



How Much Do Airport Costs Matter?

By Robert A. Hazel

Robert A. Hazel is Senior Vice President and Managing Partner of Eclat Consulting. He specializes in airline and airport issues, including air service planning and development, airline-airport negotiations, financial and regulatory issues, and corporate restructurings. From 1993 to 2001, he served as Vice President-Properties and Facilities for US Airways.

E-mail bhazel@eclatconsulting.com

Copyright © 2004 Eclat Consulting, Inc.
All rights reserved.

How Much Do Airport Costs Matter?

Robert A. Hazel

I. Introduction

For decades, airline and airport managers have debated the importance of maintaining low airport charges, which are typically paid by the airlines in the form of airport terminal rents and landing fees (henceforth referred to as “airport costs”). Airline managers have argued that, in a low margin business, any significant increase in airport costs must inevitably be passed along to consumers in the form of higher airfares. They have also said that they are less likely to initiate or expand service at airports with high costs. Airport managers have argued that airport costs passed along to airlines make up only 5 to 6 percent of total airline operating costs and therefore are never the reason for high airfares, nor are they a deciding factor in airline route planning.¹

The importance of airport costs came into sharp focus in Spring 2003 when US Airways announced, just prior to emerging from bankruptcy protection, that it was rejecting its long-term lease agreement at its Pittsburgh hub and would discontinue its hub operations at Pittsburgh unless the airport found a way to reduce its outstanding debt by \$500 million. That level of airport debt reduction, US Airways argued, was necessary to reduce Pittsburgh’s airport costs to “competitive levels.”

Prior to US Airways’ restructuring, airport charges at Pittsburgh had been slightly below the industry average of \$7-8 per departing passenger. Airport management had been steadily reducing the cost per departing passenger at Pittsburgh despite the fact that the airport designed for 32 million annual passengers had never handled more than about 20 million passengers. During the period of US Airways’ restructuring, Pittsburgh’s costs increased to over \$10 per departing passenger as the company’s significant flight reductions at Pittsburgh forced the airport to spread its largely fixed costs over fewer flights and passengers.

In the wake of US Airways’ threat to “de-hub” Pittsburgh, two issues were discussed and debated. First, would an airline really discontinue its hub operations just because airport costs were, at most, several dollars higher than the national average? Second, would the increase in airport charges resulting from the discontinuation of US Airways’ Pittsburgh hub be so great as to prevent other carriers from adding service to Pittsburgh, or even from continuing to serve the market?

¹ Airline managers also argue that the higher airfares that result from higher airport costs (and various other taxes and charges) discourage air travel. Airport managers respond that, even if airport cost increases are passed on to passengers, the magnitude of such increases—no more than several dollars per passenger—does not materially alter the demand for air travel. The impact of higher airfares on the demand for air travel is not the subject of this article.

Ultimately, the US Airways – Pittsburgh example failed to provide a clear answer to either question. First, in May 2004, more than a year after threatening to de-hub Pittsburgh, US Airways announced that its latest business plan would de-emphasize Pittsburgh. Beginning in September 2004, the airline reported, Pittsburgh would be used as a “focus city” and not as a hub. That announcement was not linked in any way to the continuation of negotiations concerning Pittsburgh’s cost structure, leaving many to believe that Pittsburgh’s costs were not and had never been the deciding factor in the company’s planning regarding Pittsburgh.

Second, the actions taken by the Pittsburgh Airport to reduce costs (and to correct misinformation concerning the level of future costs) alleviated some of the concern regarding the actual level of airport costs that would result from US Airways’ cutbacks or liquidation. Although industry analysts had speculated that Pittsburgh airport costs might rise to as much as \$25 per departing passenger in the wake of US Airways’ cutbacks, the airport maintained that its success in tapping additional financing sources and reducing its own operating costs would limit airport costs to the \$12 range per departing passenger following such cut-backs—a level found at some other airports. Nevertheless, the Pittsburgh experience has served to focus greater attention on the overall importance of airport costs, a subject that is explored further below.

