How Airport Noise and Airport Privatization Effect Economic Development in Communities Surrounding U.S. Airports

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I. INTRODUCTION

With over 1.9 million passengers and more than 38,000 tons of cargo passing through U.S. airports each day, the aviation industry has grown monumentally in its first 100 years.[1] A recent study by the U.S. Department of Transportation translated what this growth has meant to the U.S. economy. Currently, U.S. airports create $507 billion a year nationwide in total economic activity.[2] In terms of jobs, the airline industry employs 6.7 million people, with 1.9 million jobs directly related to airports and another 4.8 million jobs indirectly created in surrounding communities.[3] These jobs produce annual wages of $190.2 billion.[4] And, with $33.5 billion a year generated in local, state, and federal taxes, private citizens are not the only ones reaping the benefits of the airline industry's growth.[5]

Despite the financial setbacks suffered due to September 11, 2001

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1. AIRPORTS COUNCIL INTERNATIONAL-NORTH AMERICA, THE ECONOMIC IMPACT OF U.S AIRPORTS (2002) [hereinafter AIRPORT ECONOMIC IMPACT STUDY], *available at* http://www.acina.org/as-p/stats.asp?page=91 (last visited Oct. 4, 2004).

2. *Id.*

3. *Id.*

4. *Id.* at 7.

5. AIRPORT ECONOMIC IMPACT STUDY, *supra* note 1, at 7.

and the ensuing soft economy, the U.S. airline industry is poised for further growth. Total U.S. scheduled passenger enplanements, estimated at 683 million for 2001, are expected to top one billion in 2013.[6] This represents a growth of 46% in total system activity, which experts believe will one day require the equivalent of ten new airports similar in size to Los Angeles International or Dallas/Forth Worth International.[7]

The U.S. air cargo market has also expanded over the past decade. Currently, 54% of U.S. exports by volume, and 40% of the world's cargo by value move by air.[8] This is expected to grow at a rate of 5.3% per year over the next twelve years.[9]

Typically, economic growth leads to increases in passenger and cargo activity. This growth often necessitates airport expansions to prevent congestion and to serve the increased needs of airlines flying through these airports. In light of the U.S. Department of Transportation study showing that for every $1 billion invested in airport development approximately 40,000 to 50,000 jobs are created, with related spending and tax revenue benefits for local, state, and federal governments, this is likely welcome news for growth-oriented municipalities surrounding airports.[10] However, along with the positive economic benefits of airport expansions come environmental concerns for areas neighboring the airports. Of chief concern is airport noise pollution.

According to a U.S. General Accounting Office ("GAO") survey in the year 2000, noise issues remain the primary environmental concern associated with airports in America.[11] In fact, 58% of airport officials surveyed listed noise impacts as their primary concern versus 24% voicing concern over water quality, and 12% listing air quality as their major concern.[12]

Within these results lies the paradox of airport expansion. Airports have to grow to maintain service levels, and to sustain increased passenger and air cargo demands. At the same time, expansions often lead to

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6. *Id.* at 1.

7. *Id.*

8. Haya El Nasser, *New 'Cities' Springing up Around Many U.S. Airports*, USA TODAY, Sept. 25, 2003, at 1A; Gerald L. Baliles, *Aircraft Noise: Removing a Barrier to Aviation Growth*, 66 J. AIR L. & COM. 1333, 1337 (2001).

9. AIRPORT ECONOMIC IMPACT STUDY, *supra* note 1, at 1.

10. AIRPORTS COUNCIL INTERNATIONAL, *Stats & Surveys: U.S. Economic Impact Study 2002*, *available at* http://www.aci-na.org/asp/stats.asp?page=91.

11. U.S. GENERAL ACCOUNTING OFFICE, AVIATION AND THE ENVIRONMENT: RESULTS FROM A SURVEY OF THE NATION'S 50 BUSIEST COMMERCIAL SERVICE AIRPORTS 5 GAO Report RCED-00-22 (August 2000), *available at* http://www.transource.org/Shared_files/GAO9-8-00b.pdf (last visited Oct. 4, 2004).

