



TSB Recommendation M24-03

Accurate passenger count of all passengers including a separate count of children and infants on all voyages

The Transportation Safety Board of Canada recommends that the Department of Transport implement a process to validate that passenger vessels are keeping an accurate count of all passengers, including a separate count of the number of children and infants, on all voyages.

Marine transportation safety investigation report	M22C0231
Date the recommendation was issued	19 August 2024
Date of the latest response	November 2024
Date of the latest assessment	March 2025
Rating of the latest response	Satisfactory in Part
File status	Active

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Summary of the occurrence

On 20 August 2022, at around 1700 Eastern Daylight Time, the passenger ferry *Sam McBride*, with 6 crew members and approximately 910 passengers on board, struck the dock while berthing at the Jack Layton Ferry Terminal in Toronto, Ontario. Twenty passengers were reported injured. Emergency services responded to the occurrence and 6 of the injured passengers were taken to hospital. The vessel and dock sustained damage. No pollution was reported.

The *Sam McBride* is a double-ended ferry, meaning that it has propellers at both the forward and aft ends. The TSB's analysis of security footage from the occurrence voyage determined that the vessel was travelling at 5 knots when it passed the first mooring dolphin on its way to the dock, while the speed of approach on other transits that day had been approximately 3 knots. The footage also showed that only the aft propeller was turning as the *Sam McBride* approached

the dock. The aft propeller alone was not enough to stop the *Sam McBride* from striking the dock, given the vessel's speed and distance from the dock.

Post-occurrence sea trials indicated that both the forward and aft engines and their control systems were in good working order. As well, the engine control modules for the forward and aft engines did not show any fault codes or events for the day of the occurrence. The investigation was unable to determine why the forward engine and propeller did not engage to slow the vessel on the occurrence voyage.

On the day of the occurrence, the *Sam McBride* had made 8 runs, 6 of which were at full capacity, and was behind its published schedule. When many people were waiting for the ferry and it was behind schedule, as in this case, crews on City of Toronto ferries expedited crossings to address passenger backlog by transiting faster and/or reducing the time it took to dock by approaching at higher speeds and slowing down at a faster rate. The City of Toronto did not have written procedures that defined a safe speed of approach during docking, which meant that decisions around docking speed were at the discretion of masters and might be influenced by operational pressure. The City of Toronto has since put in place documented procedures for docking.

The Board concluded its investigation and released report M22C0231 on 19 August 2024.

Rationale for the recommendation

In any emergency, it is essential to have an accurate count of passengers. Without an accurate count, a crew and emergency responders will be unable to determine if all passengers have been accounted for. To this end, the *Fire and Boat Drills Regulations* require that, before a passenger vessel sails, the master be provided with the number of persons on board and with details of persons who have declared a need for special care or assistance during an emergency. On voyages of 12 hours or more, there is also a requirement to keep a separate count of the number of children and infants; however, there is no such requirement for voyages of less than 12 hours.

When passengers were boarding the *Sam McBride* or other Toronto Island Park ferries, the number of passengers was estimated (counted in groups of 5 to 10) by a member of the crew and tracked using a hand-held tally counter. However this method did not give the exact number of passengers boarding and meant that, in the event of an emergency, it would not be possible to account for all passengers. As well, the Toronto Island Park ferries did not keep a separate count of children and infants on board, nor were they required to. However, this meant that there was no way to determine whether there was an adequate number of lifejackets available in the appropriate sizes for the passengers on board.

Although TSB Recommendation M08-01 addressing passenger counting procedures on board ferries was closed as Fully Satisfactory in July 2010, 4 subsequent investigations have shown that the provisions in the *Fire and Boat Drills Regulations* requiring an accurate count of passengers are not being consistently met. If there is no accurate method to count passengers

boarding a vessel, there is a risk that not all passengers will be accounted for in an emergency. Furthermore, if there is no method to identify passengers that require special care or additional assistance during an emergency and there are no provisions in place to provide this additional assistance, the safety of these passengers may be compromised.

