



**CHILD PASSENGER
SAFETY ASSOCIATION
OF CANADA**



**L'ASSOCIATION POUR
LA SÉCURITÉ DES ENFANTS
PASSAGERS DU CANADA**

Recommendations for Car Seats on Aircraft for Children Under Two

24-Apr-2018

Transport Canada has [requested feedback](#) from the Canadian public to inform policy relating to child restraint systems for children under two years onboard commercial flights.

The Child Passenger Safety Association of Canada (CPSAC) strongly urges Transport Canada to adopt policies which require all passengers to be securely restrained on commercial flights.

The Child Passenger Safety Association of Canada recommends that:

1. Transport Canada adopt policies which require all passengers including children under 2 years of age to be appropriately restrained on commercial flights in a car seat or restraint suitable for their size and age.
2. Transport Canada requires education to be provided by airlines when purchasing a ticket for a child passenger so that parents are aware of the limitations of the aircraft seat and the available options (ie. a car seat that fits within specific dimensions or a CARES harness that is available).
3. Transport Canada adopt policies that if an approved child restraint system does not fit in a particular seat on the aircraft it is the responsibility of the aircraft operator to accommodate the child restraint system in another seat in the same class of service.
4. Transport Canada requires that gate and flight crew receive education on policies and procedures to assist parents to securely and appropriately restrain children.
5. Transport Canada works with industry to increase availability and accessibility of options for children to be appropriately restrained. Options to consider include:
 - a. Provide a CARES harness for families who need it. This could be an option offered by the airline when booking a flight or provided on board as needed.
 - b. Develop an option for infants who do not yet fit a CARES harness and must ride semi-reclined and rear facing.

The following factors were considered:

Injury Prevention

In Canada, injury is a major public health concern and the leading cause of death. Furthermore, fatalities do not represent the complete burden of injury. Every year in Canada there are hundreds

of thousands of hospital admissions, millions of emergency department visits, and tens of thousands of Canadians are either partially or permanently disabled due to injury.¹ Injury prevention aims to reduce both the incidence and severity of injury in Canada through enforcement, engineering, and education.

While fatalities of child passengers on airplanes are fairly rare, the burden of injury is still significant. Children under 2 years of age make up less than 1% of passengers, but represent 35% of pediatric in-flight injuries.² Lap held infants traveling on airplanes are not afforded the same level of protection as their adult counterparts and as a result are at an increased risk of injury.

Pediatric in-flight injuries are relatively infrequent given the total passenger traffic but are not negligible. Unrestrained lap children are prone to in-flight injuries, particularly during meal service or turbulence, but not only then. Children occupying aisle seats are vulnerable to injury from falling objects, aisle traffic, and burns from mishandled hot items. The possible protection from using in-flight child restraints might extend beyond takeoff and landing operations or during turbulence.³

Basing the evaluation of the relative worth of a requirement for appropriate child restraints solely on the number of historic injuries and deaths overlooks the fact that every lap-held child traveler lacks adequate protection.⁴

No Evidence for Diversion to Road Travel

The argument that requiring car seats for all passengers who do not appropriately fit the aircraft seat/belt will cause families to drive instead, and thus suffer greater risk of injury or fatality on the road, is complex and not supported by evidence.⁵ In 2004 the National Transportation Safety Board (US) evaluated the diversion to road travel theory and determined that:

“...In extreme cases, diversion from air travel may result in increased risk of fatality or injury for some specific vehicle, trip, and driver types, but this accident risk is not evenly distributed and no evidence was found to suggest an increased risk for children under 5 years old. In total, there does not appear to be a clearly defined relationship between diversion from air travel and highway accidents or injury. In fact, despite the acknowledged difference in relative risk between road and commercial airline travel in the United States, and the largest diversion from air travel in U.S. history during recent years, road fatalities and injuries for children under 5 years old have continued to decrease.”⁴

Requirements for Securement of Passengers and Projectiles

Transport Canada’s own airworthiness requirements⁶ state that “each seat...must be designed so that a person making proper use of these facilities will not suffer serious injury in an emergency landing,” but does not afford equal protection and safety to passengers who do not fit the seat or belt correctly, or those under the age of two on a caregiver’s lap. This approach is inconsistent with all other national policies on safe transportation,⁷ and all passengers are worthy of equal protection regardless of age or size.⁴

Airworthiness requirements also state that passengers must stow loose items during take-off and landing in appropriate stowage locations,^{8,9} yet those same passengers can hold a child on their lap. These “items of mass” are a risk to other passengers as they are now unsecured projectiles loose in the cabin.