12. *Id.* at 11.

increases in noise pollution.[13] Increases in noise pollution can reduce the desirability of the areas that surround the airport, and when an area is deemed "undesirable," population growth and new development curtails.[14] However, if airports are not given the opportunity to grow effectively to meet industry and passenger demands solely because of noise concerns, this may force corporations who rely on airport services to relocate to cities where they can be confident their air transport demands will be met. An exodus of corporations, though a worst-case scenario, is something that no city wants.

Inferring that economic growth is the goal of most cities, it is evident that airports and the surrounding municipalities must work in tandem to create an environment that will benefit both the corporations and the neighborhood residents. It is important that America's aviation system meet the growing demand being placed on it despite the complaints by some airport neighbors. This importance is not just voiced by airline passengers and industries reliant on air cargo, but also by consumers. This latter group includes the people who live in airport areas, because they, like other consumers throughout the country, demand expedient delivery of their goods. They want produce to be delivered fresh, and on-line orders delivered when they want them to the location of their choice.[15] As the demand for expediency grows, so will certain annoyances associated with airport noise. Specifically, increased noise during night hours, as cargo flights are highly prevalent at night so shippers can ship during the last hour of the business day, and customers can receive their goods in the first hour of their business day.[16]

Therefore, while noise is understandably burdensome for many airport neighbors, it is arguable that some of the noise, especially cargo noise, results from activities that directly benefit those who are most upset. When viewed in this light, a strong argument arises that the need for increased air capacity to meet transportation requirements may outweigh the risk associated with curtailing airport activity.[17]

Along with expansion issues, another topic airports are currently grappling with is privatization. Relative to the international trend, U.S. airports have shunned privatization over the past decade.[18] Recently though, the industry has been moving more toward partnerships between

13. Luis G. Zambrano, *Balancing the Rights of Landowners With the Needs of Airports: The Continuing Battle Over Noise*, 66 J. AIR L. & COM. 445, 445 (2000).

14. *See id.*

15. Baliles, *supra* note 8, at 1337.

16. *See id.*

17. *See* Zambrano, *supra* note 13, at 446.

18. David N. Powers & Leslie A. Freeman, *Privatization: A New Frontier in Project Finance*, 1999 PRACTISING LAW INST. 112.

government owners of airports and private management firms.[19] This approach to airport management is thought to offer several benefits to not only the airports and local governments, but to taxpayers and airport users as well.[20] These benefits include improved airport amenities for providers and passengers and increased revenue streams for local and state governments.[21]

This paper offers a snapshot of the impact that airport noise has on economic development in the areas that surround the airport and will attempt to ascertain the effect, if any, airport privatization has on surrounding growth. To do so, it focuses on some of the nation's busiest airports: Denver International Airport ("DIA"), Dallas/Forth Worth International Airport ("DFW"), Dallas Love Airport, O'Hare International Airport in Chicago, Atlanta's Hartsfield International Airport, and Pittsburgh International Airport.

II. Health Impacts From Noise Pollution

It is difficult to understand the ramifications of airport noise on economic development unless one comprehends why people are so averse to it. Sound is measured in decibels ("dB"). "The perception of noise doubles in loudness for every 10 dB increase in sound level. An 80 dB sound is perceived to be twice as loud as a 70 dB sound, four times louder than a 60 dB sound, and eight times louder than a 50 dB sound."[22] To put this into context, 65 decibels, which is the maximum noise many airport monitoring systems allow before they trigger a noise violation,[23] is similar to the amount of noise emitted from a hair dryer.[24] Sixty decibels is the equivalent of a conversation between two people standing one yard away.[25]

People living near the airport complain that airport noise disrupts daily activities including sleep, and interferes with television viewing and conversation.[26] In addition to general discomforts stemming from airport

19. Charles Sander, *Airport Privatization: Trends and Opportunities*, *available at* http://www.unisys.co-m/transportation/insights/insights__compendium/airport__privatization_c0___part__1.htm (last visited Oct. 4, 2004).

