



Does Truck Driver Training Meet the Needs of the Industry?

Jennifer Malkin

Introduction

55%

Truck drivers at fault for single- and multi-vehicle crashes¹

87%

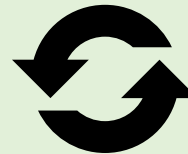
At-fault crashes due to driver error¹



Poor driving technique²



Driving too fast for road conditions^{1,3}



Following other vehicles too closely^{1,3}



Misjudging the speed of other vehicles¹

1. Federal Motor Carrier Safety Administration. The Large Truck Crash Causation Study [Internet]. 2007 [cited 2019 Apr 18]. Available from: <https://www.fmcsa.dot.gov/safety/research-and-analysis/large-truck-crash-causation-study-analysis-brief>

2. Hanowski RJ, Hickman JS, Wierwille WW, Keisler A. A descriptive analysis of light vehicle-heavy vehicle interactions using in situ driving data. *Accid Anal Prev* [Internet]. 2007 [cited 2019 Apr 18];39:169–79.

3. Mayhew DR, Simpson HM, Beirness DJ. Heavy Trucks and Road Crashes [Internet]. 2004 [cited 2019 Apr 18]. Available from: http://tirf.ca/wp-content/uploads/2017/02/Heavy_Trucks_Report.pdf

Introduction



Medical exam⁵



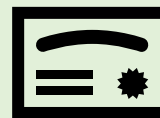
Vision exam



Written test



Practical test



Air brake endorsement



Older than a certain age

4. Blank Canada Map - Free Printable Maps [Internet]. [cited 2019 May 25]. Available from: <https://printable-maps.blogspot.com/2009/07/blank-canada-map.html>

5. Truckers Training Canada. How to Get Your Truck Driver License in Canada [Internet]. [cited 2019 Apr 18]. Available from: <http://truckerstrainingcanada.com/truck-driver-license-canada/>

Introduction



Mandatory entry-level training program⁶

- ✓ Provincially-approved provider
- ✓ 103.5 hours of instruction
- ✓ Classroom component
- ✓ In-yard component
- ✓ Behind-the-wheel component

4. Blank Canada Map - Free Printable Maps [Internet]. [cited 2019 May 25]. Available from: <https://printable-maps.blogspot.com/2009/07/blank-canada-map.html>

6. Government of Ontario. New mandatory training for Class A driver's licence applicants [Internet]. 2019 [cited 2019 Apr 18]. Available from: https://www.ontario.ca/page/new-mandatory-training-class-drivers-licence-applicants?_ga=2.127483343.335561993.1555613276-2100453385.1549064032

Introduction



	AB ⁸	SK ⁹	MB ¹⁰	ON ⁶
Hours	113	121.5	121.5	103.5
Approved Provider	✓	✓	✓	✓
Classroom	✓	✓	?	✓
In-yard	✓	✓	?	✓
Practical	✓	✓	?	✓

4. Blank Canada Map - Free Printable Maps [Internet]. [cited 2019 May 25]. Available from: <https://printable-maps.blogspot.com/2009/07/blank-canada-map.html>

6. Government of Ontario. New mandatory training for Class A driver's licence applicants [Internet]. 2019 [cited 2019 Apr 18]. Available from: https://www.ontario.ca/page/new-mandatory-training-class-drivers-licence-applicants?_ga=2.127483343.335561993.1555613276-2100453385.1549064032

8. Government of Alberta. Mandatory Entry-Level Training for Class 1 and 2 driver's licences [Internet]. [cited 2019 Apr 18]. Available from: <https://www.alberta.ca/mandatory-entry-level-training-for-class-1-and-2-drivers-licences.aspx>

9. Government of Saskatchewan. Saskatchewan Introducing Mandatory Minimum Training Requirements For Commercial Semi Drivers [Internet]. 2018 [cited 2019 Apr 18]. Available from: <https://www.saskatchewan.ca/government/news-and-media/2018/december/03/semi-truck-driver-training>

10. Manitoba Public Insurance. Mandatory Entry Level Training [Internet]. [cited 2019 Apr 18]. Available from: <https://www.mpi.mb.ca/en/DL/DL/Pages/MandatoryEntryLevel.aspx>

