

Cato Institute Briefing Paper No. 11: Ending the Free Airplane Rides of Infants: A Myopic Method of Saving Lives

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Executive Summary

Since 1978 airline deregulation has saved the traveling public tens of billions of dollars without sacrificing safety. Nevertheless, under the banner of saving children's lives, a movement is afoot that would nullify many of the benefits of deregulation by effectively ending free travel for infants and toddlers. The National Transportation Safety Board and the Los Angeles Area Child Passenger Safety Association have petitioned the Federal Aviation Administration to require the use of child restraint seats for all infants and toddlers on airlines. Statistical analyses by both the Department of Transportation and private researchers indicate that the proposal could endanger more children than it would save if the increased cost of airline travel put more families back on the highways.

Introduction

Since 1978 airline deregulation has resulted in substantial benefits to the traveling public. Travelers can fly more places more frequently at significantly lower cost.[1] Econometric research reveals that, after adjusting for many factors that affect the airline business and in spite of the run-up in air fares in 1988, average ticket prices after deregulation were 18 percent lower than they would have been if the Civil Aeronautics Board had continued to set fares in the 1980s.[2] All in all, the traveling public has saved tens of billions of dollars.[3]

Furthermore, studies demonstrate that the skies have not been made less safe by deregulation.[4] The estimated 22 percent reduction in airline insurance rates directly attributable to deregulation indicates that private insurance companies believe the skies are safer than they would have been if the government had continued to regulate the industry.[5]

Nevertheless, a movement is afoot within the airline industry and Congress to nullify, in the name of safety, many of the benefits of deregulation by ending the free ride of infants and toddlers. The airline industry's support of the proposed regulation is understandable, although objectionable. If adopted, the new regulation would enable airlines to suppress important competitive forces and sell millions more seats each year.

However, the traveling public should object to the proposed rule not only because it would raise travel costs but also because it would actually increase the death rate of traveling infants and toddlers and their parents.

The Proposed Rule

Currently, parents can buy airline tickets for themselves and hold their infants and toddlers under two years of age on their laps during flights. Under the banner of saving children's lives in air accidents, the National Transportation Safety Board and the Los Angeles Area Child Passenger Safety Association have petitioned the Federal Aviation Administration to end the free ride of infants by requiring the use of child restraint systems in paid seats.[6] James Kolstad, chairman of the NTSB, maintains that "the economic cost of the extra passenger seat . . . [is] a very small price for preventing injuries and saving lives." [7]

In case the FAA resists changing its seating rules, Rep. Jim Lightfoot (R-Iowa) and Sen. Kit Bond (R-Mo.) have introduced legislation to mandate the use of safety seats by the 5,000 to 10,000 infants and toddlers who fly daily on the nation's 16,000 flights.[8] Lightfoot was spurred to introduce his bill by the death of an infant in the crash of United Airlines flight 232 in Sioux City, Iowa, last July. He reasons that rules requiring the use of safety seats in automobiles should be extended to airlines because "the potential for injury in an aircraft flying at 550 miles per hour is much greater than the potential for injury in an automobile traveling at 50 miles per hour." [9]

Lightfoot maintains that his proposal does not mandate the purchase of additional seats, only the use of safety seats by infants. He reasons that parents can use automobile safety seats, which have also been approved for air travel, and continue to use empty airline seats free of charge, as they now do. However, the safety seat rule would have the effect of requiring parents to buy airline seats for their infants and rent child restraint systems, if they do not have their own. Very few parents would buy their own tickets-- especially the cheaper advanced tickets that are not refundable--and take the risk of not being able to board at the last minute because adjoining seats were unavailable.