20. *Id.*

21. *Id.*

22. Jon P. Nelson, *Meta-Analysis of Airport Noise and Hedonic Property Values: Problems and Prospects*, at 7 (2003), *at* http://econ.la.psu.edu/Papers/nelson_metanoise31.pdf (last visited Oct. 4, 2004).

23. *Id.*

24. Alan Achkar, *Plan for Hopkins Noise Draws Two Loud Critics*, Cleveland Plain Dealer Rep., Oct. 26, 1999, *available at* http://archives.californiaaviation.org/airport/msg03101.html (last visited Oct. 4, 2004).

25. *Id.*

26. Gale Schlesinger, *Airport Noise: The Proprietor's Dilemma*, 16 Transp. L.J. 333, 333 (1988).

noise, there are also documented health risks from living in a noise-abundant area.[27] William Paaschier-Vermeer of the Health Council of the Netherlands, found that some of these risks include hearing impairment, and stress related health effects such as hypertension and myocardial infarction.[28] At noise levels above 75 dB, the Environmental Protection Agency cautions that more severe health effects may occur for some portion of the population, including temporary hearing loss.[29] Those who are frequently outdoors are of greatest concern, including young children, and people with outdoor occupations like farming and landscaping.[30]

III. Economic Impact of Airport Noise

In addition to physiological effects, airport noise can have economic impacts on areas surrounding the airport as well. A number of studies have examined the relationship between residential housing prices and airport noise, and nearly all demonstrate a significant negative relationship between airport noise and property value.[31] In one study, a survey of real estate brokers and property appraisers indicated a perceived discounted price for single-family and multi-family residential properties in noise-effected areas.[32] A recent study analyzing the effects of airport noise on apartment rental rates in Addison, Texas, located eleven miles outside of Dallas Love Field Airport, indicates that this concept extends to the apartment rental market as well.[33] Apartment rental rates are established by market forces, as well as a number of physical determinants like square feet, number of bedrooms or bathrooms, age, and amenities like underground parking or pools.[34] Location factors are also determinant, including such factors as distance to business centers, schools, or public transportation, services like property management quality, as well as rental concessions or marketing promotions.[35] Taking these factors into consideration, the results of this study illustrate that apartment rental prices contain an average discount of $53.13 per month when located within the 65 dB noise exposure contour compared to similar apartments

27. Willy Passchier-Vermeer, *Aircraft Noise Exposure and Adverse Effects*, TNO Prevention & Health, *available at* http://www.its.berkeley.edu/techtransfer/events/air/2001/downloads.html (last visited Oct. 4, 2004).

28. *Id.*

29. Nelson, *supra* note 22, at 3.

30. *Id.*

31. David Nicosia, *Airport Noise and Apartment Rental Rates, Addison, Texas, 2002*, at 3 (2003) *available at* http://www.ucgis.org/summer03/studentpapers/davidnicosia.pdf (last visited Oct. 4, 2004).

32. *Id.*

33. *See id.*

34. *Id.*

35. *Id.*

located in noise-absent areas.[36]

Studies outlining the effects of airport noise on the sales of single-family homes have produced similar results.[37] Combining independent studies of Atlanta, Dallas, Reno, St. Louis, San Francisco, and Washington, D.C., and controlling statistically for influences such as the size of house and lot, quality and design of the house, merits of the neighborhood, quality of local schools, neighborhood crime rates, and governmental services, the studies conclude that the effect of airport noise on U.S. property values is between 0.51% and 0.67% per dB, with a weighted-mean of 0.58% per dB.[38] On the surface, this does not sound significant, but when stated differently, the noise ramifications become apparent. A 58% decrease in price per increase in dB means that a given property located at 55 dB would sell for about 10-12 percent less if it was located at 75 dB, all other factors being equal.[39] This translates to a $200,000 house selling for $20,000 to $24,000 less when located at 75 dB than the same house at 55 dB.[40]

IV. Airport Privatization

As it is clear that airport noise has economic impacts on communities surrounding the airport, the question is whether privatization can mitigate some of these negative effects or can make these negative effects inconsequential for growth and development.