II. Comparing Airport Costs and Airfares

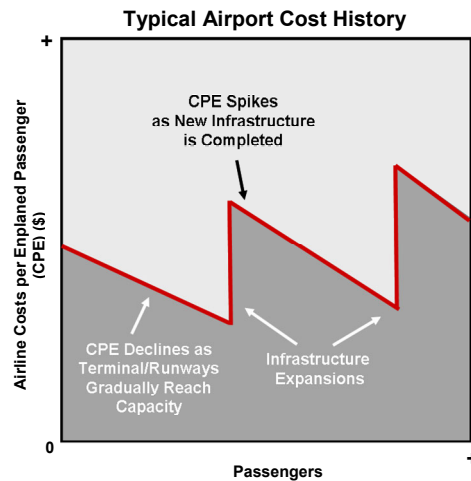
In studying the relationship between airport costs and airfares, two measurement issues must be addressed: First, what is the best way to measure airfares? Second, with respect to airport costs, how can fair airport-to-airport comparisons be made?

With regard to airfares, accurate and timely data is readily available once the appropriate comparison measure is selected. For this study, the basic measure of airfares used is the average domestic origin and destination (O&D) fare. This measure captures the airfares actually paid by passengers flying to and from particular airports and avoids distortions that would result from including much higher international fares in the calculation of average fares. A variety of other airfare measures were considered, primarily to attempt to deal with hub airports where a majority of the traffic consists of connecting passengers. However, none of the alternative measures produced useful results.²

² Several variations of this measure were explored, including: (1) making flight-length adjustments to the average O&D airfare calculated for each airport in order to adjust for the higher fares charged at airports where the average flight was longer than average; (2) using as an alternate measure of airfare the average yield (in cents per mile) for each airport; and (3) measuring both O&D and connecting passenger revenue at each airport to determine if “total airline revenue” flowing through an airport is correlated with airport costs. To summarize the results of using these alternatives, the flight-length adjustment did little to change the results, while neither yield nor total airline hub revenue were correlated in any significant way with airport costs.

Airport costs, as measured by airlines, are expressed in terms of the cost to the airline per enplaned (i.e., departing) passenger for airport rent and landing fees. Comparing airport costs is more difficult than comparing airfares for a number of reasons. First, airport cost data is not readily available, but must be collected on an ad hoc basis from multiple sources. Second, different airports include differing levels of services within their basic charge structure.³ Third, because airport charges are calculated to permit airports to recover their costs—which are largely fixed—those charges vary significantly depending on the volume of traffic. For example, as landed weight decreases—as it has at many airports since 2000—landing fee charges per aircraft increase proportionately.⁴

Fourth, the level of airport costs will change depending on where the airport is situated in the capital development cycle. Capital costs comprise a majority of airport costs at airports with major capital development programs. As illustrated below, an inexpensive airport today may not remain so once the next terminal development project is completed. Both San Francisco and Denver were “moderate” cost airports before major capital programs were completed that resulted in sharp increases.⁵



³ One airport may include the cost of financing interior furnishings, baggage equipment, and jet bridges within its terminal rent, while another airport may require each airline to provide its own tenant improvements and equipment. The airport-to-airport variations are myriad and difficult to quantify.

⁴ The landing fee rate is typically computed by dividing the capital and operating costs of the landing field by the projected total landed weight of all aircraft using the airport over a one-year period. Airport terminal rent—although less sensitive than landing fees to changes in flight activity—also tends to increase as passenger volume decreases, as less revenue from parking, rental cars, and other concessions is available to offset terminal operating costs. In short, an airport built for a certain traffic base will need to increase its charges per passenger as traffic declines.

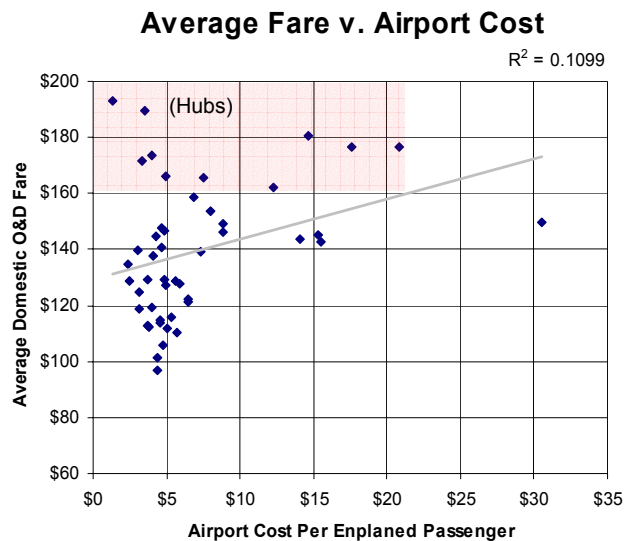
⁵ Other factors making airport-to-airport comparisons difficult include: very different charging systems used by different airports, particularly with respect to airport terminal usage—ranging from the most commonly used systems that charge a certain amount per square foot of terminal space leased (which benefits high volume users) to systems that charge a certain amount per airline seat or per passenger; different airports cost information reporting for different time frames; some airports report on a calendar year basis, while others use one of several fiscal year reporting schemes.