Introduction



Evaluation of Alberta commercial driver training standards⁷

247 from Alberta Motor Transportation Association



37 commercial drivers

The driver training program is sufficient to foster a safe driving environment⁷



4. Blank Canada Map - Free Printable Maps [Internet]. [cited 2019 May 25]. Available from: <https://printable-maps.blogspot.com/2009/07/blank-canada-map.html>

7. Gargoum SA, Kim AM, Zhang H, Qiu TZ. Towards establishing effective commercial driver training standards: analysis of industry opinions from Alberta. Can J Civ Eng [Internet]. 2017 Nov [cited 2019 Apr 18];44(11):899–910. Available from: <http://www.nrcresearchpress.com/doi/10.1139/cjce-2017-0115>

Introduction

Stakeholder feedback in revision of truck driver training regulations¹¹

2018: Government of Alberta

- 3,300 stakeholders and members of the public
- Drivers underrepresented

Purpose

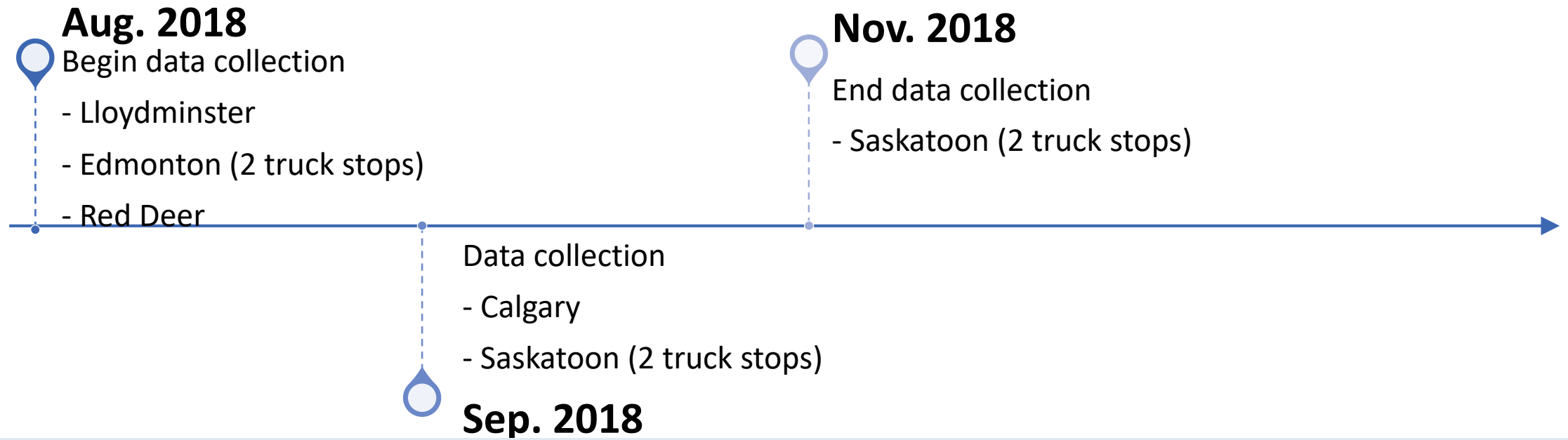
Examine long-haul truck driver perceptions of current truck driver training protocols



11. Government of Alberta. Commercial driver and road test engagement [Internet]. [cited 2019 Apr 18]. Available from: <https://www.alberta.ca/commercial-driver-engagement.aspx>

12. Morris F. Thousands Of Trucking Jobs, But Few Take The Wheel [Internet]. 2011 [cited 2019 May 25]. Available from: <https://www.npr.org/2011/10/31/141791952/thousands-of-trucking-jobs-but-few-take-the-wheel>

Methods



1. Permission granted from truck stop managers
2. Researchers approached truck drivers about participation
3. Informed consent completed