Before the 1980s, airport privatization was largely a theoretical concept. This changed in 1987, when Prime Minister Margaret Thatcher shocked the airline industry by selling the British Airports Authority ("BAA") in an initial public offering of stock.[41] The resulting $1.9 billion transaction sparked interest in airport privatization throughout the world.[42] Since then, the merits of airport privatization have been debated in every city containing a major commercial airport. The combination of government opposition, the complexity of the airport privatization concept, and the fact that privatization is a relatively new model in practice has stalled the movement towards privatization in the U.S. However, with the benefits slowly emerging in other countries where market-oriented incentives have been introduced through privatization of everything from ownership to airport management to airport services, U.S. airport opera-

36. *Id.* at 11.
37. Nelson, *supra* note 22, at 5.
38. *Id.* at 4, 16.
39. *Id.* at 16.
40. *Id.*
41. Sander, *supra* note 19.
42. *Id.*

tors are beginning to consider privatization more strongly.[43]

One aspect of privatization that is causing some U.S. decision makers to reconsider their opposition to the concept is the large sums of money companies are willing to pay to take part in the process. For example, the winning bid for the Argentine airport system, which is projected to generate $20 billion over the 30-year contracted term, requires an annual concession fee to the Argentine government of $171.2 million and infrastructure improvements by the concessionaire of $2 billion.[44] The winning bid by AGI for a 99-year lease for the Perth Airport in Australia exceeded $500 million,[45] while the price tag for the privatization of JFK's international terminal was $1.2 billion.[46]

So why are companies willing to pay so much for the opportunity to run an airport? In a nutshell, investors believe that the government entities currently running the airports are not operating as efficiently as a private company can by employing a competitive commercial model.[47] Under the current government ownership model, the goal of airport management is to get planes on and off the ground, move users and cargo in and out of the airport and, whenever possible, cover operating costs.[48] Under a commercial model, management must largely do the same functions, except that they will also need to increase efficiencies at every level to ensure that the airport runs at a profit, or they will fail produce a return on their large investment.[49] To accomplish this, a private owner will seek to enhance services in order to maximize all possible revenue sources and cover all costs – goals that are sometimes foreign to public management.[50]

Aside from the large sums of money governments can receive from selling their airports, airport privatization also offers many benefits to the end users. First, privatization reduces the airport's reliance on government subsidies. Governments usually have limited capital available for infrastructure improvements.[51] Privatization offers a way to shift the financing burden for airport infrastructure improvements to the private sector.[52]

Second, privatization may improve the efficiency and quality of ser-

43. *Id.*
44. Powers & Freeman, *supra* note 18, at 112.
45. *Id.*
46. *Id.*
47. *See* Sander, *supra* note 19.
48. *Id.*
49. *Id.*
50. *Id.*
51. Powers & Freeman, *supra* note 18, at 112.
52. *Id.*

vices provided to airlines and passengers.[53] When competitive, private market factors can be utilized to dictate the quality, quantity and price of services, good value for money is often the end result.[54] With privatized airport ownership and operation, the likelihood of free market economic forces existing is arguably greater than under government ownership and operation.[55] This is indicated in studies that have shown that airports privatized through equity divestiture and management contracts have a significantly higher level of passenger responsiveness than government-owned airports.[56] However, it is important to note that because airports are often monopoly service providers, whether government owned or privatized, there is no guarantee that privatization will result in more efficient, higher quality, or lower cost services.[57]

Third, private airport management is thought to dramatically increase revenues from commercial operations such as retail and food services.[58] For example, since operations at the Pittsburgh Airmall were transferred to the British Airports Authority, per passenger retail spending is reported to have increased by 250%.[59] Thus, privatization has been shown to improve airport operations, to the benefit of the private owner and operator, the airport authority, airlines, and the traveling public.[60] When privatization enhances things like airport facilities and airport management services, it is believed that an increase in the number of business and leisure travelers to the airport will result.[61] This passenger increase will, in turn, benefit the general economy in the areas surrounding the airport in the form of increased hotel stays, restaurant visits, and tourist-related activities.[62]

Furthermore, airport privatization can help encourage competition within the airline industry.[63] Besides start-up costs as a barrier to entry, one reason there are relatively few competitors in the airline industry is

53. *Id.*

54. *Id.*

55. Sander, *supra* note 19.

56. *Id.*

57. Powers & Freeman, *supra* note 18, at 113.

58. *Id.* at 114.

