



WATCHLIST 2018

Key multimodal safety issues
in Canada's transportation system



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.

The situation

Since its creation in 1990, the Transportation Safety Board of Canada (TSB) has issued 598 recommendations aimed at fixing systemic safety deficiencies in the modes of transportation under federal jurisdiction. Some recommendations were made to industry or provincial authorities, but the vast majority were directed to Transport Canada as the regulator. In some cases, although the minister agreed with the recommendation, the department did not take sufficient or timely action.

Outstanding TSB recommendations

At October 2018, 62 recommendations (more than 10% of all TSB recommendations) that were issued more than 10 years ago still had not been fully addressed.¹ There are various reasons for the slow implementation of recommendations, including protracted studies; delays in publishing regulations; changes in course of action; lack of consensus among stakeholders; voluntary rather than mandatory measures, which also create uneven safety standards; jurisdictional issues; and the need to harmonize standards across jurisdictions.

As the table below shows, the lack of progress is more pronounced in the air and marine sectors. There are also old recommendations on most of the current Watchlist issues and for other important safety deficiencies. For example:

- The TSB has made several recommendations² since the 1990s for improved flight data recorders and cockpit voice recorders, but Transport Canada still has not harmonized Canadian requirements with international standards.

¹ See the list of slow progress recommendations that were more than 10 years old at 3 October 2018.

² TSB recommendations A94-04, A99-02, and A99-03.



- The new *Fishing Vessel Safety Regulations* (parts I and II), which came into force in July 2017 after repeated delays, do not sufficiently address the safety deficiencies related to immersion suits, stability information, and emergency signaling devices. Further amendments (Part III, IV and the *Large Fishing Vessel Inspection Regulations*) are in progress or have not yet begun, leaving safety gaps such as the lack of high water level detectors.³
- The Canadian railway industry still lags behind U.S. standards on physical protection against signal misinterpretation (e.g., automated train control) despite a 17-year-old TSB recommendation on backup safety defences.⁴

Table 1. Total outstanding TSB recommendations 10 years or older at October 2018

Mode	Active	Dormant	Age			Total
			10 years old to less than 15 years old	15 years old to less than 20 years old	20 years old or older	
Aviation	19	*26	13	17	15	*45
Marine	**12	0	4	2	6	**12
Rail	3	2	1	3	1	5
Total	34	28	18	22	22	62

Notes:

Active recommendations are those where the Board has determined that the residual risk associated with the deficiency is sufficient to warrant continued TSB involvement.

Dormant recommendations are those where there is a residual risk but no further action is planned to be taken and continued re-assessment will not likely yield further results. Dormant recommendations will not be re-assessed on a regular basis. However, occasional reviews will be conducted to see if any dormant recommendations should be reactivated and/or reassessed. The Board may also reassess a dormant recommendation at any time if actions have been taken which significantly reduce the residual risk.

* Includes 3 recommendations directed to the Federal Aviation Administration (FAA) of the United States, and 2 recommendations addressed to European aviation authorities.

** Includes 2 recommendations addressed respectively to provincial and pilotage authorities.

Delays compound issues and risks

When timely actions are not taken on TSB recommendations, safety deficiencies persist and continue to pose a risk for the safety of people, property, and the environment. For example:

- Two decades ago, the Board recommended numerous changes to seaplane regulations, including the use of a personal flotation device by all occupants, seaplane pilot training and testing requirements, and seaplane instructor qualifications.⁵ To date, the safety deficiencies identified in these recommendations have still not been fully addressed.

³ TSB recommendations M92-07, M94-06, M94-33, and M00-09.

⁴ TSB Recommendation R00-04.

⁵ TSB recommendations A93-15, A93-16, A93-17, A93-18, and A94-07.

- In 2007, the Board also recommended that all Canadian runways in excess of 1800 m have a 300 m runway end safety area (RESA).⁶ Given delays in implementing this recommendation, there is a persistent risk of adverse consequences resulting from runway overruns.⁷
- The remaining safety gaps⁸ in the new *Fishing Vessel Safety Regulations* (parts I and II) and delays in amending the regulations for large fishing vessels⁹ still present an ongoing safety risk for a large number of fishermen, as evidenced by the number of fatalities reported.
- In the railway sector, there is still no short-term plan to address the risk of train collision or derailment in the absence of additional backup safety defences.¹⁰ Yet data show that railway movements exceeding limits of authority have increased over time.¹¹

In issuing a recommendation, the Board generally takes into account the relevant international standards. Long delays in taking action increase the likelihood of falling behind international standards and perpetuate any existing gaps. This has been the case, in particular, for cockpit voice recorders and runway end safety areas.

Finally, if the underlying regulatory process does not change, undue delays will likely persist and increase the backlog of old outstanding recommendations.

Actions taken

Raising the issue

The slow response to recommendations was first highlighted as part of Watchlist 2016. At that time, the Chair of the TSB reached out to the Minister of Transport, who welcomed the Watchlist in a statement indicating that the safety of the transportation system is a top priority.¹² Since then, TSB senior officials have continued to raise the issue at numerous outreach events and during several parliamentary appearances.

Slow and partial response

In 2017–18, Transport Canada agreed to collaborate with the TSB to review and update its responses to all old recommendations. Some encouraging progress was made, but the Department missed some key timelines and requirements for the submission of updates. Based on this initial effort and the TSB's own research, the number of active recommendations

⁶ TSB Recommendation A07-06.

⁷ From January 2007 to the end of September 2018, the TSB was notified of 113 runway overruns that occurred during the landing phase in Canada. Of these, 3 resulted in fatalities, and 20 caused serious injuries.

⁸ TSB recommendations M92-07 and M94-33.

⁹ TSB Recommendation M94-06.

¹⁰ TSB Recommendation R00-04.

¹¹ Transportation Safety Board of Canada, Statistical Summary: Railway Occurrences in 2017, Table 1. Railway occurrences and casualties 2007–2017, Reportable incidents, Movement exceeds limits of authority, at <http://www.tsb.gc.ca/eng/stats/rail/2017/sser-ssro-2017.asp>

¹² Transport Canada, “Minister Garneau responds to Transportation Safety Board of Canada’s Watchlist,” at <https://www.canada.ca/en/transport-canada/news/2016/10/minister-garneau-responds-transportation-safety-board-canada-watchlist.html>

outstanding for more than 10 years dropped from 52 in 2016 to 34 in October 2018. On the other hand, the number of old dormant recommendations increased slightly from 27 to 28.

Most of the progress achieved since 2016 is due to changes in the operating environment or voluntary actions taken by industry. Transport Canada has made limited progress on regulatory actions. Furthermore, Transport Canada and central agencies have not undertaken the necessary actions to improve and accelerate the regulatory process for implementing responses to safety recommendations.

Actions required

This issue will remain on the Watchlist until the following measures have been taken:

- Transport Canada takes 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 demonstrate to the TSB that the residual risk has been reduced to an acceptable level so that these recommendations can be closed.
- The Government of Canada reviews and improves interdepartmental processes for expedited implementation of safety recommendations in the air, rail, and marine modes of transportation.