



# Logging Sector Root Cause Analysis Workshop Results and Next Steps

A focused approach to improving workplace health and safety

Konor Poulin  
Health and Safety Specialist  
Adrienne Allam CRSP  
Health and Safety Specialist

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1 888 730 7821 (Toll free Ontario)  
workplacesafetynorth.ca



# Table of contents

## **Risk Assessment Project**

**Background: Reason's model of accident causation**

**Workshop: A Tripartite and Collective Process**

**Risk Assessment Workshop Results: Top 10 risk categories**

**Infographic: Top 10 Health and Safety Risks in Logging 2023**

**Top Logging Top 10 Sector Risk Categories**

**Analysis of Top 10 Risk Events – Contributing Factors**

**Root Cause Analysis Workshop Participants**

**Root Cause Analysis Risk Statement defined**

**Fishbone Diagram and Method**

**Fishbone Results by Category**

**Top Primary Causal Factors**

**Infographic: Top 10 Causes of Collisions in Logging**

**List of Solutions and Controls for the Top Primary Root Causes**

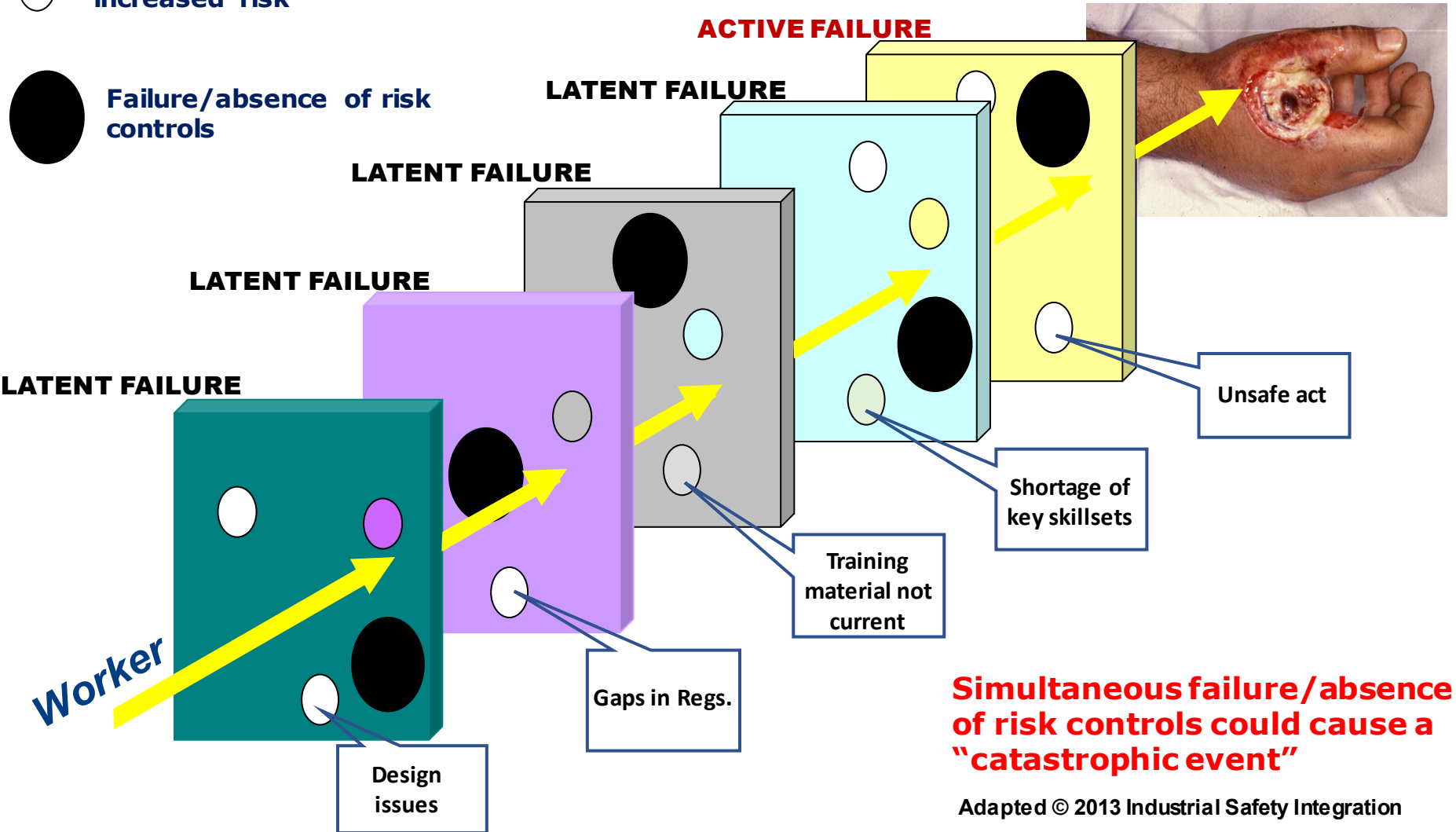
**Next Steps: What should we focus on immediately?**