59. *Id.* (citing Airport Privatization: Issues Related to the Sale or Lease of U.S. Commercial Airports: Hearing Before the House Subcomm. on Aviation, 104th Cong. 4, Doc. GAO/J/RCED-96-82 (1996) (statement of Gerald L. Dillingham, Associate Director, Transportation & Telecommunication Issues, Resource, Community, & Economic Development Division)), *available at* http://ntl.bts.gov/lib/000/400/432/rc96082t.pdf (last visited Oct. 4, 2004).

60. Powers & Freeman, *supra* note 18, at 114.

61. *Id.* at 114-15.

62. *See id.* at 115.

63. Robert W. Poole Jr., *More Airline Competition - Yet Another Reason for Airport Privatization,* REASON PUB. POL'Y INST. (Dec.1999), *available at* http://www.ncpa.org/pd/private/pd041700g.html (last visited Oct. 4, 2004).

that fledgling airlines seeking to compete with established airlines have difficulty obtaining gates.[64] Typically, U.S. airports sign long-term gate-lease agreements with the major airlines, assuring a revenue stream to pay off the bonds issued to build the terminal facilities.[65] These long-term agreements often give the airlines what amounts to a veto power over any terminal expansions.[66] By contrast, at most of the 100+ privatized airports around the world, the gates remain under airport company control, and are allocated to individual airlines as needed.[67] At some of these airports, the airline logo signage at each gate is electronic, so it can be changed in moments from one airline's name to another.[68] With more airlines to choose from, and all of them competing to win business, the U.S. traveler should reap benefits in the form of better service and lower ticket prices.

Finally, privatization can greatly benefit the financiers and banking institutions that invest in the airport.[69] Airports, unlike many other businesses, have a multitude of revenue streams. One stream stems from aviation fees paid by the airlines such as per-passenger facility fees, take-off and landing fees, aircraft parking fees, ground handling fees, and ticket counter and VIP lounge rents.[70] Additionally, there are also commercial revenues such as concession and sales revenues from restaurants, retail stores, and advertising.[71]

On the other hand, airport financing does have its risks. First, a weak economy will ultimately cause airport project revenues to decline if companies cut back on their business travel.[72] Second, war and political unrest in foreign countries can threaten profitability when there is a decline in international business and leisure travel.[73] Third, revenues can be adversely effected by competition from alternative means of transportation.[74] For example, Amtrak Metroliner service improvements from Boston to New York and New York to Washington may threaten the "Shuttle" service of Delta and US Airways.[75] Lastly, the success of an airport privatization can often rest on the extent of government support for the project.[76] A GAO report found that U.S. privatization initiatives

64. *Id.*
65. *Id.*
66. *Id.*
67. *Id.*
68. *Id.*
69. *See* Powers & Freeman, *supra* note 18, at 122.
70. *Id.* at 119.
71. *Id.* at 119-20.
72. *See id.* at 120.
73. *Id.* at 121.
74. *Id.*
75. *Id.*
76. *Id.* at 124.

have a higher chance of success when they have the backing of a committed political leader.[77]

While the aforementioned benefits of airport privatization are promising, there are detractors of the privatization model. Major airlines, such as Delta, in response to Hartsfield's potential privatization, have expressed concerns that privatization may lead to higher fees and charges.[78] However, it is important to note that US Airways, in response to Pittsburgh's privatization, has supported the idea.[79] Other aviation entities are equally wary. The International Air Transport Association ("IATA"), commenting on privatizations generally, stated that "[we] generally support privatization as a way of making airports and air traffic control facilities more efficient, accountable and customer oriented, but converting a public monopoly into a private one does not, of itself, guarantee those advantages."[80] Thomas Browne, the Managing Director of the Air Transport Association, which represents major airlines operating in the United States, believes that there are only benefits to privatization when an airport is built by a private developer from scratch, but not when an existing airport transfers from being publicly owned to a private authority.[81]

