	TOWCR	EL
FOUR DOOR			FIRE	FIRE	EE	TRUCK (INCL TOW TRUCK)	TRUCK	DH
coupe	4DCPE	42	FLAT DECK	FLDCK	DD	TRUCKSTER	TRSTR	TR
fastback	4DRFB	43	FLOAT	FLOAT	FL	TRUCK TRACTOR	TRACT	HN
hardtop	4DRHT	44	GARBAGE	GRBGE	CB	TUNNEL WASHER	TNLWR	TN
sedan	4DSON	45	GIRAFFE	GIRAF	EF	UTILITY	UTLTY	AF
HATCHBACK	HATBK	71	LABORATORY	LABOR	LB	VAN	VAN	DG
DUAL PURPOSE	DUALP	37	LADDER	LADDR	EG	WELDER	WELDR	EK
LIMOUSINE	LIMO	58	LADDER	LADDR	EG	WELDER	WELDR	EK
AMPHIBIOUS VEHICLE	AMPHI	90	LOGGING TRUCK	LOGTR	CC	WINCH	WINCH	ER
DUNE BUGGY	DUNEB	91	LOW SPEED VEHICLE	LSV	LS	WINDOW VAN	WVAN	PA
GOLF CART	GLFCT	92	PACKER	PACKR	CD	WRECKER	WRCKR	EN
SNOWMOBILE	SNOWM	94						
INDUSTRIAL/FARM WHEELED ATV	ATV	95						
LOW SPEED VEHICLE	LSV	96						
THREE-WHEELED	3WHEL	97						
WORK UTILITY VEHICLE	WUVEH	KX						

PASSENGER CARRYING COMMERCIAL VEHICLES - VEHICLE TYPE 2					
BODY STYLE	ABBREVIATION	CODE	BODY STYLE	ABBREVIATION	CODE
BUS	BUS	BA	HANDY DART		
BUS FREIGHTER	BUSFR	BF	(SPECIAL VEHICLE BUS)	HANDY	BG
CREW BUS	CREWS	BE	SMALL BUS FREIGHTER	PASFR	BH
CRUMMY	CRUMY	BC	CLUBWAGON	CLWGN	13
DOUBLE DECKER BUS	DBLDC	BD	LIMOUSINE (FOR HIRE)	LIMO	LM
INTERCITY BUS	HWBUS	BI	TAXI	TAXI	TA
PUBLIC TRANSIT BUS (SCHEDULED BUS)	TRANS	BT	SNOW VEHICLE	SNOWV	B3
SCHOOL BUS (SPECIAL ACTIVITY BUS)	SCBUS	BL	AMBULANCE	AMBUL	HA
			HEARSE	HEARS	HL

FARM & INDUSTRIAL VEHICLES - VEHICLE TYPE 2					
BODY STYLE	ABBREVIATION	CODE	BODY STYLE	ABBREVIATION	CODE
BACKHOE	BKHOE	KA	GRADER	GRADR	KH
BACKHOE/LOADER	BKLDL	KW	ICE SURFACER	ICES	KT
BULLDOZER	BLDZR	KL	LIFTER	LIFTR	KK
CONVEYOR	CONVR	CO	LOADER	LOADR	KE
CRANE	CRANE	EB	MOWER	MOWER	KF
CRAWLER	CRAWL	KB	PAVER	PAVER	KN
DIGGER	DIGGER	KC	ROLLER	ROLLR	KG
DRILL	DRILL	ED	SKIDDER	SKIDR	KP
EXCAVATOR	EXCAV	KM	TRACTOR	TRCTR	KJ
FARM	FARM	KS	TRENCHER	TRENC	KR
FORK LIFT	FKLFT	KD	WORK UTILITY VEHICLE	WUVEH	KX

MOTORCYCLE - VEHICLE TYPE 3					
BODY STYLE	ABBREVIATION	CODE			
OPEN MOTORCYCLE	MC	XX			
LIMITED SPEED MOTORCYCLE	LDMC	38			
TRIKE	TRIKE	XT			
ENCLOSED MOTORCYCLE	ENCMC	XE			