Fit to Aircraft Seat

While all harnessed car seats in Canada are approved for use on aircraft, this does not guarantee every car seat will fit on every plane. American regulations require that “if an approved child restraint system, for which a ticket has been purchased, does not fit in a particular seat on the aircraft, it is the responsibility of the aircraft operator to accommodate the child restraint system in another seat in the same class of service.”¹⁰ Children on Canadian flights should be afforded the same consideration.

To provide families and airlines with options it is our recommendation that alternatives to car seats be made available at airports, when booking a ticket, or when boarding an aircraft, whether it be for an added fee or no charge. The CARES harness may be made available for those children between 10-20 kg (22 to 44 lb) in weight, less than 100 cm (40 inches) tall and who are capable of sitting upright without assistance in a forward-facing position.

Integrity and Location of Car Seat at Destination

Bringing a car seat on board an aircraft also ensures the integrity and location of the car seat upon arrival. To align with Canada’s Road Safety Strategy¹¹ and the Motor Vehicle Safety Act¹² requiring all passengers to be appropriately secured in a vehicle, a family who maintains control of their seat throughout their trip does not risk it being damaged by the baggage handling process or being delayed or lost,¹³ putting them in a position of not having a safe or legal way to transport their child at their destination.

Education for Use of Seats

Feedback from families indicates that preparing for travel is often stressful. Copies of advisory circulars¹⁴ and printouts of airline car seat policies^{15,16} are frequently recommended to be prepared ahead of time in order to allow for a smoother travel experience. A widespread education program is needed among gate and flight crew to assist and enable families to use their car seats on board. Many of the car seats now used to transport children to and from airports end up flying as checked baggage while those children ride in the cabin unprotected.⁴

Appendix A: Transport Canada background documents and request for input

References

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Appendix A to CPSAC's Recommendations for Car Seats on Aircraft for Children Under Two

Transport Canada introductory document (as of 24-Apr-2018):

<https://letstalktransportation.ca/car-seats>

Car Seats on Planes

Transport Canada is conducting a review to consider the risks and benefits of making child restraint systems (car seats) mandatory on board commercial flights for children under two years.

Seats and lap belts on board today's commercial aircraft are not well suited to safely restrain infants or children under a certain weight and/or height. Children under two years may be held in an adult's arms during a flight; however, parents and caregivers may choose to restrain them in a car seat or other child restraint systems designed for use on board an aircraft. Although not mandatory, the use of car seats on aircraft has been permitted in Canada since 1990.



We would like to hear your thoughts on car seats and other child restraint systems on board aircraft for children under two years. Your input will help inform the department's policy direction. Please read our background document and have your say. There are two ways to participate:

- Send a formal written submission via the "Submissions" tab, by April 30th, 2018;
- Participate in our discussion forum via the "Have Your Say" tab. The forum will be open until April 30th, 2018.

To participate, please click "register" at the top of the page or sign in.

1. Should car seats (or other child restraint systems) be mandatory on planes for children under two?

2. How would mandatory car seats (or other child restraint systems) on planes for children under two impact your air travel?

Transport Canada: Background document on child restraint systems (as of 24-April-2018)

<http://www.tc.gc.ca/eng/mandating-child-restraint-systems-commercial-aircraft.htm>

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Mandating child restraint systems in commercial aircraft

From [Transport Canada](#)

Transport Canada is conducting a review to consider the risks and benefits of making Child Restraint Systems (CRS), such as car seats, mandatory on board commercial flights for children under 2 years old. This document provides background information and history of the issue, and aims to invite stakeholder and public feedback.

Background

Seats and lap belts on board today's commercial aircraft are not well suited to safely restrain infants or children under a certain weight and/or height. Adults travelling with an infant or child may choose to restrain them in a CRS such as car seats designed for use on board an aircraft. Although not mandatory, their use has been permitted in Canada since 1990.