Despite these concerns, privatization seems to be a growing trend throughout the world. So why haven't more U.S. airports followed this route? A major reason is government opposition and industry lobbying. For example, the passage of the Airport and Airway Safety and Capacity Expansion Act of 1987 diminished incentives for private companies looking to invest in U.S. airports.[82] This act requires that public agencies receiving Federal grants for airport development use revenues generated by a public airport "for the capital or operating costs of the airport, the local airport system, or other local facilities owned or operated by the airport owner or operator and directly and substantially related to the air transportation of passengers or property."[83] However, in an attempt by Congress to test the privatization waters, the Airport Improvement Privatization Program ("AIP") was enacted.[84] The AIP allows up to five

77. *Id.* (citing U.S. GENERAL ACCOUNTING OFFICE, PRIVATIZATION: LESSONS LEARNED BY STATE AND LOCAL GOVERNMENTS 4, Report to the Chairman, House Republican Task Force on Privatization) GAO/GGD-97-48 (March 1997)), *available at* http://www.gao.gov/archive/1997/gg97048.pdf (last visited Oct. 7, 2004).

78. *See* Robert W. Poole Jr., *Global Airport Privatization Regains Altitude in* ANNUAL PRIVATIZATION REPORT (2003) [hereinafter *Global Airport Privatization*], *at* http://www.rppi.org/apr2003/globalair-portprivatizationregains.html (last visited Oct. 8, 2004).

79. Mark Belko, *Council Hears Backer, Critics of Airport Authority*, PITTSBURGH-POST GAZETTE, Sept. 30, 1999.

80. Powers & Freeman, *supra* note 18, at 115.

81. *Id.* at 116.

82. *Id.* at 116-17.

83. *Id.*

84. *Id.* at 117.

airport owners to apply to the FAA for a waiver of the "revenue diversion" restrictions contained in Federal law.[85] In 1989, the Albany County airport in New York became the first AIP applicant, petitioning the FAA for approval to be bought by a private company.[86] The FAA formed a taskforce to address Albany's application.[87] The taskforce deadlocked over the legal and financial feasibilities of the proposed sale and ultimately denied the request.[88]

Other initial applicants, like Brown Field in San Diego, abandoned their efforts after facing similar political opposition and concerted industry lobbying.[89] Overall, the result of the AIP has been a great deal of political debate but little progress, as there seems to be continued skepticism regarding the benefits of privatization, coupled with trepidation by municipalities who are concerned about losing control over their airports.[90]

Privatization in other parts of the world has followed a markedly different path. In the early 1990s, Vienna and Copenhagen airports sold part interests in their airports and contracted out several operations services.[91] Several airports in the United Kingdom have been sold.[92] In 1997, Australia raised more than $2.6 billion through the sale of Melbourne, Brisbane, and Perth airports.[93] Bolivia has successfully implemented long-term lease concessions for its three main airports, and Düsslelorf, Naples, and Rome, have shifted to the private model with sales of proportional ownership.[94]

In total, more than twenty countries have privatized their airports in some manner including Argentina, Austria, Bahamas, Cambodia, Canada, Chile, China, Colombia, Denmark, Dominican Republic, Germany, Hungary, Italy, Japan, Malaysia, Mexico, New Zealand, Singapore, South Africa, and Switzerland.[95] Most have done so by means of equity divestitures, leases and incentive-laden management contracts.[96] In most cases, the results have been favorable, resulting in significantly increased profits and lower operating costs.[97]

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85. *Id.*
86. Sander, *supra* note 19.
87. *Id.*
88. *Id.*
89. *Id.*
90. *Id.*
91. Sander, *supra* note 19.
92. *Id.*
93. *Id.*
94. *Id.*
95. Sander, *supra* note 19.
96. *Id.*
97. *Id.*

V. A Look at Major Airports Throughout the U.S.

After looking at a general perspective of airport noise and privatization, the focus will now shift to how these concepts effect the economic development at specific U.S. airports.