The Effects of Mandated Airline Safety on Highway Travel

The FAA, the NTSB, 50 or so members of Congress, and everyone else who supports the rule change are understandably concerned about the safety of traveling children. If the extra cost of infant safety seats were the only factor to be considered, the infant seat regulation would probably not necessitate, as NTSB chairman Kolstad fears will be the case, "countless hours of debate or thousands of pages of testimony before changes occur." [10] However, what child safety advocates and the FAA have not yet considered is that the proposal, if adopted, could have precisely the opposite effect of the one intended: the rule change could increase the travel injuries and deaths of infants and toddlers--and their parents and siblings. Those perverse results would probably occur because the rule change would drive up the cost of air travel and drive many families back to the nation's highways. And automobile travel remains far more dangerous, at least 30 times more so in terms of death rate per mile traveled, for all travelers--parents and children alike--than air travel by all scheduled (large and commuter) airlines.

In a study prepared for the FAA, Department of Transportation researchers concluded that mandatory infant safety seats could have prevented at most only one infant death since 1978. All other infant fatalities in airline crashes occurred in sections of planes where no one survived.[11] On the other hand, nearly 1,200 children under five years of age were killed in automobile accidents in 1988.[12] That means that there were approximately one-quarter more automobile deaths of very young children in 1988 alone than there were total deaths of children and adults on scheduled airlines during the entire 1980-88 period.[13]

According to the FAA's own (admittedly rough) calculations, mandated safety seats for infants could increase the average air travel cost of a family of four (two parents with one child over three and one infant) by at least 21 percent--assuming that airlines charge half fares for infants and do not raise their fares across the board because of increased demand. That cost increase could reduce the boardings of infants by about 18 percent, or 700,000, again according to FAA estimates. Nevertheless, the FAA figures that airlines would be able to sell 3.3 million seats each year to infants' parents at a cost of \$205 million, a handsome sum that explains the airlines' interest in the proposed rule.[14]

Of course, many of the families who could no longer afford air travel could be expected to do much, but not all, of their travel by car--which should give Washington policy makers pause.

Deaths on the Nation's Highways: The Policy Tradeoff

The precise effect on air travel safety of requiring seats for infants and toddlers will probably be debated for as long as the rule is taken seriously by members of Congress. Nevertheless, our own econometric research (undertaken with

colleagues at the University of Mississippi and Clemson University) on the impact of airline deregulation documents a point that the FAA and Congress must keep in mind: Air and highway travel are interchangeable. Changes in airline fares significantly alter the amount of highway traffic,[15] and highway accidents, injuries, and deaths are highly correlated with the amount of highway travel and congestion.

Indeed, we found that airline deregulation, which led to lower air fares and an expansion of flights, increased air travel by an annual average of 11 percent and reduced passenger car travel by an annual average of just under 4 percent between 1978 and 1985. Accordingly, airline deregulation significantly reduced highway accidents, injuries, and deaths. [16]

Our research suggests that there is every reason to believe that increases in air travel costs for families, as a result of the proposed safety seat requirement, should have the opposite effect. The only unsettled issue is, how much?

If the number of automobile trips by families goes up by a third of the estimated reductions in infant boardings and if the average length of the trips is 400 miles one way (800 miles round trip), automobile travel will increase by more than 185 million miles each year.[17] That represents a very small percentage increase in automobile travel.

Nevertheless, according to our econometric model, the increase could translate into more than 1,600 additional automobile accidents each year, and the increase in accidents could result in more than 175 additional disabling injuries and just under 5 additional deaths each year.[18] The additional automobile accidents could also add \$6 million to the country's total annual economic losses associated with automobile wrecks on top of the additional air fares that the FAA estimates families will have to pay.[19] If the fare increase is much greater than the FAA conservatively assumes, the increase in highway injuries and deaths will, of course, be greater.[20]

An unknown number of the victims will surely be infants who would have traveled quite safely on their parents' laps in airplanes. However, many of the automobile victims will be the infants' parents, brothers, and sisters, but many will also be travelers who had never contemplated air travel as an alternative means of transportation. They just happened to be at the wrong time on the nation's roads, made marginally more congested by the infant seat requirement.[21]

Concluding Comments

The proposed rule change might reduce very slightly the number of air injuries and deaths. However, the improvement in air safety will probably be extraordinarily small because there are so few infants who are air victims, because the safety seats will not be close to 100 percent effective, and because many parents will continue to hold their infants and toddlers in their laps, especially when the youngsters need to be fed or otherwise cared for to keep them from disturbing surrounding passengers.[22]

The resulting increase in automobile deaths, although quite small, could easily be several times--quite possibly as many as 60 times--the reduction in airline deaths.[23] Congress and the FAA should not be in the business of creating a travel safety problem that is bigger than the one they are trying to alleviate.