Inclusion criteria

- ✓ Canadian
- ✓ Class 1 driver's license
- ✓ Long-haul truck driver

Methods

Questionnaire

Planning

Adapted from American study¹³



Implementation

30 minutes

\$20 honorarium



Analysis

SPSS 25

Interviews

Planning

Semi-structured interview guide



Implementation

30 minutes

\$10 honorarium



Analysis

Transcribed verbatim

Nvivo 11

Results

	Proportion (n=204)
Sex	
Male (n= 196)	96.1%
Female (n= 7)	3.4%
Age	
21-30 (n= 12)	5.8%
31-40 (n= 30)	14.5%
41-50 (n= 44)	21.3%
51-60 (n= 73)	35.3%
61-70 (n= 39)	18.8%
>70 (n= 6)	2.9%

Source of Training	Proportion (n=204)
Private Trucking School (n= 100)	49.0%
Public or Technical School (n= 12)	5.9%
Trucking Company (n= 24)	11.8%
Military (n= 8)	3.9%
Family Member or Other (n= 38)	18.6%
No Formal Training (n= 38)	18.6%

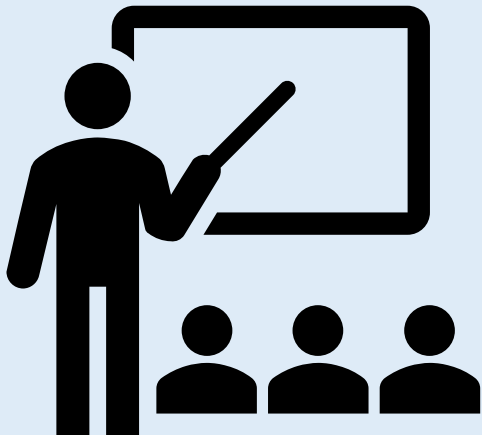
Results

Classroom Training

Believed classroom-exclusive training to be insufficient...

- Preparing them to pass the licensing test
- Not fostering practical skills

“It could be better, there are some driving schools but from what I’ve seen all they teach them is the rules of the log book and the basics to get your driver’s license” – Participant 77



They recognized classroom education has a place in training and should overview:

- Administrative work
- Regulations

Mandatory for new drivers

Results

Practical training

Need more behind-the-wheel time

Certain skills should be emphasized



“All the air brakes, the servicing of air brakes, the setting up of air brakes, everything that pertains to driving a truck, to handing a load, to tying down a load, to reacting in emergency situations on the highway or anywhere, there’s all kinds of stuff they should be teaching” – Participant 28

Results

Current training programs are not long enough

“There’s too many people that get given their license, 2 weeks and go. They don’t have a clue, they’re dangerous.” – Participant 52

“Nowadays, it has got to be a combination of classroom and driving.” – Participant 37

“They should at least take a full course, a full course which is 8 weeks and then find a company that hires new drivers but put it as a trainee for a couple of weeks to make sure he’s good.” – Participant 77

Blended learning

Training should last 8-12 weeks followed by driving time accompanied by a mentor

Results

Mentorship

Trainees accompany an experienced driver

- Better build their skills in a safe environment conducive to gradual practicing and asking questions
- 6-month period

“Sticking with a 14-hour day to show technique, to show practice and safe procedure. And go over a few things for a few hours, then switch seats and put the new person in the chair and let them drive and try out the techniques so that they have more, better-developed skills. - Participant 14



Results

Standardization

Programs should be offered through accredited/certified schools or those managed by the government

"Our government, federal and provincial, needs to step in and regulate this more. And it's not just the students who need to understand, it's the instructors that have to be penalized if they're not doing it right." – Participant 2