A. Denver International Airport, Denver, Colorado

Over 34 million passengers each year contribute to make Denver International Airport the 10th busiest airport in the world.[98] These visitors pour roughly $3.7 billion dollars into the economy each year.[99] Close to 195,000 people are employed by the airport and its tenants, resulting in wages of $6,928,301,000, and economic activity of $16,784,212,000.[100] With Denver's new convention center slated for completion in November 2004, more visitors from more industries are expected to travel through DIA than ever before.[101] As more industry leaders come through Denver for meetings and conventions, it is hoped that the natural beauty and good quality of life Denver boasts will draw companies to relocate to the metro area.[102] These hopes have, in part, led to predictions that by 2025, $85 billion will be spent annually within the 300 square miles surrounding DIA, up 466 % from 2002.[103] Employment is expected to double to 400,000 and population is expected to grow 66 % to half a million.[104]

DIA's location, in northeast metro Denver, is unique in comparison with other airports servicing major U.S. cities. While most major U.S. airports are located in densely populated areas, DIA, in contrast, is located roughly twenty miles outside of downtown Denver in a relatively undeveloped part of the city.[105] This location provides a blank canvas ripe for residential, industrial, and commercial development, because developers have access to hundreds of acres of land.[106] Builders have recognized this opportunity, and development has started to boom in the Northeast metro area, due in large part to efforts by economic development groups like the DIA partnership.[107] According to Julie Bender, CEO of the DIA Partnership, development around DIA has increased

98. *See* Louis Aguilar & Jeff Leib, *DIA Fate Soars on Law Fares Study Shows Discount Carriers Play Big Role at Airport*, Denver Post, Jan. 29, 2004, at C1.

99. *Id.* at 6.

100. *Id.*

101. *See* Josh Krist, *Convention Centers: Is Too Much Ever Enough*, Meetings West (Apr. 2005), *available at* http://www.meetings411.com/displayarticle.asp?id=4815.

102. *See* Metro Denver Economic Development Corporation, *Relocate and Expand in Metro Denver* (2005), *available at* http://www.metrodenver.org/RelocateExpand/.

103. Nasser, *supra* note 8, at 4.

104. *Id.*

105. *Id.*

106. *See* Nasser, *supra* note 8, at 4.

107. *Id.* at 4-5.

dramatically since DIA's inception and will only continue to rise.[108] In a recent USA Today interview she stated, "people are building something that's equivalent to an entire new city."[109] Although many throughout Colorado questioned why DIA was placed more than twenty miles from downtown Denver, its location is arguably the primary reason why development has been so successful thus far. Both the vast quantity of available land and the fact that most of the availability is far enough away from the airport means less noise concerns, and lower land costs.[110] Combine these factors with a highway infrastructure that provides relatively easy access to both the airport and downtown Denver, and it is clear why developers have met with so much success thus far.

1. The Inter-Governmental Agreement ("IGA")

While new development around DIA has met with success, there have been some problems with airport noise-related issues. DIA is a publicly controlled airport, and prior to its inception, Denver and Adams County entered into lengthy negotiations to develop an Inter-governmental Agreement ("IGA").[111] This resulted in Denver's annexation of fifty-three acres of land previously owned by Adams County.[112] One of the critical issues in the negotiation was that while Adams County recognized that DIA would "serve as a catalyst for economic development in Adams County", it had concerns for the welfare of its citizens.[113] From day one of the negotiations, Adams County expressed its desire that the new airport "avoid unacceptable noise levels in surrounding communities."[114] This desire is spelled out in the IGA paragraph 5.1, entitled "Importance of noise control."[115] This section states it is important that "Denver recognizes that noise generated by aircraft flight operations constitutes a primary concern of [Adams County] and that [Adams County] will rely on the provisions of this Agreement to make important land use decisions concerning the appropriate location of residential, commercial and industrial developments."[116] The IGA further states that it is essential that "Denver recognizes that it is vitally important that the design, construc-

108. *Id.*

109. *Id.* at 4.

