High 5

Air Cargo's Top Challenges

By Lisa Harrington

"THIS IS AN INTERESTING TIME IN AIR CARGO." So says Justin Zubrod, vice president with global consulting firm BoozAllen Hamilton. Given the environment in the airfreight sector today, one could easily call Zubrod's comment an understatement – on a grand scale.

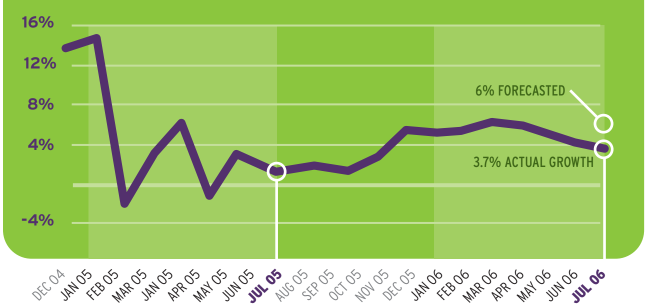
Skyrocketing fuel prices, escalating security concerns, revised inventory management policies, competition from other transport modes, and industry consolidation – these five factors pose significant challenges for the air cargo sector.

An Industry Besieged

"We are still in the red, but what other industry could add $24 billion to its second-largest cost – fuel – in one year and still improve the bottom line?" asks Giovanni Bisignani, director general and CEO of the International Air Transport Association (IATA), summing up the state of the airline industry as a whole.

IATA's airline members carried 3.7 percent more cargo in July 2006 than one year earlier (*see Figure 1, next page*). This figure was lower than the more

FIGURE 1 **Freight Growth** SOURCE: IANA



than 6 percent growth forecasted. The slower growth was largely a by-product of the conflict in the Middle East, which had been the fastest-growing air cargo region for the past two years.

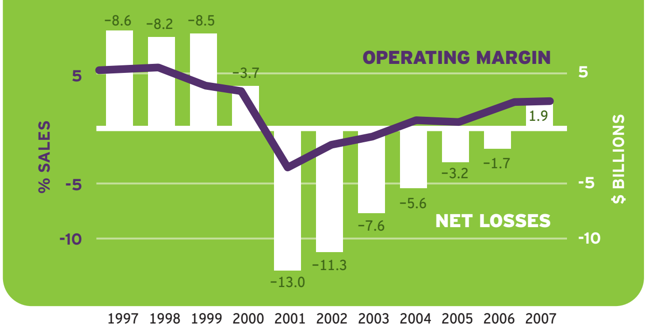
Traffic results for the first seven months of 2006 show freight growth of 5.3 percent over the same period last year. "While we expect to see another isolated dip in August due to the UK terror alert, overall, improved efficiency and high load factors will help mitigate the impact of high oil prices, and bodes well for the bottom line," notes Bisignani.

IATA's latest industry forecast shows a modest improvement in financial performance this year (*see Figure 2, below*), with net losses falling to $1.7 billion and operating profitability improving, in spite of a further rise in oil prices. This compares to a $3.2-billion loss in 2005, and a fuel bill of $91 billion.

FedEx and UPS now hold the top two positions in the global carrier rankings, with UPS showing strong enough growth to move up from fourth to second place during 2005.

Here is a closer look at each issue, its impact on the airfreight industry and, by extension, on shippers and receivers.

FIGURE 2 **Financial Performance** SOURCE: IANA



1 Skyrocketing Fuel Prices

"The number-one issue for the air cargo industry is the ever-increasing price of fuel," says Ned Laird, managing director of Air Cargo Management Group, Seattle. The average cost of a gallon of jet fuel has more than doubled, from 75 cents per gallon in 2001 to $2.01 in the first seven months of 2006 – the equivalent of about $68 a barrel on average this year. At one point, jet fuel prices reached as high as $2.50 a gallon.

"Two years ago, fuel represented approximately 22 percent of direct operating costs for airlines," Laird notes. "Today, for most widebody planes, fuel now represents a greater percentage of total operating costs." (*See Figure 3, below.*)

U.S. airlines require about 1.27 million barrels of jet fuel per day. At 42 gallons per barrel, this translates to 19.5 billion gallons per year. At current rates of consumption, every penny increase in the price of one gallon of jet fuel results in an additional $195 million in annual operating expenses for the industry.

"With little decline in prospect this year, IATA estimates the cost of fuel – even with an average of 45 percent hedged – will rise $24 billion to $115 billion," says Bisignani. "We estimate that higher yields will recover only 46 percent of this cost increase."