**Next Steps: Proactive efforts of the Forestry Tripartite Committee**

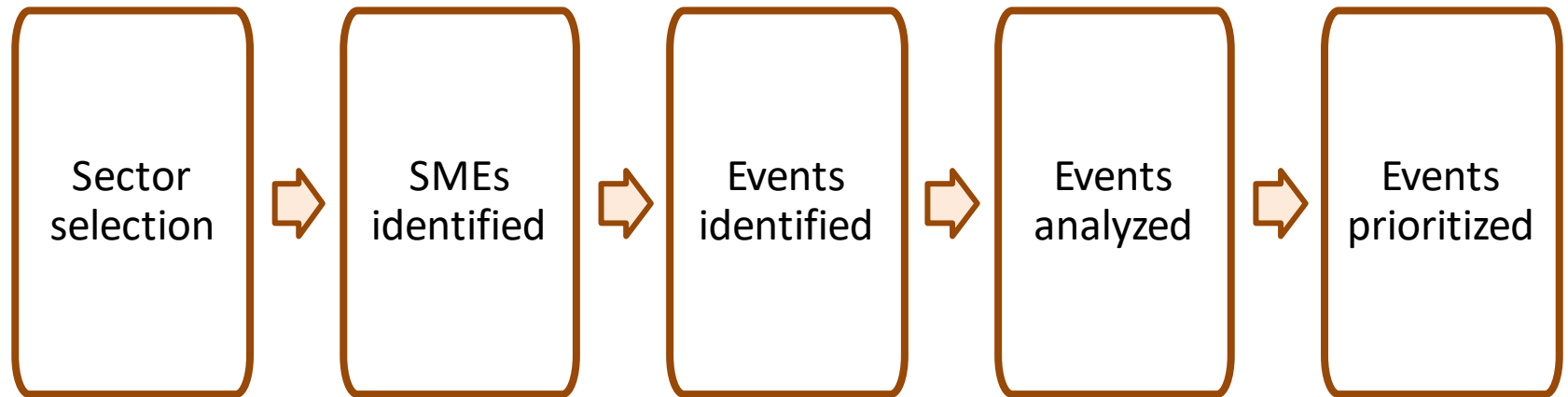
# Risk Assessment Project

○ Examples that could lead to increased risk

● Failure/absence of risk controls



# Workshop: A tripartite and collective process



# Workshop: A Tripartite and Collective Process

## **Workshop process was open, transparent, and collaborative:**

- Ensured perspectives/viewpoints were heard
- Responses were respected, not freely edited
- Final list shared with participants before workshop
- Workshop results reviewed/validated by participants

## **Finding acceptable solutions that all members can support:**

- Only industry experts ranked the risks
- Process was NOT about consensus (although results demonstrate a significant degree of convergence)

# Risk Assessment Workshop Results:

## Top 10 risk categories based on highest risk within that category

Rank	Category	Event (Situation/Condition) that could result in Injury or Illness OR <b>What could keep you up at night?</b>
1	Driving hazards	Highway travels
2	Contact with materials/equipment	Conventional harvesting (contact with overhead debris)
3	Driving hazards	Driving during work activities (incl. haul drivers)
4	Driving hazards	Focus/Distracted while driving to and from work sites (not including hauling)
5	Lockout	Inadequate/improper lockout while working on energized equipment
6	Fatigue	Fatigue-induced accidents
7	Psychosocial hazards	Impairment causing injury
8	Psychosocial hazards	Behaviour (complacency, shortcuts, attitude, perception of risk)
9	Contact with materials/equipment	Caught in or struck by equipment
10	Culture	Lack of company/internal enforcement (incl. contractors)

# Top 10 Health and Safety Risks in Logging Operations

## Highway travel is top health and safety risk

As identified by workers, supervisors, and employers in the Ontario logging industry through a Ministry of Labour, Immigration, Training and Skills Development-facilitated risk assessment workshop in partnership with Workplace Safety North.