Admittedly, our calculations are rough. The point of this briefing paper is that in the name of child safety, advocates of the new FAA rule should consider the possibility that, although their hearts may be in the right place, their proposal is misguided.

There are, of course, no laws or regulations that now prevent parents who so choose from purchasing tickets for their infants and placing them in child restraint systems. Some parents do just that. Individual airlines are also free to recommend that children under two be placed in child restraint seats. Parents might be encouraged to act on such recommendations if half-price tickets were made widely available for that purpose. Before imposing a nationwide rule, the FAA, the NTSB, Representative Lightfoot, and Senator Bond should pay close heed to all the rule's implications; it may endanger more infants than it saves. The proposed mandate sounds good--but only on the surface.

Notes

[1] One of the most complete early studies of the economic benefits of airline deregulation was Steven A. Morrison

and Clifford Winston, *The Economic Effects of Airline Deregulation* (Washington: Brookings Institution, 1986).

[2] Steven A. Morrison and Clifford Winston, "The Dynamics of Airline Pricing and Competition," *American Economic Review* (May 1990): 390.

[3] Morrison and Winston, *ibid.*, estimate that deregulation saved airline travelers \$6 billion (in 1988 dollars) a year between 1979 and 1989.

[4] See Richard B. McKenzie and William F. Shughart, "Has Deregulation of Airlines Caused More Air Fatalities?" *Regulation*, no. 3/4 (1988): 42-47, and Nancy L. Rose, "Financial Influences on Airline Safety," working paper no. 1890-87, Cambridge, Mass., Sloan School of Management, Massachusetts Institute of Technology, 1987.

[5] Steven A. Morrison and Clifford Winston, "Air Safety, Deregulation, and Public Policy," *Brookings Review* (Winter 1988): 14.

[6] U.S. Department of Transportation, Federal Aviation Administration, *Miscellaneous Operation Amendments*, Federal Register, March 1, 1990, pp. 7414-21.

[7] James L. Kolstad, "Require Safety Seats for Little Travelers," *USA Today*, May 24, 1989, p. 12A.

[8] See U.S. Congress, House, A Bill to Amend the Federal Aviation Act of 1958 to Require Child Safety Restraint Systems Approved by the Secretary of Transportation on Commercial Aircraft, H.R. 4025, 101st Cong., 2d Sess., 1990.

[9] Jim Lightfoot, "The Need for Child Safety Restraints aboard Aircraft," *Congressional Record*, February 27, 1990.

[10] Kolstad.

[11] U.S. Department of Transportation, "An Impact Analysis of Requiring Child Safety Seats in Air Transportation," prepared for the Office of Aviation Policy and Plans, Federal Aviation Administration, Washington, Office of Rulemaking, Federal Aviation Administration, draft, June 4, 1990, p. iv. In a Harvard Medical School study Richard Snyder estimates that the infant seat requirement would save an average of only 0.6 infant life a year, or three lives in five years. Richard G. Snyder, "The Status of Infant/Child Restraint Protection in Crash Impacts," paper presented at the FAA/Flight Safety Foundation International Aircraft Occupant Safety Conference and Workshop, October 31-November 3, 1988, as reported in Walter S. Coleman, "ATA Petition: Infant/Child Restraints" (Rules Docket, AGC-204), filed with the Federal Aviation Administration February 22, 1990, p. 4. The FAA found that an additional six infants and toddlers were injured in airline flights over the past 14 years. Reported in "Don't Require Seats for Tots Who Fly," editorial, *USA Today*, May 24, 1990, p. 12A.