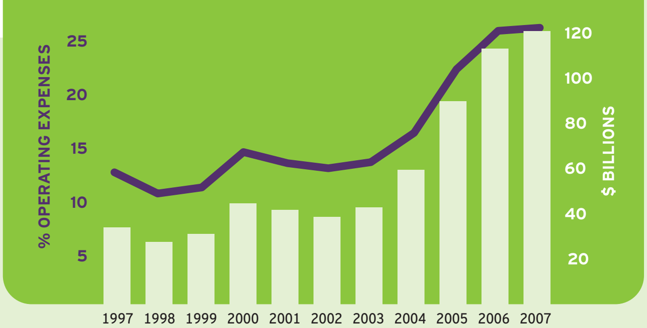
Fuel price hikes are being driven by a number of factors: increased demand from India, China, and the Third World; insufficient refining capacity in the western hemisphere (which means fuel must be shipped from great distances); political instability in the Middle East; and a lack of competition among fuel providers.

"With jet fuel, the price is the price," explains Laird. "An airliner can't just pull up to a different pump if the price at one is too high. Carriers usually have only one or two choices of fuel suppliers at an airport."

Every air cargo service provider has instituted surcharges to cover fuel price hikes. The surcharge on major traffic lanes can be 30 percent of the total airfreight rate. "But, fuel surcharges don't cover the full increase," notes Chuck Cocci, vice president, global airfreight services for UPS Supply Chain Solutions.

"Airplanes are the least-efficient users of fossil fuel," Laird says. "If supply shortages warrant rationing, or if jet fuel prices rise to $3.50 per gallon, then we would see demand destruction. The cost of air freight would increase 100 percent, and companies would shift their cargo to boats."

FIGURE 3 **Fuel Bill Continues to Rise** SOURCE: IANA



Looming Security Threats

On Aug. 10, 2006, a plot to simultaneously blow up as many as 10 U.S.-bound passenger jets with liquid explosives hidden in carry-on luggage was thwarted with the arrest of 24 suspects in the United Kingdom. British and American authorities immediately instituted tough new passenger security measures.

On Aug. 16, in response to the terrorist plot, Rep. Ed Markey (D-MA), a member of the House Homeland Security Committee, urged Homeland Security Secretary Michael Chertoff to institute 100-percent inspection of all cargo on passenger planes and inspection of containership cargo before it sets sail for U.S. ports. Markey recommended that no cargo that cannot be inspected using existing explosive detection methods be allowed on passenger planes.

Shipper groups oppose 100-percent cargo inspection, as does the Transportation Security Administration. A regulatory framework designed to ensure inspection of every piece of cargo transported via air, assuming that it could even be implemented, would place an "impossible burden on air commerce," warns The National Industrial Transportation League, one of the nation's oldest shipper organizations. The cost of a 100-percent inspection regime, estimated at $650 million in the first year, does not justify any incremental benefits that such a program might achieve over the current risk-based approach, the League says.

"The United States has instituted a draconian security regime since the Sept. 11 terrorist attacks," says Laird. "There's no question that it is effective. "

In light of recent events, and the prospect of future terrorist threats, however, most industry observers believe the air cargo security regime will tighten further. "We have every expectation that security protocols will get tougher," says Neel Shah, vice president, sales and marketing, United Airlines Cargo.

Zubrod of Booz Allen agrees. "At some point," he says, "we will have to implement tighter air cargo security. This increased security will be event-driven. All it will take is one event and we'll see the cargo equivalent of the tighter passenger restrictions that occurred following the London terrorist scare."

Although changing security regulations will affect operations and increase costs for all air cargo, they pose a particular threat to belly capacity, according to David Hoppin, managing director of MergeGlobal Inc., a Washington, D.C., consulting firm.

"Belly capacity accounts for roughly half of global intercontinental airlift capacity. It is a big slice of the pie, especially in the trans-Atlantic market," Hoppin says.

"Because of terrorism, there is a good chance that the cost of belly lift will increase dramatically, or even be banned outright," he notes. "An attack on an airliner carrying belly cargo would destroy air freight's value proposition."

"If belly lift gets more expensive because of the high cost of screening, or it goes away by fiat, airfreight costs will rise," Hoppin adds. "Belly capacity tends to be more aggressively priced than freighter capacity. The relative price of air freight will increase, regardless of the carrier."

"If carriers are required to screen more cargo, we're prepared to do it," says Shah. "But, it's one more issue that could force products to move by ocean. If extra screening adds time, it cuts the differential between ocean and air."

