

“Out of The Line of Fire”: Managing Struck By Hazards Before They Manage You



Two recent B.C. fatalities underscore a persistent truth about safety: you can do a hundred things right on a job, and one moment in the line of fire can still be unforgiving. In July 2025 on the Coast, a worker was standing on a deck of logs, speaking with a loader operator, when four logs rolled and pinned the worker against the loader track; fatal injuries followed. WorkSafeBC summarized the incident in its August forestry bulletin to help crews learn before history repeats.

A month earlier in Interior B.C., a farm worker parked a tractor in front of a gate to unlock it. The tractor moved forward unexpectedly, pinning the worker between the tractor and the gate. The worker didn't survive. While this case is still a summary-level account, it mirrors a pattern WorkSafeBC has investigated before: vehicles or equipment that aren't fully immobilized, that lurch or roll during a "quick task," and that trap workers who believed they were out of harm's way.

These are "struck-by" events; when a person is hit by a vehicle, mobile equipment, a swinging or falling load, a rolling object, or a flying projectile. In B.C. construction, WorkSafeBC calls out falls from elevation and struck-by mobile equipment as top drivers of serious harm, and it is currently

running a province-wide campaign focused on preventing workers on foot from being struck. In just the last decade, more than 550 serious injuries and fatalities in B.C. involved workers on foot and vehicles or mobile equipment; sobering evidence that this isn't a niche risk.

Across Canada, the scale is bigger still. Nationally in 2023, there were 59,495 accepted lost-time claims categorized as "contact with objects and equipment"; the event group that captures most struck-by incidents. That's more than any other single event category, even edging out falls. In other words: the risk isn't rare; it's routine.

If you're a safety leader, what do you actually do with that? This article lays out the compliance expectations and the practical moves; layered, real-world controls; that keep people out of the line of fire. We'll use the two B.C. cases as teaching moments, bring in data and regulatory hooks, flag the traps that catch well-meaning organizations, and offer a clear, conversational playbook you can start applying today.

Why Struck-By Hazards Still Blindside Good Teams

Struck-by isn't just about "bad luck" or a single poor choice. It's about how fast conditions change around moving loads, rolling objects, and powered equipment; and how easy it is to step into the hazard zone for a quick conversation, adjustment, or "one-second" task. In both B.C. fatalities, the worker was performing a brief, familiar action: speaking with an operator on a log deck; hopping down to unlock a gate. The exposure window was tiny. The consequence was not.

WorkSafeBC has been explicit: the best way to reduce these events is a layered approach to risk controls for vehicles and mobile equipment, with **exclusion zones** that physically keep people and equipment apart, plus additional engineering and

administrative defenses to prevent blind-spot surprises. That means your prevention program can't rely on "operator skill" alone. It has to make the wrong move hard to make.

Add a little scale to the picture. In the U.S., NIOSH reports that struck-by hazards account for hundreds of construction deaths and tens of thousands of serious injuries each year; the direct workers' comp costs alone run into the billions. Different jurisdiction, same physics; and the same lessons about separating people from moving energy.

Compliance Isn't Optional; And It's Specific

Canadian OHS law is principle-based, but the expectations get very concrete around struck-by risks.

In B.C., the Occupational Health and Safety Regulation has a dedicated Part 16 for **mobile equipment**, which governs everything from parking and immobilization to clearance distances for swinging parts. Section 16.9 requires operators to secure unattended equipment with redundant systems (parking brake, park position, chocks) and to lower or immobilize raised components before walking away. Section 16.10 prohibits people from being within range of a swinging load or counterweight and requires barriers if the 2-foot clearance cannot be ensured. These provisions speak directly to the kind of scenarios that turn "quick tasks" into life-altering incidents. ([BCLaws](#))

For **forestry operations**, Part 26 requires designated safe work areas for workers on foot near logging equipment, with boundaries communicated and respected. The regulation formalizes the concept of "don't be where the machine moves," which is exactly what failed in the log deck fatality.

In **agriculture**, Part 28 lays out general conditions for

guarding, instruction, and safe operation of farm equipment. WorkSafeBC's sector resources add practical expectations for tractors and PTOs: use of rollover protective structures (ROPS), seat belts, and maintaining a "no-bystander" zone around moving machinery and rotating shafts.

Overarching all of this are the **employer's duties** to identify hazards, assess and control risks, train and supervise workers, and investigate incidents and near misses. WorkSafeBC reminds employers that if a workplace incident results in (or could have caused) serious injury, you have defined responsibilities to investigate promptly and, for certain incidents, to immediately notify the regulator. Those investigative findings are supposed to drive corrective action; not sit in a binder.