**1. Highway travel**  
(dangerous conditions, fatigue, weather, road and vehicle maintenance)



**6. Fatigue-Induced Incidents**



**2. Conventional harvesting**  
(struck by overhead tree or branch)



**7. Substance use: Under the influence of alcohol, prescription or other drugs**



**3. Off-road driving during work activities** (including haul drivers)



**8. Lack of experience, training, and risk perception**



**4. Distracted while driving to and from work sites** (not including hauling)



**9. Caught in or struck by equipment**

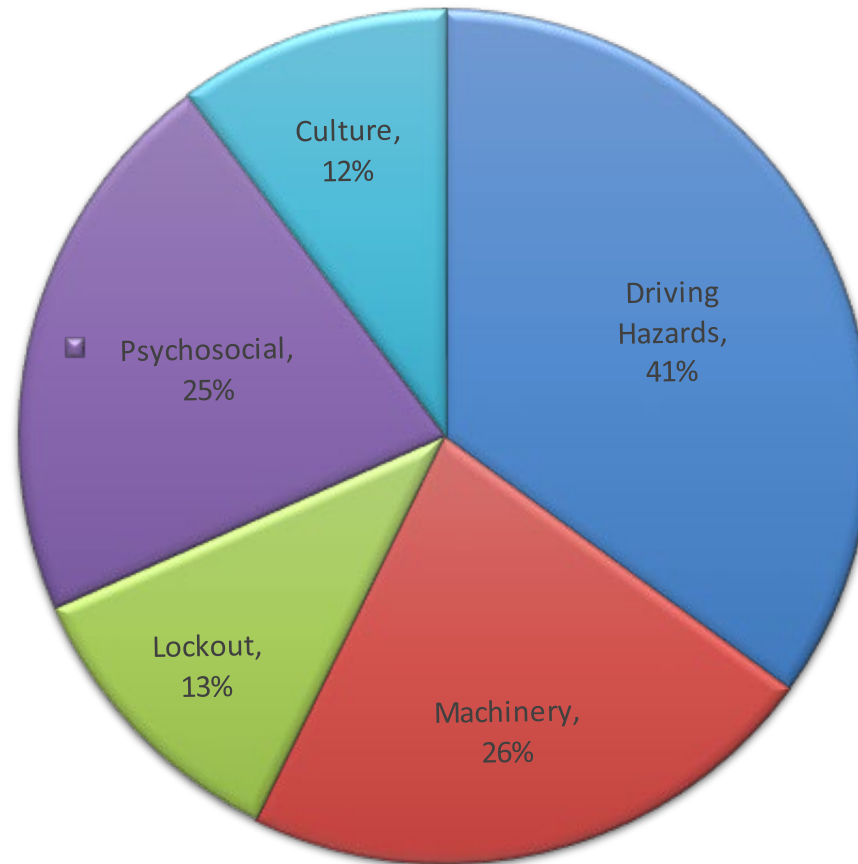


**5. Inadequate or Improper lockout while working on energized equipment**



**10. Lack of enforcement** (including contractors)

# Top Logging Sector Top 10 Risk Categories



■ Driving Hazards ■ Machinery ■ Lockout  
■ Psychosocial ■ Culture



# Analyses of the top 5 risks and contributing factors to their undesired outcomes (three factors per top five)

Rank	Category	Contributing factor	Result
1	Driving Hazards	Weather, road conditions/road maintenance Production pressure, performance based pay, cycle times Distraction, fatigue, observance of rules, driver training, competency	Collision, injury to worker or public
2	Contact with Equipment/ Material	Behaviours, unsafe felling practices, complacency, Lack of hazard identification, lack of removal of danger trees Lack of supervision	Injury to worker, damage to equipment, loss of process
3	Driving Hazards	Lack of enforcement on forest roads, lack of driver monitoring, lack of defensive driver training Driver inexperience, overconfidence, language barriers, jurisdictional difference in driver certification Workload, driver distraction, poor communication, technology impacts	Collision, injury to worker or public
4	Driving Hazards	Fatigue, long workdays work outage (breakdown/injury) Inadequate road maintenance, signage Weather, wildlife, hours of daylight operation	Collision, injury to worker or public
5	Lock Out	Inadequate lock out tag out, short cuts, not following safety rules Lack of supervisory audit, enforcement, lack of procedures , signage Lack of training, not understanding energy sources, not recognizing all energy sources	Injury to worker, damage to equipment, loss of process

# Root Cause Analysis: Workshop Participants

## SUBJECT MATTER EXPERTS

# Name Company/Representative

1 Jason Lacko Steel Workers Union

2 David Haney Remar Transport

3 Pierre Tremblay Steel Workers Union

4 Eric Carroll Steel Workers Union

5 Cory Doucette Interfor

6 Kyle Aird Interfor

**Worker Representation**

**Employer Representation**

## OTHER NON-VOTING WORKSHOP PARTICIPANTS

# Name Company/Representative

1 Konor Poulin Workplace Safety North: Facilitator

2 Adrienne Allam Workplace Safety North: Facilitator

3 Penny Ratuszniak WSN Health and Safety Specialist

4 Shelly Speir MLITSD: Provincial Specialist

5 Tom Welton Workplace Safety North: Tech Support

6 Brandi Cramer Workplace Safety North: Tech Support

7 Tricia Valentim Workplace Safety North: Tech Support

8 Tiana Larocque Workplace Safety North: Tech Support

*MLITSD: Ministry of Labour, Immigration, Training and Skills Development*

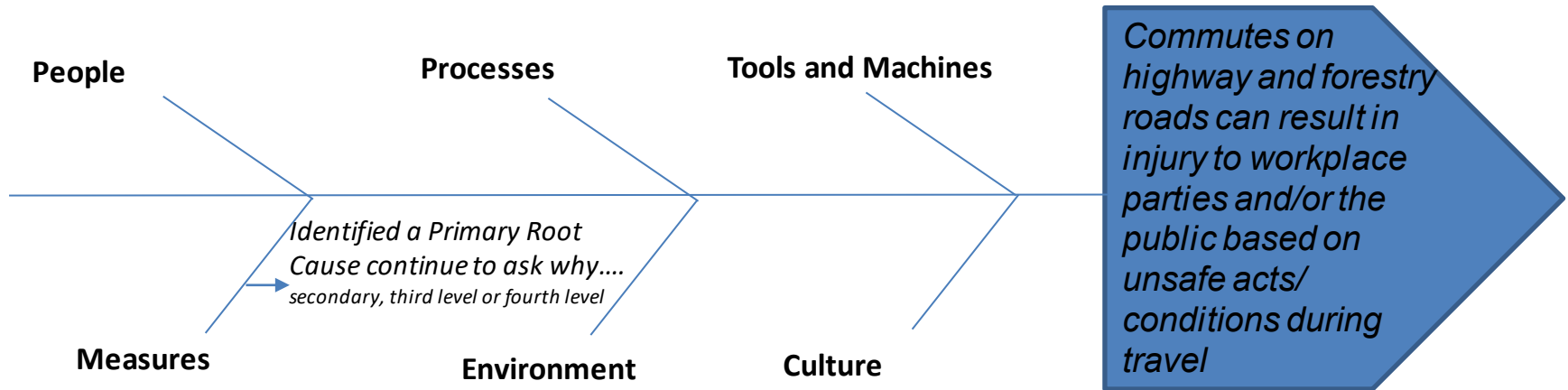


# Root Cause Analysis: Risk Statement

Based on risk assessment results and further analysis, the Root Cause Analysis working group confirmed and developed the following risk statement using the “**Fishbone**” approach addressing **Driving Hazards**:

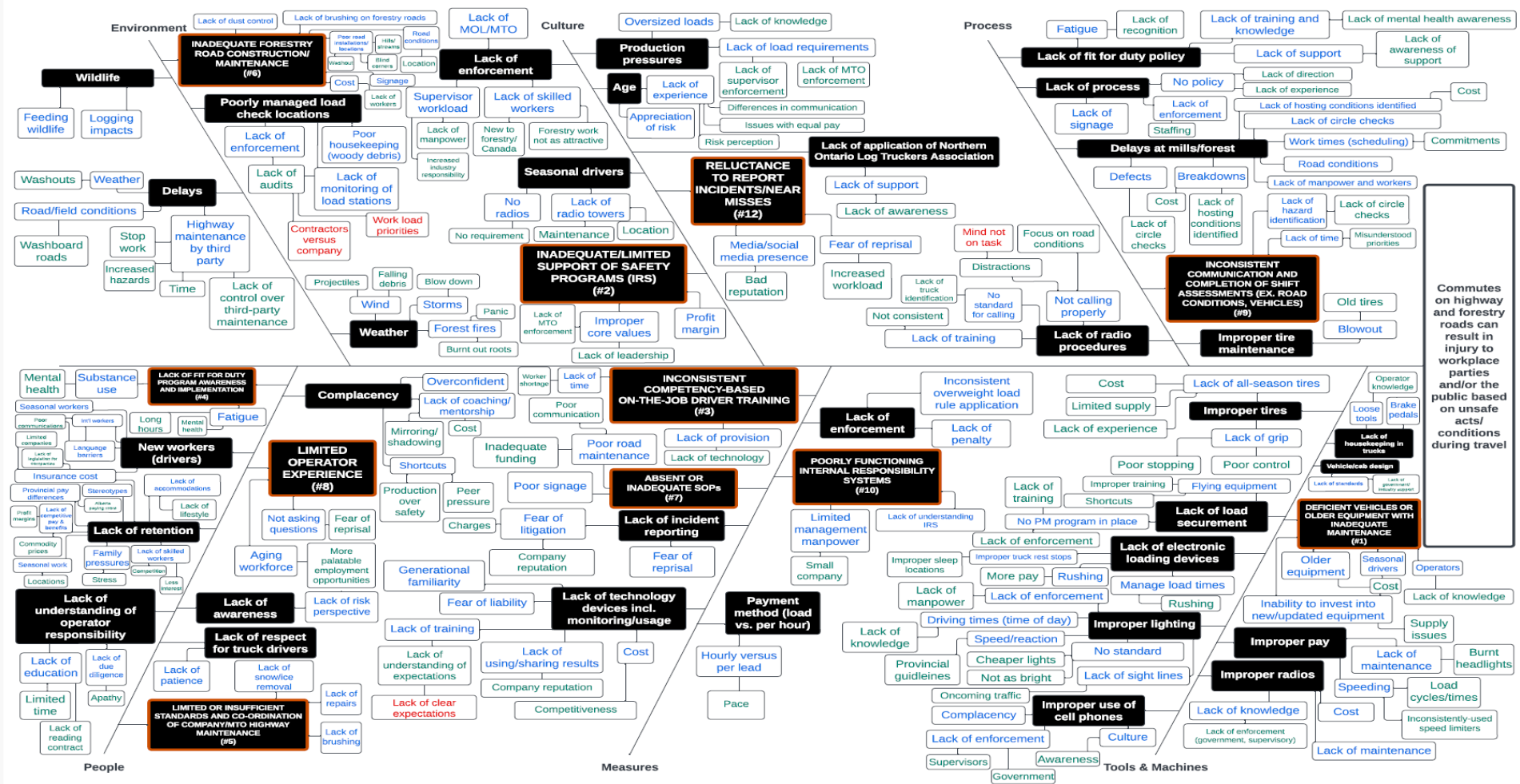
***“Commutes on highway and forestry roads can result in injury to workplace parties and/or the public based on unsafe acts/ conditions during travel”***

# Fishbone Diagram



Black – Primary Causal Factor  
**Bolded/in black are in Top 10**  
 Blue – Secondary Causal Factor  
 Green – Tertiary Causal Factor  
 Red – Quaternary Causal Factor