Some industry observers believe any increase in air cargo security requirements will favor the integrators over the airlines. "Integrators such as FedEx and UPS have custodial control of the freight from its origin, which is the essential ingredient," says Zubrod. "Such control is difficult for forwarders who contract with a local pick-up/delivery company to take the freight to the airport, and put it on a third-party plane. That's a porous chain of custody."

Revised Inventory Policies

With supply chain risk and the potential for disruptions growing, companies are questioning the wisdom of maintaining lean inventories.

"Retailers and manufacturers are now deciding to carry more safety stock to cover demand and avoid emergency air freight," says Hoppin. "This is a seminal change in supply chain structures worldwide.

"Five years ago, every company was trying to squeeze as much inventory out of the supply chain as possible," he says. "But companies that operate with low inventories, and run into supply chain problems, spend a lot on air freight. They now are trying to rein in those large bills."

Businesses are also beginning to question the wisdom of offshoring all production to China. "While China may offer the minimum manufacturing cost per unit, many companies have been surprised by 'hidden' supply chain costs – higher transport costs as a result of increased air freight, and larger safety stocks to cover the additional time it takes to move goods from the China factory to the Ohio DC," Hoppin notes.

Spanish clothing retailer Zara, for example, sources a significant amount of production at parent company Inditex's factories located largely in Europe and neighboring countries.

"Zara decided to handle its production in Spain and elsewhere in Europe because, even though that costs more than Asian production, the company changes merchandise every two weeks, and speed to market is a critical competitive advantage," says Zubrod. "Zara wants a two-week order cycle time, not 45 days." These locally produced goods are trucked to market, not flown.

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Mode-shifting

Higher costs and tougher security requirements are causing companies to reexamine their use of air cargo. "In the United States, ground transport is now competitive with air freight up to 1,000 miles. Shippers are increasingly optimizing supply chains to rely on cheaper ground and ocean shipments supplemented by occasional air express shipments," write Mark Kadar and John Larew in a Mercer Management Consulting whitepaper, *Securing the Future of Air Cargo*.

Zubrod of Booz Allen concurs. "LTL carriers have siphoned off a lot of growth in domestic air freight, primarily from passenger airlines that carry cargo. These truckers offer two- to three-day time-definite service, which is adequate for many domestic shippers.

"Companies are considering ways to avoid expensive air transport and shift to regional manufacturing, assembly, and distribution," Zubrod says. "This shift favors substituting air demand with truck, or using new services such as the accelerated ocean-truck service recently introduced by Con-way Freight and APL Logistics."

Con-way/APL's "OceanGuaranteed" is a new premium ocean LCL/domestic LTL service from China that offers faster transit times and day-definite delivery at a lower cost than air freight. The program provides "port-to-door" guaranteed service from Hong Kong, Shanghai, and Shenzhen to all continental U.S. destinations served by Con-way Freight, via Los Angeles as the U.S. port-of-call for customs clearance and deconsolidation.

"Most customers source some aspect of their business in China," notes David McClimon, president, Con-way Freight. "They manage long supply chains and increasing import volumes, yet remain under pressure to accelerate product through their domestic distribution networks as cost efficiently as possible.

"A service that takes 10 to 20 days of variability out of the supply chain has a huge effect on inventory levels, cycle times, and product availability. That's the true value of the service," he adds.

"Air freight has always benefited from unforeseen supply chain problems," notes Hoppin of MergeGlobal. "Almost half of airborne freight from China has been upgraded from ocean because of an emergency. The Con-way/APL service, however, poses a threat to air freight. If it works as promised, shippers may not need air freight as much. Reliable, time-definite trucking has devastated the domestic airfreight market, and the same may happen in the trans-Pacific trade.

"A 30- to 45-day ocean solution and a five- to six-day air solution creates a big opportunity in between," he says.