Despite all of these qualifications, useful data is available on per passenger costs at different airports. What is important is to view the available data as approximate only and not to draw conclusions based on small differences.

III. Low Airport Costs Do Not Guarantee Low Airfares

One fact that is immediately evident from the data is that low airport costs do not *guarantee* low or even moderate airfares. The simple explanation is that some of the highest fare markets in the U.S. are those where the hub carrier has been able to capture a large majority of the traffic and charge airfares accordingly. In those markets, there is no correlation between the level of airport charges and the level of airfares.

Using data for 47 major U.S. airports, the chart below shows the correlation between domestic O&D fares and the level of airport charges. Average O&D fares are provided for the year 2003 for each airport, while airport cost information is taken from a variety of sources. As indicated by the low correlation coefficient, there is very little correlation between higher airport costs and higher airfares.

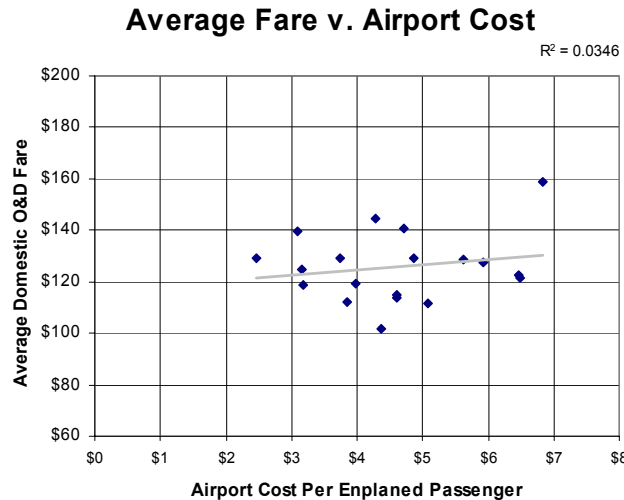


It is noteworthy that the two airports with the *highest* airfares in the above chart are Cincinnati, Ohio and Charlotte, North Carolina. Ironically, Charlotte has the *lowest* airport costs of any airport listed. Cincinnati also has low airport costs, less than \$4 per enplaned passenger, which ranks it among the least expensive airports.⁶

If airfares tend to be higher at hubs dominated by legacy carriers, regardless of the presence of low airport costs, then removing those hubs from the above chart should

⁶ The response of one airline planner to this finding is to suggest that the success of connecting hubs established in relatively small markets, such as Charlotte and Cincinnati, is in fact dependent upon *both* low airport costs (which encourage the airline to have a large operation at that airport) and high local fares (which make it worthwhile to locate the hub at that particular airport). *If this is indeed the case*, then the inevitable arrival of lower fares at these hubs at some point will certainly be problematic.

highlight the true relationship between airfares and airport costs. Unfortunately, removing all of the legacy carrier hubs also tends to remove most of the higher cost airports. Among the remaining airports, there is very little correlation between airport costs and airfares. The correlation weakens even further once the two slot-constrained and relatively expensive airports of Reagan Washington National and New York LaGuardia are removed. In other words, removing both *hub dominant* and *slot constrained* airports removes the most expensive airports, which also have the highest average fares. There is no meaningful correlation between airport costs and average airfares at the remaining non-hub and non-slot-constrained airports. See chart below.



The result shown in the chart above is not surprising to airline route planners. With airport costs ranging from about \$3-\$7 per enplaned passenger in the above sample, and varying each year depending on passenger volume and the airport capital development cycle, few airline planners would base important route decisions on a maximum cost differential of \$4 per enplaned passenger. Putting the airport cost issue in perspective, airport rent and landing fees in the above sample range from about two to five percent of the average domestic O&D fare.⁷ That is simply not enough of a differential for most airline planners to get excited about. Market demand issues are much more important.