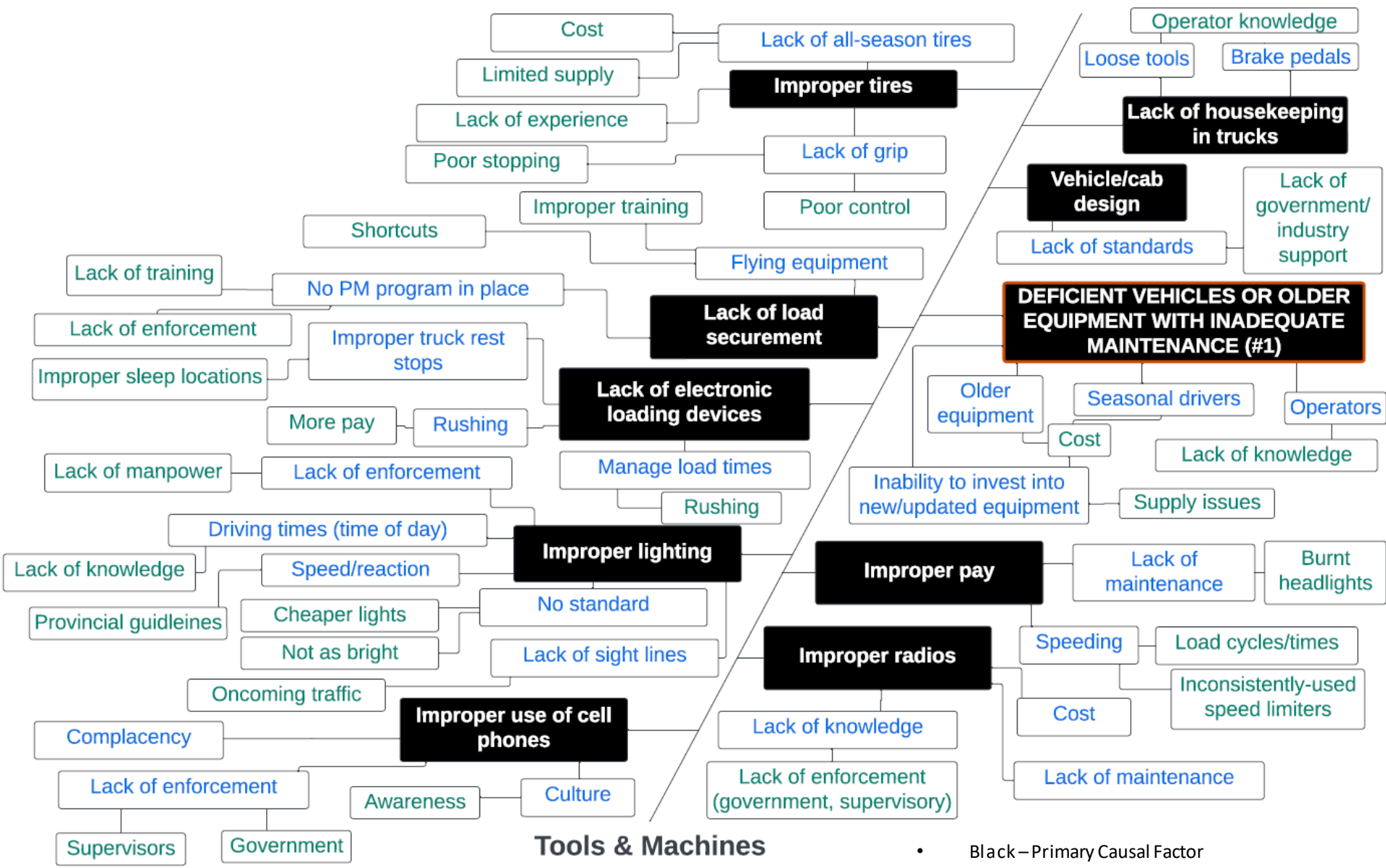
# Full Fishbone

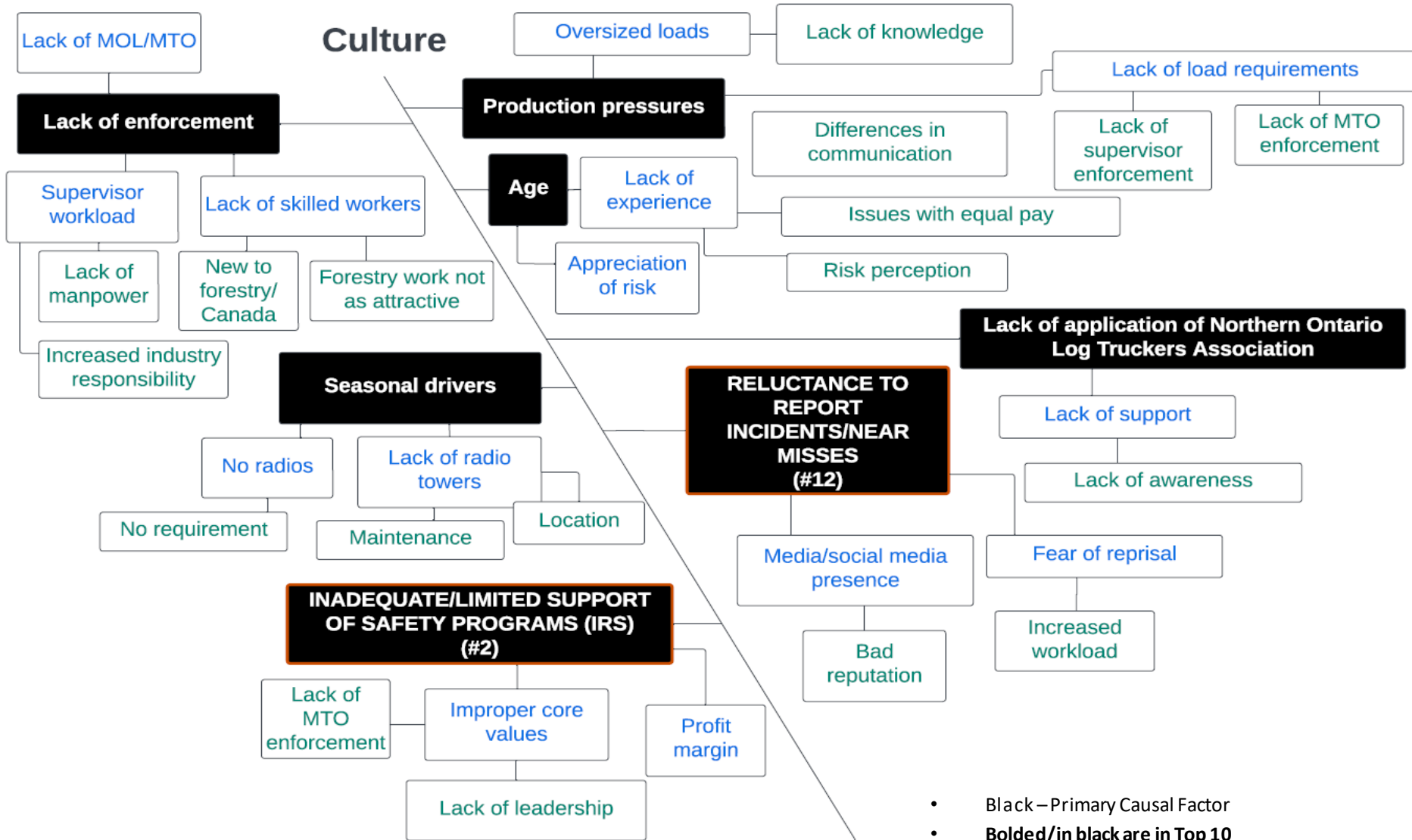


Commutes on highway and forestry roads can result in injury to workplace parties and/or the public based on unsafe acts/ conditions during travel