Additional Skills

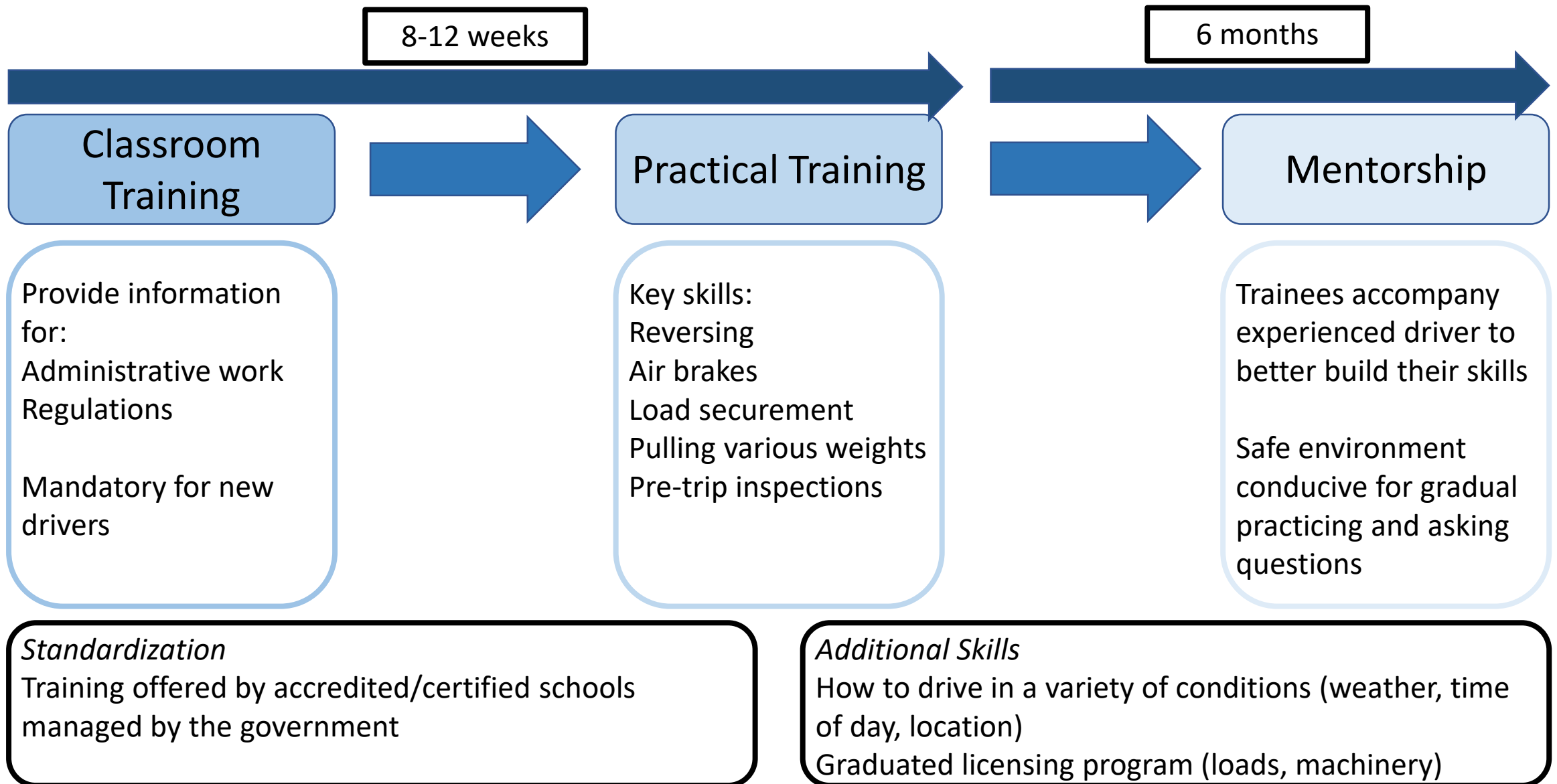
Driving in different conditions (weather, time of day, location)

- Driving simulations
- Training modules from employers
- Extended mentorship programs

Graduated licensing program

- Weight
- Equipment

Results



Discussion

Blended Learning

Aids in the education of people with different learning modalities¹⁵

Efficacious in improving fuel efficient driving¹⁶

Mentorship

Underutilized in Canadian licensing programs^{17,18}

Induction programs associated with a mentor increases employee retention¹⁹⁻²¹

15. Frey C. Blended learning: A more effective model for haul-truck operator training. Eng Min J. 215(4):78–84.

16. Rionda A, Pa ~ Neda XG, García R, Díaz G, Martínez D, Mitre M, et al. Blended learning system for efficient professional driving. Comput Educ [Internet]. 2014 [cited 2019 May 25];78:124–39. Available from: <http://dx.doi.org/10.1016/j.compedu.2014.05.008>

17. Government of Quebec. Obtaining a driver's license [Internet]. [cited 2019 May 26]. Available from: <https://saaq.gouv.qc.ca/en/drivers-licences/obtaining-licence/heavy-vehicles-class-1-2-3/truck-class-3/>