Therefore, the Board recommended that

the Department of Transport implement a process to validate that passenger vessels are keeping an accurate count of all passengers, including a separate count of the number of children and infants, on all voyages.

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Previous responses and assessments

N/A

Latest response and assessment

November 2024: response from Transport Canada

Transport Canada agrees with Recommendation M24-03. Without confirmation that an accurate count of passengers has taken place prior to a voyage, it is impossible to validate that key safety components are being met, including requirements for an adequate number of lifejackets to be available in the appropriate sizes for passengers on board, particularly children and infants.

Under Transport Canada's *Fire and Boat Drills Regulations*, operators of passenger vessels are required to record the number of persons on board prior to the beginning of a voyage. However, they are not required to specifically differentiate between adults, children, and infants in their count, unless the vessel is engaged on an unlimited voyage or a near coastal voyage, Class 1, or if the voyage is longer than 12 hours in duration. In response to this recommendation, Transport Canada will engage in a national consultation with operators of passenger vessels while undertaking a separate study led by the Department to assess the potential impacts of expanding the current, differentiated passenger count requirements in the *Fire and Boat Drills Regulations* to passenger vessels engaged on sheltered waters voyages. Given the unique logistical operating conditions for these vessels, additional information is needed to assess economic and operational impacts such an expansion could have on the passenger vessel fleet. However, should results from the consultations and study indicate these concerns could be mitigated, Transport Canada will explore making regulatory amendments to require that all passenger vessels differentiate between adults, children, and infants on their counts.

While this exploratory work is underway, Transport Canada will issue a notice to the passenger vessel industry to remind them that, as per requirements under Transport Canada's *Life Saving Equipment Regulations* and *Vessel Construction and Equipment Regulations*, operators must ensure they have an appropriately sized lifejacket for each person on board, including children

and infants. The notice to industry will make clear that, in order to properly operationalize this requirement, accurate passenger counts to differentiate between passenger ages must be undertaken prior to the beginning of a voyage. Transport Canada will measure and evaluate the response from industry toward this notice and engage in follow-up discussions with operators as required.

Further, Transport Canada will update its Transport Publication (TP) 4957: Marine Emergency Duties Training Courses, as it pertains to crew familiarization training, to further emphasize the importance of conducting accurate passenger counts and maintaining a separate count of children and infants. Transport Canada will also conduct a review of its instructions for marine safety inspectors and recognized organizations to ensure all inspections undertaken to endorse a passenger vessel's safety management system include specific verification that appropriate vessel [passenger] counts are included in the vessel's operating procedures.

March 2025: TSB assessment of the response (Satisfactory in Part)

The Board appreciates that Transport Canada (TC) will issue a notice to industry, reminding passenger vessel operators of the current regulatory requirements for accurate passenger counting, including a separate count of children and infants. However, the Board is unclear on the need for regulatory consultations related to creating differentiated passenger count requirements in the *Fire and Boat Drills Regulations*, given that the regulatory requirements are already in place. Updated requirements for Marine Emergency Duties training that emphasize the importance of having accurate passenger counts may be a helpful change for future occurrences, but in the absence of refresher training requirements, the short-term impact of this change will be small.

The addition of a step for marine safety inspectors and recognized organizations to verify that procedures for passenger counting are included in a vessel's operating procedures is positive and will help to improve practices on board vessels that may not have had such procedures available. However, given that practices may drift from written procedures over time, verifying procedures are in place only partially addresses the safety deficiency. The Board highlights that its recommendation was to implement a process to **validate** that passenger vessels are keeping an accurate count of all passengers, including a separate count of the number of children and infants, on all voyages. This is essential to help ensure that there are enough appropriately sized lifejackets on board for every passenger and to ensure that every passenger is accounted for in an emergency.

Therefore, the Board considers TC's response to Recommendation M24-03 to be **Satisfactory in Part**.

File status

This deficiency file is **Active**.