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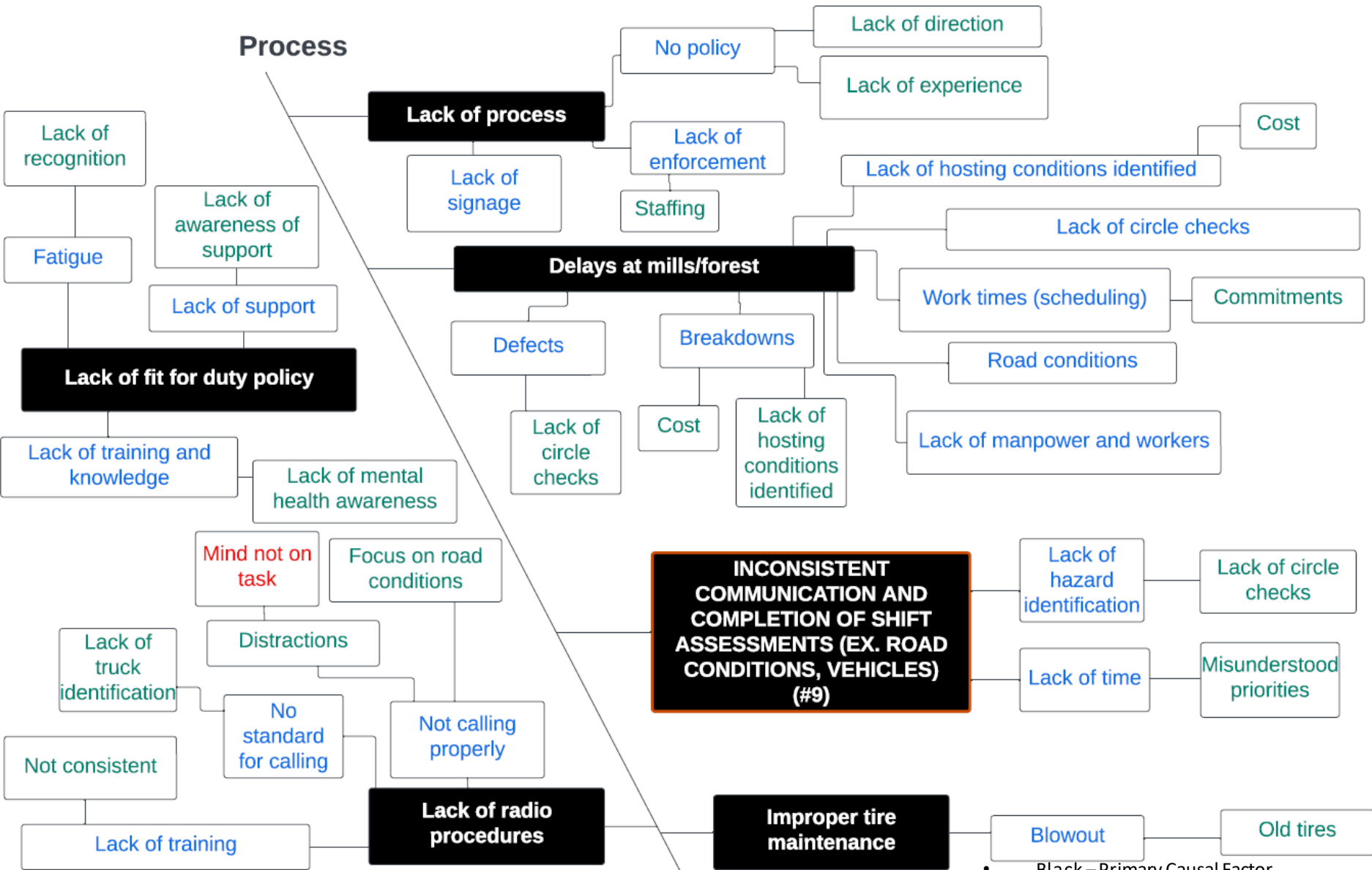


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# Process



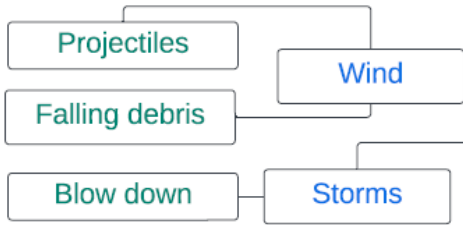
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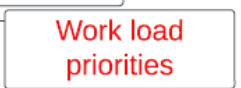
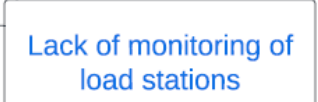
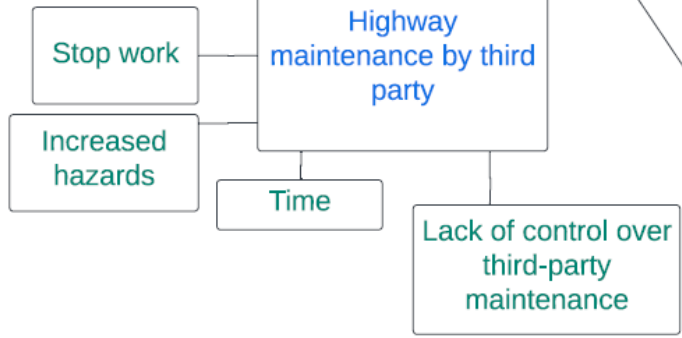
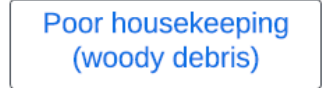
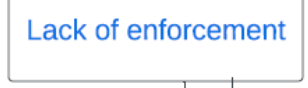
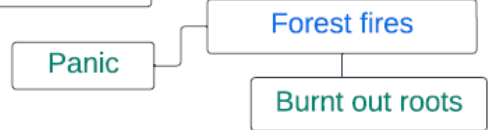
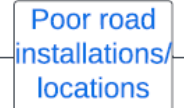
# Environment