The takeaway: compliance isn't just a handbook chapter. It is the spine of your struck-by prevention program. The moment you allow deviations ("I'll just leave the boom up while I grab...") you're offside; legally, and in real life.

Anatomy Of A Struck-By Event (And How To Break The Chain)

Let's walk through the risk patterns that repeat across industries and what "layered controls" look like when they're working.

Moving vehicles and equipment vs. people on foot. Forklifts, loaders, telehandlers, dozers, graders, tractors; anything with momentum and blind spots. The primary control is separation: design your site or facility so people and machines don't share the same space, especially during loading, reversing, and turning. Use engineered barriers, locked gates, curbing, and one-way traffic that makes **wrong travel impossible**. Then add administrative layers: designated **exclusion zones**, spotter protocols, standard hand signals,

two-way radio calls before entering a shared lane, high-vis apparel where appropriate, and strict “no phone while operating” rules. WorkSafeBC’s current campaign materials point employers to exactly this layered model and provide a fillable template for assessing interactions.

Swinging, falling, and rolling loads. Cranes and excavators carry loads that swing; logs and pipe bundles roll; stacked pallets and drywall shifts can cascade. Regulation 16.10 is blunt: if a swinging part or load creates a hazard, no one may be within range. That’s your legal backing for red-tagging bad habits like walking under the boom to “save a few steps,” standing on a log deck, or tailing a suspended panel with your hands. Controls include setting **hard boundaries** around the machine’s swing radius, locking down walkways that intersect those radii, and using taglines and mechanical load-handling aids so hands never become “stabilizers.”

Unexpected movement of “parked” equipment. This is the tractor-at-the-gate scenario and a frequent theme in fatalities. The fix is redundancy and ritual: parking brake set, transmission in park/neutral as specified, wheels chocked when there’s any doubt; and **then** exit the cab. Label and train on the ritual. Audit it. Reward it. It’s not overkill; it’s compliance; and it’s physics. WorkSafeBC’s guidance on improperly secured vehicles spells out the expectation (and the consequences) clearly.

Dropped or flying objects, tool ejections, and projectiles. Grinder wheels shatter, chisels eject, nail guns misfire. Engineering controls are guards and tool selection; administrative controls include written procedures for tool changes, specifying PPE matched to the energy of the hazard (eye and face protection, cut-resistant gloves, etc.). If work takes place at height, your program must control the **drop zone** for anyone below.

Visibility and communication failures. Blind-spot collisions

are classic line-of-fire events. Add cameras and mirrors, proximity sensors where appropriate, horns and backup alarms with the correct output and pitch for the environment, and; critically; a communication rule: “No radio or hand signal, no approach.” WorkSafeBC’s bulletin on obstructed views supports this layered visibility model.

Lessons From The Two B.C. Cases

In the **log deck fatality**, multiple control layers were either missing or overwhelmed. A designated safe work area and exclusion zone could have prevented a person on foot from standing on an unstable deck inside the loader’s operating envelope. The industry-specific rule; communicate and respect the boundaries around logging equipment; exists precisely to prevent this kind of outcome. ([WorkSafeBC](#), [bcforestsafe.org](#))

In the **tractor-and-gate fatality**, immobilization broke down. The control ritual (parking brake, correct park/neutral position, chocks when needed) is codified for a reason: equipment can creep on slight grades, hydraulics can drift, and vibrations can nudge a lever. Agriculture adds hazards like PTO shafts and uneven terrain; WorkSafeBC’s tractor and ranch resources hammer home the basics; ROPS with seatbelts, immobilization, and bystander exclusion. The worker in front of the gate was in the worst possible position when “parked” turned into “moving.”

What a safety manager should do; practically

Start with humility and precision. These events often happen to experienced people doing familiar work. The solution isn’t “try harder”; it’s **design better** and **verify relentlessly**.

Begin by mapping every place people and moving energy intersect. Use WorkSafeBC’s struck-by resources to structure that review: identify tasks and areas with worker – equipment interaction, assess the level of risk, and implement layered

controls. Treat this as a living process you revisit whenever the work, layout, or crew changes. It's not a one-and-done.

Design for separation. Redesign yards, shops, and sites so people and machines have different real estate. Create pedestrian-only aisles with guardrails. Keep break areas, washrooms, and tool cribs **outside** equipment corridors so you aren't forcing people to cross live lanes. Where separation isn't possible, make **exclusion zones** the default; clearly marked, enforced, and alarmed if you have the tech.