MOTOR HOME - VEHICLE TYPE 5		
BODY STYLE	ABBREVIATION	CODE
MOTOR HOME	MOHOM	60

TRAILERS - VEHICLE TYPES 4 AND 6									
BODY STYLE	ABBREVIATION	CODE	1400 KG & UNDER	OVER 1400 KG	BODY STYLE	ABBREVIATION	CODE	1400 KG & UNDER	OVER 1400 KG
AERATOR	AERTR	AR	Type 4	Type 6	LOWBED	LOWBD	PD	Type 4	Type 6
AUTOMOBILE	AUTO	ML	Type 4	Pleasure/recreation - Type 4	LOWBOY	LOBOY	PJ	Type 4	Type 6
				Commercial use - Type 6	MIXER	MIXER	MG	Type 4	Type 6
BEAR TRAP	BEAR	BR	Type 4	Type 6	MOBILE				
BOAT	BOAT	MA	Type 4	Pleasure/recreation - Type 4	MACHINERY	MMACH	NY	Type 4	Type 6
				Commercial use - Type 6	MOTORCYCLE	MCYCL	MM	Type 4	Pleasure/recreation - Type 4
BOOSTER	BOSTR	PK	Type 4	Type 6					Commercial use - Type 6
BOX	BOX	MB	Type 4	Type 6	MOWER	MOWER	NG	Type 4	Type 6
BULK	BULK	PM	Type 4	Type 6	MULTI	MULTI	NW	Type 4	Type 6
CATTLE/ LIVESTOCK	CATTL	CT	Type 4	Type 6	OFFICE	OFFC	MP	Type 4	Type 4
CEMENT	CEMNT	MC	Type 4	Type 6	POLE	POLE	PE	Type 4	Type 6
CHIP	CHIP	PG	Type 4	Type 6	PORTABLE	PORT	PD	Type 4	Type 6
COMPRESSOR	COMPR	ME	Type 4	Type 6	PUMP	PUMP	PP	Type 4	Type 6
CONCESSION	CONSN	CS	Type 4	Type 4	PUP	PUP	PR	Type 4	Type 6
CONVEYOR	CONVR	CV	Type 4	Type 6	REEFER VAN	REEFR	RR	Type 4	Type 6
CRUSHER	CRSHR	PX	Type 4	Type 6	ROD BENDER	ROD	PW	Type 4	Type 6
DOLLY	DOLLY	DO	Type 4	Type 6	ROLLER	ROLLR	MR	Type 4	Type 6
DRILL	DRILL	PT	Type 4	Type 6	SEMI	SEMI	PS	Type 4	Type 6
DUMP	DUMP	PN	Type 4	Type 6	SNOWMOBILE	SNOWM	MK	Type 4	Pleasure/recreation - Type 4
DUNE BUGGY	BUGGY	MJ	Type 4	Type 6					Commercial use - Type 6
FLAT DECK	FLDCK	FD	Type 4	Type 6	SPREADER	SPRED	SP	Type 4	Type 6
FLOAT	FLOAT	NT	Type 4	Type 6	STOCK CAR	STOCK	MX	Type 4	Type 6
GENERATOR	GENR	GR	Type 4	Type 6	SWEeper	SWEEP	MT	Type 4	Type 6
HIGH BOY	HIBOY	PH	Type 4	Type 6	TANK	TANK	PL	Type 4	Type 6
HORSE	HORSE	MD	Type 4	Pleasure/recreation - Type 4	TAR KETTLE	KETTL	PY	Type 4	Type 6
				Commercial use - Type 6	TENT	TENT	NA	Type 4	Type 4
HOUSE	HOUSE	NE	Type 4	Type 4	TRAVEL	TRAVL	NC	Type 4	Type 4
LABORATORY	LABOR	LR	Type 4	Type 6	UTILITY	UTLTY	MF	Type 4	N/A
LIGHT PLANT	LIGHT	LT	Type 4	Type 6	VAN	VAN	PF	Type 4	Type 6
LOGGING	LOG	PC	Type 4	Type 6	WELDER	WELD	MH	Type 4	Type 6
					WOOD SPLITTER	WOOD	WS	Type 4	Type 6

# APPENDIX C

## COMMENTS FROM STAKEHOLDERS' CONSULTATION

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## EXECUTIVE SUMMARY

### BACKGROUND

In 1988, the Federal, Provincial and Territorial Governments of Canada signed a Memorandum of Understanding (MoU) to adopt a uniform national standard for the dimensions and weight limits of interprovincial heavy commercial vehicles. Under this regulation, the maximum allowable weight for a quad-axle trailer would be reduced from 34,000 kg to 31,000 kg. The Commercial Vehicle Safety and Enforcement Branch (CVSE) of BC Ministry of Transportation and Infrastructure (MoT) wished to better understand the implications of the weight reduction changes, in particular the potential safety benefits that might be achieved with a reduced trailer weight allowance and the consequent economic costs associated with the reduction. CVSE also wished to undertake industry consultation on the potential effects on the trucking industry.

### DATA REVIEW

The study drew on available data from both CVSE and the Insurance Corporation (ICBC) and included consultation with representatives of the trucking industry.

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### HISTORIC TREND

Almost 85% of the reported claims between 1997 and 2011 involving the selected power units and trailers were property damage only, and involved no casualties or fatalities.

In the period 1999-2011, the number of insured vehicles in the classes of interest increased at a rate of 5% to 10% per year. Over the same period, the number of claims increased at 4% to 9% per year resulting in the average number of claims per vehicle declining from 1999 to 2011. In 2011, the observed average claim rate for power units was 4.22 claims/Million Vehicle Km (MVK), and was much higher than the rate for trailers (0.49 claims/MVK). No evidence of increasing claim rates was found.

### ASSESSMENT OF IMPACT

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