

AIR CARGO/AIR QUALITY

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INTRODUCTION

- * **ATA represents the major passenger and cargo airlines in the United States, including FedEx and UPS.**
- * **Last year, ATA members transported over 23 billion cargo revenue ton miles (RTM = one ton of payload carried one mile).**
- * **Approximately 57% of this was carried by cargo airlines in dedicated freighter aircraft.**
 - **Air Freighters range from 747s (and soon A380s) to turboprops.**
- * **The rest was transported as “belly cargo” by passenger airlines.**
- * **Because close to half of air cargo is carried by passenger airlines, it is difficult, and perhaps meaningless, to quantify air quality impacts attributable to air cargo.**
- * **Aircraft are the most obvious source of emissions associated with air cargo, but emissions from ground support equipment (GSE) and the ground transport component of the distribution system (since few shipments have an airport as the final destination) must also be factored in. It is difficult to discern where “air cargo” ends and other modes begin.**

HISTORY

- * **ATA is celebrating its 70th anniversary in 2006, and one of the unique resources available to an organization of this vintage is a series of annual reports that trace most of the history of commercial aviation.**
- * **The Air Freight Forwarders Association (now the Cargo Airline Association) was formed in 1948 to protect the members of the newly formed air freight forwarding industry from overregulation by the Civil Aeronautics Board and, to some extent, from the practices of the airline industry.**
- * **The history of air cargo goes back further than the history of either the CAA or ATA. On May 15, 1918, a pouch of mail was flown 250 miles from New York to Washington, D.C., and**

subsequent mail contracts fostered the establishment of routes and scheduled service, along with the first commercial airlines (a number of which are still in business today).

- * According to ATA's Annual Report for 1939, "If the [Post Office] Department were to claim the triumphs of civil aeronautics as the children of its dreams, no one could gainsay."
- * For the next few decades, while mail service dominated the cargo aspect of air transportation, a symbiotic relationship between cargo and passenger service developed.
- * "The more the public uses air transportation, the lower falls the cost to the Post Office Department per pound-mile for transporting air mail." (ATA Annual Report for 1937).
- * The same holds true today with respect to the efficiencies of transporting belly cargo in passenger aircraft, though since 9/11 U.S. mail has been problematic due to security concerns.
- * In 1939, 2.7 million cargo RTMs were carried by air. That number increased to 113 million RTMs in 1949.
- * By 1959 -- the first full year of the jet age -- air cargo had increased to 600 RTMs, a 17.5% increase over the previous year.
- * The development of a vibrant air cargo industry was hampered by "the formidable challenge in the absence of specific cargo aircraft" according to the 1960 ATA Annual Report. Many late-model piston-engined planes were converted by the carriers to all-cargo configurations, but there was an identified need for "development of a modern civil cargo fleet. . . ." Approximately 31% of airfreight was carried by all-cargo airlines at that point.
- * In that same year, ATA noted the national attention to the airline-developed "total distribution cost" technique, which demonstrated that "airfreight service meant savings in total distribution system costs beyond or apart from transportation rate considerations. Some firms completely realigned their businesses, eliminated warehouses and warehouse expense, because of the advantages of airfreight service." And so "just-in-time" inventory was born.
- * When the air cargo industry was deregulated in 1977, freight forwarders entered the direct air carrier business and the overnight express business was created.

* As mentioned, mail has always been an important component of air cargo, along with perishables and items, such as replacement parts, where time is of the essence. The top ten commodities in 1949 were:

1. cut flowers
2. baby chicks
3. amusement and coin-operated vending machines
4. machine parts
5. auto parts
6. heating equipment and parts
7. blood plasma
8. fresh vegetables
9. mushrooms
10. fish oil

* Most of these continue to be a staple of air cargo, with computers filling in for vending machines, and airports such as Tampa providing their own regional twist (a large portion of belly cargo out of Tampa is comprised of goldfish and human remains).

AIR QUALITY ISSUES

- * Although noise problems are mentioned occasionally throughout the 1960s and 1970s annual reports, it is not until the 1990s that ATA members began to really focus on air quality.
- * By the 1998 Annual Report, ATA's members were engaged in two significant voluntary initiatives intended to address air quality impacts associated with aviation (not just cargo):
 - The California GSE Memorandum of Understanding (MOU), which grew out of state attempts to control airport emissions.
 - The EPA/FAA local air quality initiative, which was an effort to develop a voluntary agreement with the airline industry to reduce aircraft and GSE emissions.
 - ATA's cargo members were actively engaged in both of these efforts, and brought an important perspective to the negotiations, particularly in pointing out significant differences in the characteristics of passenger v. cargo GSE.
 - Unfortunately, neither of these initiatives was entirely successful; the EPA/FAA negotiations broke down in 2004, and

the California GSE MOU was terminated late last year.

- * Where does that leave us today?**
 - Aircraft emissions are generally set by an international process through the International Civil Aviation Authority's Committee on Aviation Environmental Protection (CAEP).**
 - CAEP usually works in three-year cycles -- in 2007, CAEP will address greenhouse gasses and in 2010 it is expected to recommend new emissions and noise standards for aircraft engines.**
 - GSE is regulated as off-road vehicles by EPA and, under a special exception in the Clean Air Act, by California. Several state regulations are pending in California that could affect air cargo GSE.**

- * What does the future hold?**
 - It will be increasingly important to look at the air quality impacts associated with the entire distribution system. Shifts in modes prompted by increased costs or regulatory requirements can cause unintended consequences in terms of emissions.**
 - For example, efforts on the part of airports or airport communities to restrict operations by cargo aircraft can result in additional VMTs, often under congested conditions.**
 - Streamlining the transfer of air cargo to other modes will contribute to overall reductions in emissions. Addressing congestion of surface transportation networks around airports and exploring options for dedicated cargo corridors are some of the ways in which this can be furthered.**
 - Exploiting the efficiency of belly cargo will rely on a continued close relationship between passenger and cargo functions. Attempts to remove cargo activity from airports undermines this efficiency.**
 - Development of operational measures such as continuous descent approach (CDA) may be especially feasible for cargo operations that occur during off-peak airport hours.**