Engineer the energy down. For mobile equipment, consider speed governors indoors, collision-avoidance tech where feasible, and cameras or mirrors to fill blind spots. For loads, choose rigging that minimizes swing; for forestry and yarding, minimize live decks and design bunks, chocks, or cribbing that resist roll. For tools, choose guarded options and vendors with proven safety records.

Make the safe thing the easy thing. Human factors matter. If the only wheel chocks are 40 metres away, people won't use them. Mount chocks on the equipment. Pre-stage taglines. Put radio chargers where the work starts. Color-code exclusion boundaries so they're obvious in peripheral vision.

Codify rituals. Parking/immobilization should be a rote sequence, the same way every time: park, brake, neutral/park position, lower implements, engine off where appropriate, chock as required, then exit. Teach it. Expect it. Audit it. Tie your standard directly to the regulation so supervisors can enforce without debate.

Supervise the moments that matter. Struck-by risk spikes at shift starts, during set-ups, changeovers, and "shortcuts." Put eyes on those moments. Supervisors should model "stop and verify" behaviors; no one walks into an exclusion zone unannounced, ever.

Investigate near misses like losses. If a telehandler boom

swings over a walkway but no one gets hit, don't "thank your luck"; treat it as a free rehearsal. WorkSafeBC expects employers to investigate certain near misses, and its materials show how to turn findings into corrective actions; not just paperwork. The fix after a near-miss should be visible to crews within days, not months.

Mandate competency and prove it. "Trained" and "competent" aren't synonyms. Your operators, signalers, riggers, and spotters need task-specific competence, and you need records that show who is qualified to do what. Use vendor or industry courses where required; evaluate in-house under realistic conditions; record dates, content, assessor, and pass/fail. Inadequate competence is a common denominator in struck-by investigations (for example, new equipment with no proper training before use has led to fatal outcomes and significant fines).

Bring your JHSC into the risk. Committees should walk the floor (or the block) specifically for line-of-fire exposures: Where can I stand and be hit in two seconds? Where can a load swing? Where can a parked unit roll? Use that lens during inspections and meetings; ask for worker-driven fixes, not just management memos.

Measure what matters. Track leading indicators that predict struck-by risk: number of exclusion-zone breaches, incomplete immobilization audits, blind-spot observations, near-miss submissions, spotter-to-operator hand-off failures found in field audits, and percentage of crews current on competency verifications. Reward reporting. Correct behavior, not just outcomes.

Compliance Traps And Everyday

Mistakes To Stop Making

Thinking PPE is the plan. High-vis and hard hats are not a strategy; they're backups. If the only thing between a worker and a loader is a vest, you don't have a control plan; you have a hope. WorkSafeBC's guidance stresses layered controls for good reason.

Letting "quick tasks" bypass immobilization. The tractor-at-the-gate and service-truck-by-the-loader cases are familiar: someone steps out "just for a second," and the machine moves. The Regulation requires redundant immobilization (brake, park/neutral, chocks when needed) **before** leaving the seat. Make it a non-negotiable ritual and check it.

Standing inside the swing or roll path. People stabilize loads by hand, walk on log decks, or cut restraints before zones are cleared. Section 16.10 gives you the authority to bar those practices; use it, and redesign the task so the load – not the person – does the moving.

Assuming experience equals competence. Long tenure can breed shortcuts. Verify competence against the current task and equipment. When new machines arrive; like a crane, excavator, or telehandler; don't green-light work until operators demonstrate proficiency under supervision. Past incidents have shown fatal outcomes where new equipment was in use before training caught up.

Weak communication discipline. If the rule is "make eye contact," you don't have a rule. Require clear hand signals or radio calls, standardize them across crews and contractors, and drill them until they're automatic. Then audit for signal use in the field.

Exclusion zones in paint only. Tape and paint aren't barriers. If a zone matters, guard it with rails, chains, bollards, or

locked gates. Where temporary zones are needed, use cones with signage and a spotter to enforce entry.

Leaving investigations on the shelf. A tidy report that leads to no change is a compliance and moral failure. Assign actions with owners and dates, publish progress, and re-audit the scene to verify the fix. WorkSafeBC's investigation resources exist to drive real improvement, not create binders.

Forgetting the worker alone. Agriculture and remote forestry often involve solo work. If you must work alone around mobile equipment, the procedure must scale up: more conservative immobilization, check-in systems that actually work, and tasks designed to avoid line-of-fire positions. WorkSafeBC's tractor investigations highlight how lack of a working-alone program compounds harm.