Legacy carriers respond to this finding by pointing out that as their other costs, e.g., labor and aircraft lease costs, are reduced to bring them in line with declining ticket prices, airport costs constitute an increasing portion of their overall cost structure. Low cost carriers point out that with airfares averaging \$77-78 for Southwest and AirTran,⁸ the average U.S. airport cost of \$7-8 is actually closer to 10 percent of their overall costs.⁹

⁷ The above data set also excludes the slot-constrained airports of Reagan National and LaGuardia, both of which have high airport costs and relatively high average airfares.

⁸ Average domestic one-way fares for the fourth quarter of 2003: Southwest: \$78; AirTran: \$77; jetBlue: \$107.

⁹ Low cost carriers frequently find a way to lower their airport costs by up to 30-35% below the airport average by scheduling more flights per gate than other carriers.

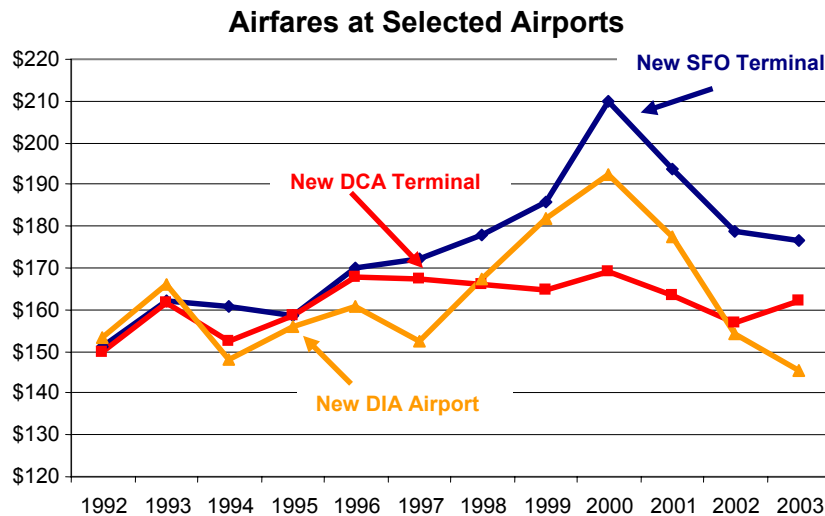
Although both statements are accurate, they do not alter the basic finding that there is no significant correlation between airport costs and airfares.

Do airports that serve as large hubs naturally tend to have higher airport costs? In other words, putting aside any consideration of airfares, do the specialized facilities requirements of large hub operations drive airport costs higher? It turns out that while the average cost of legacy carrier hub airports is higher than that of the entire data set, there are both very inexpensive hub airports (Charlotte and Cincinnati) and expensive hub airports (Denver, San Francisco, and Miami). The same is true of O&D airports, which range from very inexpensive (Kansas City, Fort Lauderdale, and many others) to expensive (Reagan National and New York LaGuardia). It is interesting that the two particularly expensive O&D airports, National and LaGuardia, are both limited access slot-constrained airports. However, it is difficult to draw conclusions from a set of only two such airports. (Note also that Reagan National was, for many years before the substantial completion of its modernization program in 1997, a moderate-cost airport.)

IV. Higher Airport Costs Must Ultimately Be Passed On – But Not on a Market Specific Basis

For years, airlines have argued that higher airport costs ultimately must be passed on to the consumer. Presumably that is a truism, as with all other components of the airline cost structure. As total airline operating costs increase, they must ultimately be passed on to consumers, or all airlines will lose money. However, that does not mean that cost increases must be passed on to consumers on a market-by-market basis.

As shown in the preceding charts, once legacy hub airports are removed from the data set, there is no meaningful evidence that airfares are higher at higher cost airports. Correspondingly, the data show that when an airport opens a new and much more expensive facility, airfares do not necessarily increase. This conclusion was tested using three examples: (1) the opening of the new Denver Airport in February 1995; (2) the completion of the new domestic terminal at Reagan National in July 1997; and (3) the completion of the new San Francisco international terminal in December 2000 (which raised domestic and international terminal rent at the airport). Each of these events raised the airport cost per enplaned passenger by more than five dollars.



As shown above, fares declined following the opening of both the Reagan National and San Francisco terminals. They rose slightly after the opening of the new Denver airport and then dipped, rose and fell again. In short, any impact of higher airport costs on airfares was completely overshadowed by other factors.

