



Transportation
Safety Board
of Canada

Bureau de la sécurité
des transports
du Canada

KEY SAFETY ISSUES

in Canada's transportation system

2018



WATCHLIST

ABOUT WATCHLIST 2018

While Canada's transportation system is considered to be one of the safest in the world, that doesn't mean it's free from risks or safety deficiencies. Accidents still happen, and TSB investigations continue to highlight serious underlying factors that are all too common.

Watchlist 2018 features seven such safety issues that must be addressed to make Canada's transportation system even safer: two that are specific to Canada's aviation sector, one to the marine sector, and one that affects our railway system. The remaining issues impact all three transportation sectors.

Fixing these complex issues won't be easy, which means all those involved – individual employees, organizations, and sometimes multiple levels of government – must work together. Operators, for instance, will need to consult with unions to change work practices and integrate technology. Legislators and central agencies, meanwhile, will have to find ways to accelerate the pace of regulatory change.

As for the TSB, we will work hard to make sure the call to action is heard – and heeded – by everyone. The issues will remain on the Watchlist until the required actions are taken. We will monitor progress and hold change agents to account by reporting publicly on what they promise and what they deliver. Even the hardest problems have a solution – and when it comes to the safety of people and the integrity of our infrastructure and environment, Canada can't afford to be anything other than a world leader.



Detailed information on each
Watchlist issue is available at
[tsb.gc.ca/Watchlist](https://www.tsb.gc.ca/Watchlist)



Fatigue management

In the transportation industry, crews often work long and irregular schedules – sometimes crossing multiple time zones or in challenging conditions – that are not always conducive to proper restorative sleep. Fatigue poses a risk to the safety of freight train, marine and air operations because of its potential to degrade several aspects of human performance.

Actions required



RAILWAY SECTOR

- Transport Canada has to develop a policy framework for the management of fatigue based on its review of fatigue management systems, fatigue science, and best practices.
- Transport Canada must work with industry, employee representatives and fatigue science specialists to develop a comprehensive approach to fatigue management.
- Transport Canada needs to complete amendments to the *Work/Rest Rules for Railway Operating Employees, 2011*, based on fatigue science.



MARINE SECTOR

- Transport Canada must require that watchkeepers whose work and rest periods are regulated by the *Marine Personnel Regulations* receive practical fatigue education and awareness training to help identify and prevent the risks of fatigue.
- Vessel owners must be required to implement fatigue management plans, including education on the detrimental effects of fatigue and support to mariners in reporting, managing and mitigating fatigue.
- Transport Canada must review the domestic hours of work and rest provisions in the *Marine Personnel Regulations* in light of the most recent knowledge from fatigue science and, at a minimum, ensure consistency with the *International Convention on Standards of Training, Certification and Watchkeeping for Seafarers*.



AVIATION SECTOR

- Transport Canada must publish revised flight and duty-time limitation regulations.
- Where required, Canadian air operators need to implement fatigue risk management systems to address fatigue-related risks specific to their operation.

Safety management and oversight

Some transportation operators are not managing their safety risks effectively, and many companies are still not required to have formal safety management processes in place. Transport Canada's oversight and intervention are not always effective at changing unsafe operating practices.

Actions required

- Transport Canada must implement regulations requiring all commercial operators in the air and marine industries to have formal safety management processes, and oversee these processes effectively.
- Transportation operators that do have a safety management system have to demonstrate to Transport Canada that it is working: that hazards are being identified and effective risk-mitigation measures are being implemented.
- Transport Canada needs to intervene when operators are unable to manage safety effectively, and do so in a way that succeeds in changing unsafe operating practices.

Slow progress on addressing TSB recommendations

Actions taken to fix long-standing, high-risk safety deficiencies in the air, marine, and rail modes of transportation have been too few and too slow.

Actions required

- Transport Canada must take the actions needed to reduce the number of active recommendations that are more than 10 years old so that all recommendations that would bring Canada in line with international standards are addressed, and so that there is a marked reduction in the remaining outstanding recommendations for which the regulator has indicated its agreement.
- Change agents targeted by the existing 28 dormant recommendations need to demonstrate to the TSB that residual risk has been reduced to an acceptable level so that these recommendations can be closed.
- The Government of Canada must review and improve interdepartmental processes for expedited implementation of safety recommendations in the air, rail, and marine modes of transportation.



Risk of collisions from runway incursions

Runway incursions lead to an ongoing risk of aircraft colliding with vehicles or other aircraft at Canadian airports.

Actions required

- Transport Canada and all sectors of the aviation industry must continue to collaborate and develop tailored solutions to identified hazards at Canadian airports. These solutions could include improvements in air traffic control procedures, surveillance and warning systems, runway and taxiway designs, holding position visual aids, and flight crew training and procedures.
- Modern technical solutions, such as in-cockpit electronic situational awareness aids, and direct-to-pilot warnings, such as runway status lights, should also be implemented.
- These actions must lead to a sustained reduction in the rate of runway incursions, particularly the most severe ones.

Runway overruns

Despite the millions of successful movements on Canadian runways each year, runway overrun accidents sometimes occur during landings or rejected takeoffs. The consequences can be particularly serious when there is no adequate runway end safety area (RESA) or suitable arresting material.

Actions required

- Operators of airports with runways longer than 1800 metres must conduct formal runway-specific risk assessments and take appropriate action to mitigate risks of overrun to people, property, and the environment.
- Transport Canada must adopt at least the International Civil Aviation Organization standard for RESAs, or a means of stopping aircraft that provides an equivalent level of safety.



Commercial fishing safety

Every year, safety deficiencies onboard fishing vessels continue to put at risk the lives of thousands of Canadian fish harvesters and the livelihoods of their families and communities. Various initiatives have sparked the development of a safety culture within the industry, but progress has been slow, sporadic, and localized.

Actions required

- Federal and provincial authorities need to coordinate regulatory oversight of commercial fisheries to eliminate any existing gaps.
- Transport Canada must publish and promote user-friendly guidelines on vessel stability designed to reduce unsafe practices.
- Fish harvesters must become familiar with and adopt the new stability guidelines and the 2017 *Fishing Vessel Safety Regulations* to the extent that their change in practice is reflected in TSB investigations and focus group consultations with the industry.
- Spurred by the leadership of industry and safety advocates, there must be marked and widespread evidence – notably in TSB investigations – of behavioural changes among fish harvesters with respect to the use of flotation devices, immersion suits, emergency signaling devices, and safe work practices.



Following railway signal indications

Train crews do not consistently recognize and follow railway signals. This poses a risk of train collisions or derailments, which can have catastrophic consequences.

Action required

- Transport Canada must require that railways implement additional physical safety defences to ensure that signal indications governing operating speed or operating limits are consistently recognized and followed.

The Transportation Safety Board of Canada is an independent agency that makes transportation safer by investigating air, marine, rail and pipeline transportation occurrences, and by communicating the results to Canadians.

For more information, visit [tsb.gc.ca](https://www.tsb.gc.ca) or contact us at 819-994-8053 or communications@bst-tsb.gc.ca.



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