Using Data To Keep Urgency High

When leaders see the numbers, they tend to move. Leverage current data to maintain focus:

- **Canada-wide:** in 2023, **59,495** accepted lost-time claims were due to "contact with objects and equipment." That's the single largest event category nationally. Your company's risk profile sits inside that national picture; you're not the exception.
- **B.C. construction:** WorkSafeBC's inspectional approach specifically targets struck-by injuries from mobile equipment because they're among the top drivers of serious harm. Your inspection risk is higher where your control plan is weak.
- **B.C. wide, workers on foot:** the regulator reports **over 550** serious injuries and fatalities in the last decade from strikes by vehicles or mobile equipment. That's not a background number; that's a trend line you can bend.
- **Forestry:** recent incident bulletins continue to feature log roll-offs, swinging parts, and struck-by events;

proof that line-of-fire isn't an abstract concept in the bush; it's a daily variable to be managed. Share these incident summaries in tailgates; they're short, real, and memorable.

A Simple But Non-Negotiable Playbook

Talk is cheap; controls are not. Here's how to translate everything above into daily practice without flooding your crews in bureaucracy.

1) Draw the map. Walk the site with operations, maintenance, and your JHSC. With a marker and floor plan, highlight every point where people and moving energy interact. Mark the highest-risk interactions first: reversing, turning, loading, log handling, crane lifts, tool-change ejection risks. Use WorkSafeBC's struck-by guide and templates to structure the review.

2) Build separation into the place, not the person. Where the map shows overlap, change the layout. Install guardrails. Re-route forklifts to keep them off pedestrian aisles. Use swing-radius barriers around slewing equipment. In the woods, formalize safe work areas and limit the number of people who ever enter them. In agriculture, keep gates and chokepoints clear of parked equipment and set hard rules about dismounting only after immobilization.

3) Make immobilization and signals a ritual. Teach the parking sequence more than once; treat it as a critical skill. Standardize hand signals and radio calls; test them in onboarding, refresh them quarterly, and audit in the field. Back the ritual with clear discipline: skip the ritual, stop the task.

4) Prove competence and keep receipts. For each

struck-by-sensitive job; operators, riggers, spotters, signalers; document training, evaluation, and authorization to operate. When equipment changes, re-evaluate competence before production resumes. A near-miss is your cue to re-train, not to write a memo.

5) Investigate near misses like claims. Use quick-turn investigations that look for system fixes: better barriers, revised layouts, different tools, clearer signals; not just “re-train the worker.” Publish learnings; close the loop so crews see that reporting near misses gets results. WorkSafeBC’s investigation materials provide a model and even a walkthrough video for employers.

6) Inspect what you expect. Add line-of-fire checks to supervisor and JHSC inspections: Are exclusion zones intact? Are spotters actually used? Are loads stabilized mechanically, not by hand? Are chocks present and used? Are swing-radius areas blocked off? Tie findings to corrective actions with dates.

7) Keep the message human. Share the incident summaries WorkSafeBC publishes. They are concise and visceral. If you supervise a forestry crew, put the August bulletin up in the dry shack; if you run a farm, show the tractor rollover video during the next safety talk. Stories change behavior.

Canadian Jurisdictional Requirements For “Competent/Qualified” Workers And Jhsc/Rep Training

While struck-by hazards happen in every province and territory, the legal levers you can pull to prevent them aren’t identical across Canada. “Competent” and “qualified” person requirements, plus Joint Health and Safety Committee

(JHSC) training rules, vary enough that a one-size-fits-all approach can leave gaps. The table below distills those differences so you can see, at a glance, what your jurisdiction expects; whether that's a certified operator behind the controls of a loader, a trained JHSC member spotting for equipment, or a clock ticking on how fast training must be completed.