[12] National Safety Council, *Accident Facts: 1989* (Chicago: NSC, 1989). In addition, it should be noted that the infant death rate, which can be inferred from FAA findings, was slightly above one per 100,000 daily boardings of infants for the past 12 years (the mean of the estimated range of daily boardings, 5,000 to 10,000, or 7,500, times 12). The death rate per 100,000 infants under one in 1986 was 5 due to mechanical suffocation, 4.2 due to ingestion of food and objects, 3.2 due to fires and burns, and 2.5 due to drownings. National Safety Council, p. 8.

[13] Total airline fatalities on scheduled airlines (U.S. air carriers operating under 14 CFR 121) between 1980 and 1988 came to 975, including the 259 passengers killed in the explosion of the Pan American flight over Lockerbie, Scotland. U.S. Department of Transportation, Federal Aviation Administration, *FAA Statistical Handbook of Aviation: 1988* (Washington: U.S. Government Printing Office, 1989), p. 154.

[14] Because many families would no longer fly, the net increase in revenue would be less than \$205 million. Department of Transportation researchers estimate the airlines' net increase in revenues would be \$119 million in the first year. "An Impact Analysis of Requiring Child Safety Seats in Air Transportation," p. v.

[15] McKenzie and Shughart, "Has Deregulation of Airlines Caused More Air Fatalities?" pp. 42-47, and Richard B. McKenzie and John T. Warner, *The Impact of Airline Deregulation on Highway Safety* (St. Louis: Center for the

Study of American Business, Washington University, December 1987).

[16] McKenzie and Warner estimate that in 1979-85, after adjusting for a number of factors that affect highway travel safety, airline deregulation reduced automobile accidents by an annual average of over 600,000, lowered automobile injuries by an average of approximately 66,000, and reduced automobile fatalities by an annual average of almost 1,700.

[17] We think our assumptions are reasonably conservative because the average length of one-way trips of airline passengers in 1987 was 780 miles, almost equal to what we assume the additional round trips by car will average.

[18] One important caveat should be kept in mind in interpreting our estimates of automobile accidents, damage, injuries, and deaths. They are based on "average" driver characteristics, and the would-be airline passenger who switches to highway travel may not mirror the characteristics of the average driver. At this point in our research, we cannot be sure whether the additional automobile travelers would, on average, be more or less safe drivers than other travelers. Although drivers traveling with their families may on average be safer than other drivers, we do not know how the families that switch from air to highway travel, who may on average have lower incomes and lighter and older cars, compare with travelers in general.

[19] Those additional automobile costs, computed from estimates in National Safety Council, Accident Facts: 1989, include lost wages, medical expenses, and property damage. They do not include the costs incurred by government agencies, for example, fire departments and court systems, that will have to cope with the consequences of the additional accidents.

[20] We consider our assumptions reasonably conservative because many airlines' fares for children over two equal 80 percent of adult fares and because we do not make allowance for the effect that the increased demand for seats would have on the fares of all other passengers.

[21] Our econometric model relates marginal changes in the number of miles traveled by car to highway accidents, injuries, and deaths. It does not permit us to say exactly how many of the automobile victims would have flown, just it does not enable us to specify how many of the victims will be infants and toddlers.

[22] Advocates are concerned that children held on their parents' laps can be thrown to the floor or ceiling in air turbulence. It would appear that such a problem could easily be solved by parents' using the inexpensive restraining harnesses that are in wide use.

[23] Assuming that the safety seats will save one infant life over 12 years (which is the Department of Transportation's estimate of what would have been the result for the past 12 years) and that increased driving due to higher air fares will result in an average of five additional highway deaths each year (which is our estimate of the probable effect), the mandated infant seats will result in 60 times more deaths on the nation's highways than will be saved in air crashes. By making what they consider to be very conservative assumptions about the responsiveness of air passengers to price increases and the miles families would travel by car, DOT researchers deduce that the child seat requirement would result in automobile deaths equal to 19 times the reduction in airline deaths. "An Impact Analysis of Requiring Child Safety Seats in Air Transportation," p. 25.