V. Costs are a Factor in Low Cost Carrier Selection of Airports

Much has been made of the fact that low cost carrier (LCC) “focus cities” have lower than average airport costs, with some LCC carriers pointing out that their focus city airports have costs of “under \$5” per enplaned passenger. The largest LCC, Southwest Airlines, is expected to spend approximately \$5 per enplaned passenger in airport costs in 2004. However, there is more to this story.

A look at Southwest Airlines’ focus cities of Phoenix, Oakland, Las Vegas, Houston Hobby, and Baltimore confirms that costs at those airports are substantially lower than average, approximately \$4.50 per enplaned passenger versus \$8 for the average U.S. airport. Houston Hobby has the highest cost of the five, but is still less than \$6 per enplanement. However, all of these airports have expansion programs under way or planned, which will almost certainly increase their costs. Thus, on the one hand, Southwest’s high level of utilization has helped keep airport costs low at its focus city airports. On the other hand, its continued growth means that the next phase of the airport capital development cycle will increase costs at these same airports.

Does Southwest serve high cost airports? It does not currently serve any of the most expensive airports in the U.S., including San Francisco, Denver, the New York Port Authority airports, or Miami. With regard to Denver—the largest metropolitan area not served by Southwest—Southwest has said publicly that the airport is simply too expensive and that serving Denver would mean changing its business model to become a “high fare carrier to recoup costs out of Denver.”¹⁰ However, Southwest does serve some

¹⁰ Remarks of Laura Wright, VP – Finance, Southwest Airlines, as reported in *Aviation Daily*, Wednesday, March 31, 2004, p. 4. In addition, Denver’s charge structure is less favorable to high volume carriers,

airports that currently have moderate costs and are on the way to becoming high cost airports, such as Seattle and, as of May 2004, Philadelphia.

Southwest has by far the largest network of any low cost carrier, serving 58 airports. On a number of occasions, Southwest and other LCCs have pointed out that it is less expensive to simply add flights between markets currently served than to initiate service to a new market. By doing so, the carrier is able to avoid start-up manpower, marketing, and airport costs, and to bring further economies of scale to existing markets. This conclusion is sometimes used to bolster the airlines' argument that maintaining low airport costs is important. However, the argument really has little to do with the level of airport costs and much to do with the economics of opening *any* new market. Ultimately, the basic principle remains that airlines will serve new markets when those markets offer solid potential to strengthen their networks and to earn a profit.

Other low cost carriers, of course, do serve high cost airports, and some low cost carriers have developed hubs/focus cities at very high-cost airports, notably jetBlue at Kennedy and Frontier at Denver. In the case of Kennedy and Denver, both local markets are among the ten largest in the U.S. in terms of revenue. Thus, industry analysts generally conclude that jetBlue and Frontier have been willing to incur high costs at these specific airports because there are no alternative lower cost airports that effectively serve these very large markets.

As for high cost airports that do not serve as hubs/focus cities, there are many examples of service by low cost carriers, with AirTran showing little hesitation to serve higher cost airports when they are the preferred airports for business travelers. Spirit has done the same with service to LaGuardia and Reagan National, which are high-cost airports. And, although Southwest does not serve high-cost Denver, jetBlue, AirTran and other low cost carriers do.

All other things being equal, low cost airports appear to attract more than their share of low cost service. However, the only situation where all other things may be equal (or nearly so) is in the metropolitan areas served by multiple airports. As discussed below, airport cost differences in these metropolitan areas may have significant air service/airfare consequences.