Lack of dust control

Lack of brushing on forestry roads

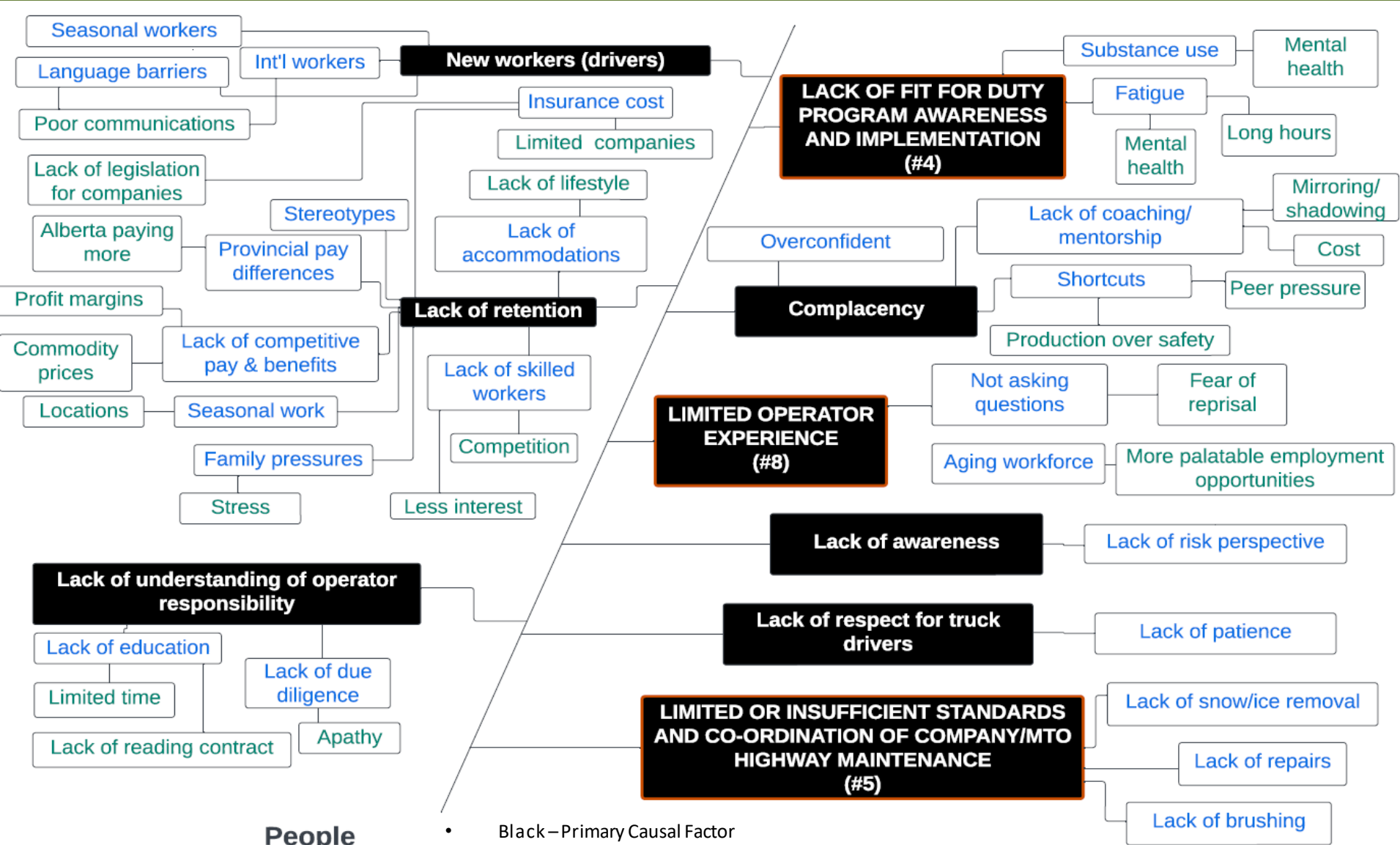


Cost



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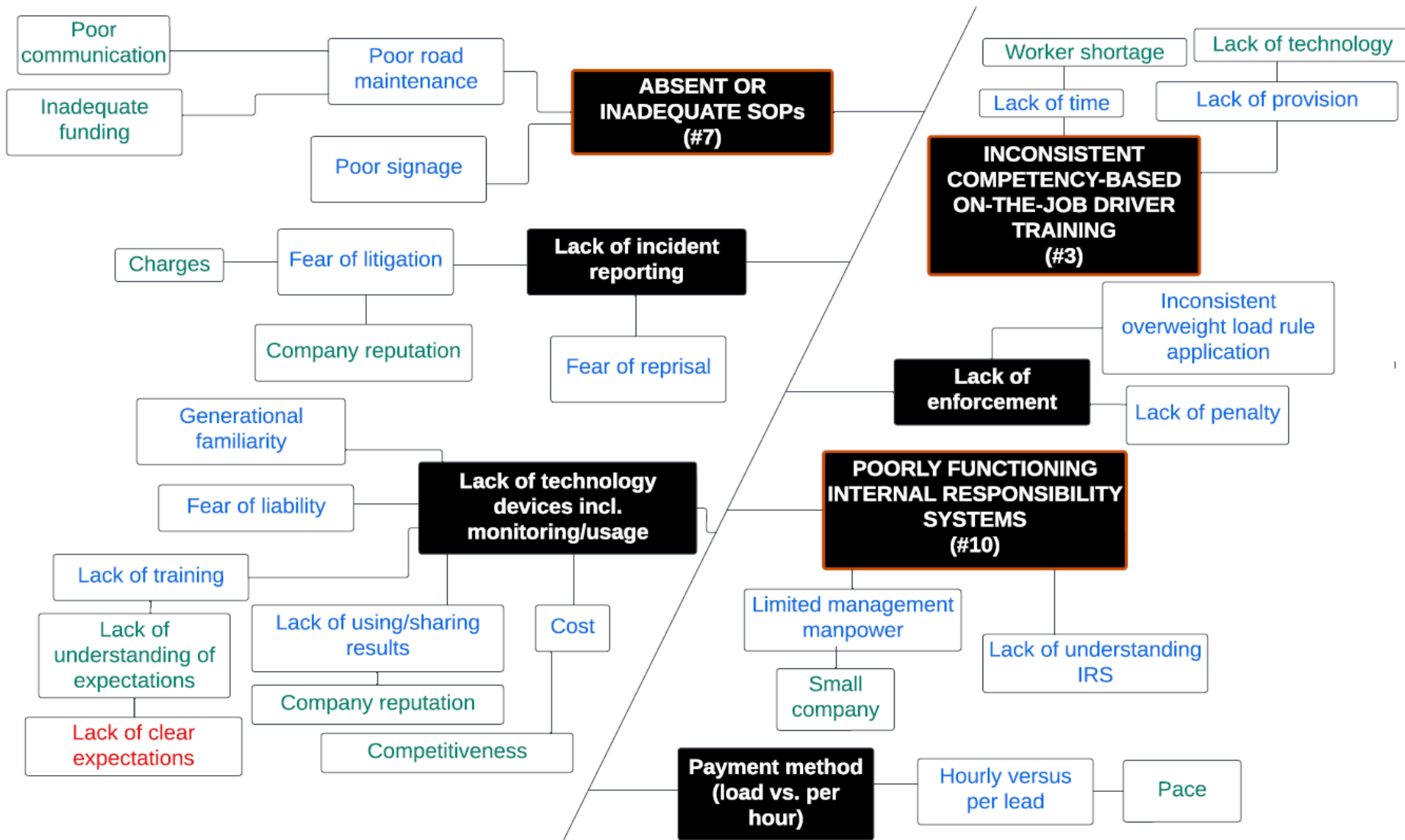




**People**

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Measures

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# Top 10 Primary Causal Factors