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20. Vierstraete S. MENTORSHIP: TOWARD SUCCESS IN TEACHER INDUCTION AND RETENTION. Cathol Educ A J Inq Pract [Internet]. 2005 [cited 2019 May 26];8(3):381–92. Available from: <https://files.eric.ed.gov/fulltext/EJ1006223.pdf>

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Next Steps

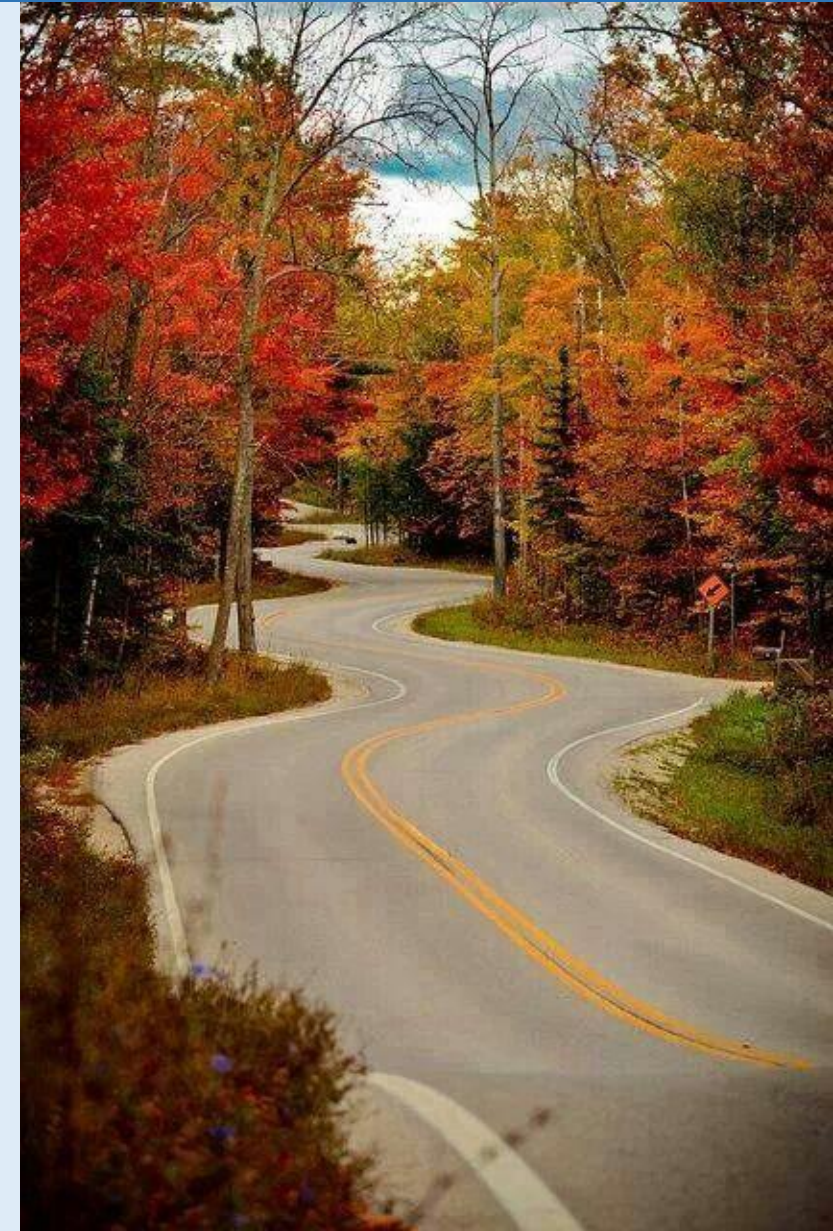
Understand the perceptions of other industry members on the status of long-haul truck driver training

Validate the efficacy of mentorship in improving driver performance

Implement mandatory entry-level training programs throughout Canada

- Blended learning

Utilize the perceptions of truck drivers when developing national standards



Acknowledgements

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Collaborators

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- Gordon Zello
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- Maryam Larijani

Questions?



Lake Louise, Banff, Alberta