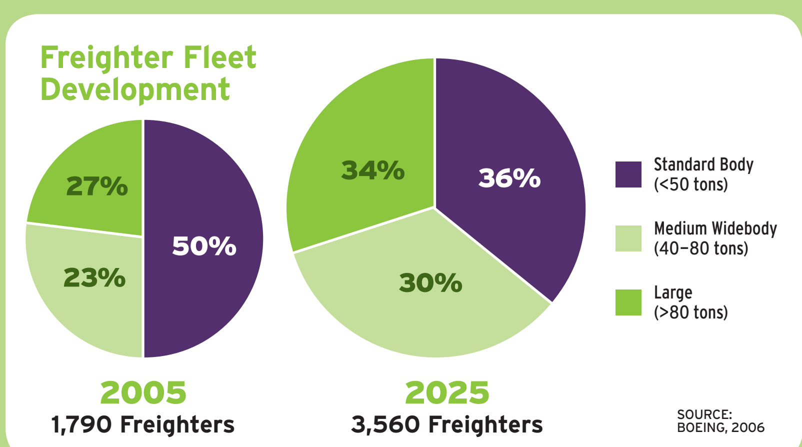
A New Fleet

Over the next 20 years, the world's air freighter fleet will nearly double, with many of the aircraft coming on line over the next five years or so, predicts Boeing.

Here are just a few examples:

- **Boeing** delivered the first 747-400ER (extended range) freighter to enter the fleet of China Cargo Airlines. The new cargo airplane is the first of two for China Cargo.
- **Emirates** ordered eight Boeing 777 freighters.
- **Korean Air** is in the process of converting as many as 20 of its Boeing 747s into freighters.
- **Cargolux** ordered 10 747-8 freighters.
- **Jade Cargo International**, the new Chinese cargo carrier founded in 2004 by Lufthansa Cargo and Shenzhen Airlines, together with the Deutsche Investititions und Entwicklungsgesellschaft, will operate with a fleet of six new Boeing B747-400ER freighters.
- **Cathay Pacific Airways** ordered six Boeing 747-400ERs.
- **Japan Airlines International Co.** ordered eight 747-400s.
- **FedEx** ordered six Airbus A300-600 freighters.
- **UPS** signed a contract for 10 Airbus A380 freighters.

While this news makes air cargo carriers very nervous, it may benefit shippers in the form of better rate competition.



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Consolidating Power

As with the transportation industry as a whole, air cargo is experiencing a consolidation trend, with large transportation and logistics companies acquiring small freight forwarders.

"For the most part," say Kadar and Larew, "cargo carriers don't own the end customer relationship. With the exception of integrators such as FedEx and UPS, most cargo carriers rely on a powerful channel – freight forwarders – which are better positioned to own the customer relationship."

"UPS and DHL are pursuing a one-stop shopping strategy for the customer," Hoppin explains. "In the process, they are buying up freight forwarders in clusters to achieve economies of scale."

Other large logistics service providers are following a similar strategy. Here are some examples:

- Earlier this year, Schneider Logistics acquired American Overseas Air Freight, an international freight forwarder and customs broker.
- In 2005, Meridian IQ, the global logistics management subsidiary of YRC Worldwide, bought Shanghai-based GPS Logistics Group. YRC also launched a joint venture with Shanghai Jin Jiang International Industrial Investment Co. Ltd., under which both YRC and Jin Jiang Investment own 50 percent of JHJ International Transportation Co., Ltd. (JHJ), the freight forwarding subsidiary of Jin Jiang Investment. Based in Shanghai, JHJ is the second-largest airfreight forwarder in China. YRC invested $45 million to acquire its 50-percent equity interest in JHJ.
- In November 2005, Deutsche Bahn AG, the parent company of Schenker, purchased BAX Global, Irvine, Calif. The acquisition allows Deutsche Bahn to expand its position as an international logistics services provider in key growth markets in Asia/Pacific, China, and the United States.

"These acquisitions bring new discipline to freight forwarding," says Zubrod. "The acquiring companies are asset-intensive and operationally strong. They operate differently from the way airfreight forwarders traditionally run their businesses.

"Truckers and global integrators deal in time and high productivity. They use sophisticated information systems and optimization capabilities. In contrast, freight forwarders historically operated with a 'space available' mentality, with more service and schedule variability and less discipline," he says.

As freight forwarders grow larger, airlines need to do the same, according to Hoppin. They need to be able to match resources and bargaining power with large forwarders and logistics service providers. "An indication that this is happening is the Air France-KLM merger – the first consolidation across geographical boundaries," he says.

Restrictions on cross-border ownership and the designation of traffic rights by carrier nationality have prevented further global consolidation. "But even if carriers don't merge, there is clearly a trend toward cross-company, cross-continent cooperation among carriers," Hoppin notes.

Constant Change

"Nothing is permanent in the air cargo business," says Shah. "If fuel prices and surcharges continue to come down, air carriers capture back the freight they lost. It's all a question of economics. If the economics become more viable, then air obviously is a great option.

"After all," he adds, "nothing can beat the speed of air." ■