VI. High Cost and Low Cost Airports in the Same Metropolitan Area

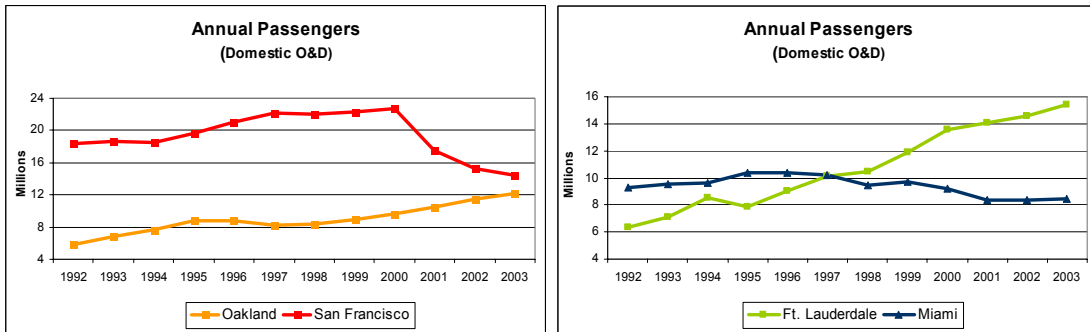
Two metropolitan areas are conspicuous in serving as locations for a high-cost airport along with a much lower-cost airport: specifically, higher-cost Miami versus lower-cost Fort Lauderdale, and higher-cost San Francisco versus lower-cost Oakland. (The special case of Washington, D.C. is discussed separately.) In both cases, the cost difference between the high-cost airport and the low-cost airport is significant (in the range of \$10 per enplanement) and low cost carriers have developed extensive and growing operations at the lower-cost airport. In the case of Miami, Southwest Airlines serves two other airports in the same metropolitan area—Ft. Lauderdale and West Palm Beach. With

which are typically able to reduce their cost per passenger to well below the airport average by operating more flights per day per gate.

respect to Miami, not only are its airport costs substantially higher than the other two nearby airports, but its method of charging terminal rent—based on the number of the carrier’s aircraft seats using the airport each month—does not permit a high frequency/utilization carrier such as Southwest to reduce its airport costs relative to other carriers.

In the case of San Francisco, Southwest originally served the airport, but relocated to nearby Oakland. At the time of the move, Southwest announced that the reason was the amount of congestion at San Francisco. However, it was also clear then that the expensive new international terminal under construction would significantly raise airport costs for all users of the airport.

Comparisons of passenger growth at San Francisco versus Oakland, and Miami versus Fort Lauderdale, are provided below. The pattern of growing traffic at the lower cost airport and declining traffic at the higher cost airport is striking.



Two other large metropolitan areas are of interest, but have complicating factors: Washington and New York. In the Washington area, Reagan National and Dulles are both much more expensive than BWI, but Reagan National is also slot-constrained and thus not open to service without a special award of limited landing rights. Of the two remaining airports, Southwest may have chosen to establish a major operation at BWI instead of Dulles partly because of its lower costs and partly for other reasons, including a weaker major competitor at BWI versus Dulles (US Airways versus United), and perceived facilities/operational advantages. Whatever Southwest’s reason for selecting BWI, Dulles also now has attracted its own low fare carrier, Independence Air, which began hub operations there in June 2004.

In the case of New York City, the three Port Authority airports are all high cost airports, each of which has some service from LCCs. However, the only alternative airports with lower costs are geographically remote from the business center and do not provide comparable access to the New York market. Thus jetBlue, AirTran, Spirit and others have decided to incur the higher costs of operating at the Port Authority airports, while Southwest has opted to serve only lower cost, less congested, but distant Islip Airport.

VII. Conclusion

Do airport costs matter when airlines make route planning decisions? Most carriers make route-planning decisions based predominantly on the strength of the market, the contribution of the market to their overall network, and competitive factors, not on airport costs. As one airline executive said, “When we look at a market, having low airport costs means that we can check-off that area as ‘no problem.’ High airport costs make us uncomfortable, but it’s difficult to think of a route planning decision that we made based on that factor.”

Airport costs are most important in metropolitan areas with multiple airports. In those areas, low cost carriers have tended to focus their operations at the lower cost airport to the detriment of the higher cost airport. In addition, as discussed, some carriers, such as Southwest, are more sensitive to airport cost issues than others.

Do airlines pass along higher airport costs in the form of higher airfares at those airports? There is no statistically significant correlation between airfares and airport costs. Some of the lowest cost airports in the U.S. have the highest airfares, while some of the most expensive airports have low fares as a result of the establishment of low cost carrier hubs there.

Finally, this article does not intend to suggest that maintaining low airport costs is unimportant to the overall health of the industry. Airport costs are as important as any other component of the overall airline cost structure—i.e., each dollar saved in operating costs contributes to the operating economics of the airlines. Ultimately, to survive, airlines must achieve an overall cost structure that permits them to operate profitably. Airport costs are part of the airline cost structure, regardless of the degree to which they influence specific market decisions.

RAH 7/15/04



10780 Parkridge Boulevard, Suite 75

Reston, VA 20191 USA

www.eclatconsulting.com

Telephone 703.773.3100 • Facsimile 703.773.3119