After a landing accident at the Sanikiluaq airport in Nunavut in December of 2012, in which a lap-held infant died, the Transportation Safety Board's June 2015 report recommended that Transport Canada work with industry to:

- Develop age and size appropriate CRS for infants and young children travelling on commercial aircraft, and
- Require their use to provide a level of safety comparable to that of adults.

In September 2015, Transport Canada said it would explore ways to increase the types of CRS it approves for use on Canadian commercial aircraft. The department issued a [national exemption](#) to give travelers a range of options for restraint systems they can use for infants and children when flying within Canada and abroad in the same trip. Transport Canada also launched an awareness campaign aimed at the aviation industry so carriers would inform ground agents, crew members and the travelling public about ways to keep children and infants safe during flight.

Considerations

In 1994, the Federal Aviation Administration (FAA) published a study “The Performance of Child Restraint Devices in Transport Airplane Seats”. It affirmed:

- Adults cannot always properly restrain children in their laps by holding onto them
- The regular adult seat belt does not properly restrain a child
- Infants could be injured when they are seated on an adult’s lap

The Australian Transportation Safety Board and European Aviation Safety Agency produced similar findings in their studies on the issue.

Transport Canada used the results of these studies as the basis for allowing for CRS labeled for use in Canada. For more info, please see [Taking children on a plane](#).

Relevant accident statistics

Over the last 30 years, there have been four aircraft accidents in Canada and the United States where a requirement to use car seats may have prevented five infant deaths, or increased their chance to survive and one incident where a 3 year old in a CRS was the sole survivor in the plane crash.

	Canada	United States
Total amount of accidents	269	2556
Total amount of fatal accidents	86	397
Fatal accidents where a CRS may have helped	1 (0.0037%)	3 (0.0075%)
Total fatalities	510	3452
Total infant fatalities (based on Total Fatalities)	1 (0.0019 %)	3 (0.0008 %)

Canada has one of the best aviation safety records in the world. Our average fatal accident rate was 0.61 per 100,000 aircraft movements within the last decade. This record is built on many levels, starting from well-established regulations, improved

technologies, safer designs, thorough flight crew training and dozens of other operational requirements that focus on making aviation safer.

Examination – potential unintended consequence of mandating

Following the accident at the Sanikiluaq airport, Transport Canada conducted a comprehensive examination of mandating Child Restraint Systems and found that:

- There is very low probability of an infant death on a commercial aircraft in Canada, measured at 1 fatality per 646,558,889 passenger boardings (2012-2016).
- Making car seats a requirement when flying could raise air fare prices by 45% according to an FAA study. In Canada, this would affect just under 4 million families with small children. Because family travel is among the most price sensitive, families would choose to drive to their destination rather than pay for a seat for their young child to be in a mandatory aircraft CRS.
- Parents choosing to drive would add 164 million more vehicle kilometers of highway travel per year on Canadian roads. This would translate into at least 10 premature highway deaths in the next decade in Canada, but might save one infant life by air.

International policy comparisons

The International Civil Aviation Organization, a specialized agency of the United Nations, has not set an international standard requiring the use of car seats for infants or children. It has, however, adopted the position that the safest way for an infant or child to travel on an aircraft is in the right sized, State-approved car seat for the infant or child, in a dedicated seat.

The United States determined that a policy for CRS on commercial airlines would result in a shift by the public in the mode of transportation they take when travelling, increasing their risk of serious injury or death.

The European Aviation Safety Agency - Since 2008, the European Union law says that children under 2 years of age must be secured by an approved CRS when flying with European Union airlines. This can either be a child seat or a 'loop belt', which is attached to the seat belt of the adult who is holding the child on his/her lap.

The Civil Aviation Authority of New Zealand is re-examining how best to secure babies and children during flight, following research by the International Civil Aviation Organization. New Zealand's current Civil Aviation Rules require that, as a **minimum**, a child under 2 is held by an adult, and secured by a safety belt attached to the adult's safety belt (Supplemental Loop Belt). The Civil Aviation Authority of New Zealand also notes that international crash studies indicate that there are safer options than the Supplemental Loop Belt in the event of severe turbulence, or an accident and that ideally children should be in a seat of their own, held in an approved restraint.

Consultation

Transport Canada is inviting Canadians to share their comments until April 30, 2018.

Interested parties are encouraged to register and participate in the online engagement discussion forum [Let's Talk Car Seats on Planes](#).