Ranking	Category	Primary Root-Cause
1	Tools and Equipment	<i>Deficient Vehicles Or Older Equipment With Inadequate Maintenance</i>
2	Culture	<i>Inadequate/Limited Support Of Safety Programs (Internal Responsibility System)</i>
3	Measures	<i>Inconsistent Competency-based On-the-job Driver Training</i>
4	People	<i>Lack Of Fit-For-Duty Program Awareness And Implementation</i>
5	People	<i>Limited Or Insufficient Standards And Co-ordination Of Company/Ministry of Transportation Highway Maintenance</i>
6	Environment	<i>Inadequate Forestry Road Construction/ Maintenance</i>
7	Measures	<i>ABSENT OR INADEQUATE – Safe Operating Procedures</i>
8	People	<i>Limited Operator Experience</i>
9	Culture	<i>Consistent Communication And Completion Of Shift Assessments (Ex. Road Conditions, Vehicles)</i>
10	Measures	<i>Poorly Functioning Internal Responsibility Systems</i>

# Root Cause Analysis: Infographic

## Top 10 Causes of Driving Hazards in Logging Operations

Driving for work is top health and safety risk

As identified by workers, supervisors, and employers in the Ontario logging industry through a root cause analysis facilitated by the Ministry of Labour, Immigration, Training and Skills Development and Workplace Safety North.



1. Vehicles with mechanical issues and older equipment with poor maintenance



6. Inadequate forest road construction and maintenance



2. Poor safety culture limits support of safe driving programs



7. Inadequate safe operating procedures for drivers



3. Inconsistent on-the-job driver training



8. Inexperienced drivers not familiar with forest roads



4. Lack of fit-for-duty program



9. Pre-shift assessment checklist for vehicle and road conditions inconsistently completed



5. Limited standards and communication between firms and the Ministry in charge of maintaining highways



10. Poorly functioning safe driving program

# List of Solutions and Controls for the Top Primary Root Causes

## Note:

- Scope of this exercise does not include assessment of listed controls.
- List provides information on specific controls and/or activities that support a control.
- Control performance should be **specific, measurable, observable, and auditable**

\*The technical report will have a full description of all the controls for all 10 of the primary causal factors identified during the workshop

# Root Cause Analysis: Solutions and Controls

## **Tools and machines: Deficient vehicles or older equipment with inadequate maintenance. (#1)**

- a. Maintenance audits
- b. Spot checks
- c. Circle checks – documentation of circle checks
- d. Annual inspections, including ones completed by third party.
- e. Standards on years' service for vehicle replacements (25 yrs. replacement)
- f. Repair work done by qualified/licensed mechanics.
- g. Stronger enforcement for vehicles that do not meet requirements.
- h. Plated and un-plated vehicles properly maintained (sanders, plow, rock truck)
- i. Seasonal preparedness for equipment/vehicles

# Root Cause Analysis: Solutions and Controls

## **Culture: Inadequate/limited support of safety programs (internal responsibility system) (#2)**

- a. Auditing, both internal and third party
- b. Competent trained personnel to manage and enforce the program.
- c. Clearly define the roles and responsibilities within the safety programs.
- d. Measurables and accountability for licensee and contractor for the safety program through a legislated modular training program.



# Root Cause Analysis: Solutions and Controls

## **Measures: Inconsistent competency-based on-the-job driver training (#3)**

- a. Mentoring opportunity and programs
- b. Legislated modular training program standards
  - a. Required minimum number of hours for apprenticeship
  - b. Performance-based assessments of driver practices on-site
- c. On-the-job forestry driver experience requirements (hours)
- d. Communication of site-specific safety expectations
- e. Government support (incentives) for forestry driver training

# Root Cause Analysis: Solutions and Controls

## People: Lack of fit for duty program awareness and implementation (#4)

- a. Consistent program auditing and implementation
- b. Improved supervisor and worker mental health training
  - i. Ensure supervisors training to recognize substance use/fit for duty
- c. Substance use (drug and alcohol) policies
  - i. Third-party testing
- d. Fit-for-duty worker self-assessment training
- e. Competent trained personnel to manage and enforce the program.

# Root Cause Analysis: Solutions and Controls

## **People: Limited or insufficient standards and co-ordination of company/MTO highway maintenance (#5)**

- a. Annual planning meetings with government involvement to set and implement best practices with respect to the highway maintenance
- b. Government MTO explanation on what their standards are to contractors and drivers at contractor meetings.
- c. Public awareness and signage of potential haul areas (movable signs)
- d. Share the road reminders to contractors and drivers.

\*The technical report will have a full description of all the controls for all 10 of the primary causal factors identified during the workshop

# Next Steps: What should we focus on immediately?

Based on controls identified for the Top Primary Causal Factors, it would be beneficial, as a start, to focus right away on the following systemic weaknesses:

Ranking	Category	Primary Root-Cause
1	Tools and Equipment	<i>Deficient Vehicles Or Older Equipment With Inadequate Maintenance</i>
2	Culture	<i>Inadequate/Limited Support Of Safety Programs (Internal Responsibility System)</i>
3	Measures	<i>Inconsistent Competency-based On-the-job Driver Training</i>
4	People	<i>Lack Of Fit For Duty Program Awareness And Implementation</i>
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9	Culture	<i>Consistent Communication And Completion Of Shift Assessments (Ex. Road Conditions, Vehicles)</i>
10	Measures	<i>Poorly Functioning Internal Responsibility Systems</i>

# Next Steps: Proactive efforts of the Forestry Tripartite Committee

The following presentation will be shared with the MLITSD led Provincial Forestry Tripartite Committee, and the WSN Forestry Paper, Printing and Converting Advisory committee who provide specific to the Forestry Sector detailed review of workshop results.

Based on identified primary causal factors, several areas will be assessed with recommendations on how WSN can support the industry in the establishment of effective controls and resources for industry including the following:

- Sharing of industry leading practices
- Knowledge of legislation and standards

# Thank you for the help making the logging sector safer

## Questions?

### Workshop Contacts

#### **Konor Poulin**

Health and Safety Specialist

[KonorPoulin@workplacesafetynorth.ca](mailto:KonorPoulin@workplacesafetynorth.ca)

#### **Adrienne Allam, CRSP**

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