Jurisdiction	Definition of "Competent" / "Qualified"	Examples of Jobs Requiring Competent/Qualified Status	JHSC/Rep Training Requirement	Certification Requirement	Training Completion Deadline	Educational Leave Entitlement
Federal	Uses "qualified" in place of "competent" – must have knowledge, training, and experience to perform work safely and in compliance with law.	Operation of mobile equipment, cranes, hot work, hazardous substance handling.	All JHSC members + Reps	None	Not specified	None
Alberta	"Competent" means able to perform work safely with no/minimal supervision, with required knowledge/training/experience.	Confined space assessments, powered mobile equipment, fall protection installation, welding, hazardous substances.	All JHSC members + Reps	None	Not specified	All JHSC members + Reps (length not specified)
British Columbia	Uses "qualified" for baseline competency – must be knowledgeable, experienced, and trained; some jobs have specific certifications (e.g., Certified Utility Arborist).	Logging/falling near power lines, lift trucks, scaffolds, hazardous atmosphere testing.	All JHSC members + Reps	None	Within 6 months of selection	8 hrs/year for JHSC members only
Manitoba	"Competent" = knowledge, training, experience to do work safely and comply with law.	Mobile equipment operation, crane inspections, hot work.	All JHSC members + Reps	None	Not specified	16 hrs/year or 2 shifts for JHSC members/Reps (some exceptions)
New Brunswick	"Competent" includes knowledge of hazards, OHS law, ability to organize work.	Confined space, mobile equipment, hot work.	All JHSC members + Reps	Yes – all members + Reps	Within 12 months of designation (co-chairs must be trained before acting)	None
Newfoundland	Similar to NB definition; high-risk jobs require additional credentials.	Crane operations, fall protection install, hazardous substance handling.	<20 workers: Rep; 20–49: JHSC co-chairs only; 50+: all members	Yes – see previous column	Not specified	None
Northwest Territories	"Competent" = trained, knowledgeable, experienced.	Mobile equipment, hot work, hazard assessments.	JHSC co-chairs + Rep	None	Not specified	Education leave – length not specified.
Nunavut	Same as NWT.	Same as NWT.	JHSC co-chairs + Rep	None	Not specified	Education leave – length not specified

Jurisdiction	Definition of “Competent” / “Qualified”	Examples of Jobs Requiring Competent/Qualified Status	JHSC/Rep Training Requirement	Certification Requirement	Training Completion Deadline	Educational Leave Entitlement
Nova Scotia	“Competent” definition similar to national standard.	Same as above.	Not specified	None	Not specified	None
Ontario	Strictest: knowledge of OHS requirements and hazards, ability to organize work.	Overhead crane ops, confined space testing, hazardous substances, hot work.	At least 1 worker + 1 management JHSC member certified; all non-certified members + Rep trained.	Yes – at least 1 worker + 1 management JHSC member	Not specified	None
Prince Edward Island	Standard “competent” definition.	Same as above.	Not specified	None	Not specified	None
Québec	“Competent” = knowledge, training, experience to work safely.	Construction site JHSC work, hazardous operations.	All JHSC members + Reps at construction sites	Yes – see previous column	Not specified	None
Saskatchewan	Standard definition.	Mobile equipment, hazard assessments, hot work.	JHSC co-chairs + Rep	None	Not specified	Up to 5 working days/year for JHSC members + Reps
Yukon	Uses “qualified” as baseline term; gradations apply by task.	Utility arborist work, hazardous atmosphere testing, crane ops.	JHSC co-chairs + Rep	None	Orientation within 90 days; full training within 6 months	None

Notes for Safety Managers:

- **Competency** requirements affect struck-by hazard control directly – mobile equipment, cranes, logging, and load-handling tasks almost always require competent/qualified operators.
- **Training deadlines** are enforceable; missing them can result in fines (e.g., Ontario’s Syri-Con case).
- **Educational leave** must be provided where applicable – failure to allow paid time off for JHSC training in those jurisdictions is a compliance breach.
- **Audit Integration:** When doing OHS audits, verify that your competency records and JHSC training compliance match your jurisdiction’s line items – these are easy wins for inspectors looking for non-conformance.

Closing The Gap Between “Knowing” And “Doing”

Struck-by hazards feel obvious in hindsight. That’s what makes them so dangerous. We notice the loader, but not the log that can roll. We see the parked tractor, not the inch of slope and the missing chock. We intend to stand back “just for a second,” but physics only needs a second.

Compliance gives you authority and a framework. Data gives you urgency. But prevention happens in design and habits: the guardrail that keeps people out of the swing, the spotter who won’t wave someone in without a call, the operator who won’t leave a cab until brake-park-chock are done, the supervisor who’s more proud of a near-miss report than a spotless “no incident” board.

The two B.C. fatalities you shared are personal to those families and crews; and they’re instructive for the rest of us. If you use them to tighten your struck-by controls, redesign a chokepoint, install a barrier, codify a ritual, or verify competence before the next lift or the next gate, you honour the lessons built into those tragedies.

The payoff is real. WorkSafeBC’s own focus, from forestry safe-work areas to mobile-equipment campaigns, is aimed at the same outcome: fewer names in summaries, fewer “if only” conversations, fewer crews walking past flowers by a gate or a loader track. That’s the goal. And it’s achievable when we take workers out of the line of fire; by design, every time.