110. *See* Erin Johansen, *Growth Likely in Northeast Metro Denver*, DENV. BUS. J., Sept. 8, 2003.

111. Bd. of County Comm'r. of Adams County v. City and County of Denver, 40 P.3d 25, 28 (Colo. Ct. App. 2001).

112. *See Trial Ends in Lawsuit Pitting Suburbs Against Denver Airport*, ROCKY MTN. NEWS, Aug. 27, 1999, *available at* http://netvista.net/~hpb/news/aug-27.html.

113. *See Bd. of County Comm'r of Adams County*, 40 P.3d at 33.

114. *Id.* at 30.

115. *Id.*

116. *Id.*

tion and operation of [DIA] result in actual Noise Exposure Levels which conform to the maximum noise levels set forth in the IGA."[117]

To address these noise concerns, Denver and Adams County employed a team of aeronautical and environmental experts to develop Noise Exposure Performance Standards ("NEPS").[118] Two types of NEPS are defined in the IGA. The Leq(24) grid points – comprised of 101 locations on the north, west, and south sides of DIA, and the 65 Ldn noise contour line – which loosely traces DIA's runway configuration with protrusions on each side of the compass.[119] If the grid point's noise level exceeds the standard outlined in the IGA, a Leq(24) violation occurs.[120] A 65 Ldn violation is triggered when a noise level above 65 dB occurs on land outside of the contour line boundary.[121]

To ensure that DIA conformed to acceptable noise levels, a system of fines was established. The system functions as follows: When a class II noise violation occurs (a class II noise violation is any violation that exceeds the NEPS by more than two decibels), the parties must jointly petition the FAA to implement flight procedures to achieve and maintain the NEPS.[122] If the FAA fails to do so, then the City of Denver, as airport proprietor, must impose rules and regulations to maintain the NEPS.[123] If Denver fails to take action, then Adams County may seek a court order to compel Denver to do so.[124] If the court does not order Denver to exercise its authority, the IGA states that Denver must pay Adams County $500,000 in liquidated damages for each violation of the NEPS that is not rectified.[125]

In 1995, the airport's first year of existence, there were fifty-six Leq 24 grid point violations and six 65 Ldn contour violations.[126] Seven of the Leq 24 violations and one 65 Ldn violation were not cured by the end of the first year of operations February, 28, 1996.[127] When DIA did not rectify these violations Adams County decided to enforce the liquidated damages clause.[128] A judgment by the trial court awarded Adams County $4 million for these eight violations, as well as $1.3 million in pre-judg-

117. *Id.*
118. *Id.* at 28.
119. *Id.*
120. *Bd. of County Comm'r of Adams County*, 40 P.3d at 28.
121. *Id.*
122. *Id.* at 34.
123. *Id.*
124. *Bd. of County Comm'r of Adams County*, 40 P.3d at 34.
125. *Id.* at 29.
126. *Id.* at 28.
127. *Bd. of County Comm'r of Adams County*, 40 P.3d at 28.
128. *Id.*

ment interest.[129] Denver also agreed to pay fines and interest accrued for noise violations from 1996 through 2000.[130] The grand total for five years of noise violations was $40 million.[131]

This judgment was affirmed by the Colorado Court of Appeals in 2001, and Denver's petition for certiorari was later denied by Colorado's Supreme Court.[132]

Although the IGA took three years to negotiate, with attorneys and industry experts weighing in on both sides, Denver Mayor John Hickenlooper, has approached Adams County to discuss renegotiating certain aspects of the IGA.[133] One reason for this requested renegotiation is the location of the NEPS monitors.[134] One monitor, with one of the lowest noise thresholds, is located at the edge of an active runway at Buckley Air Force base.[135] Another monitor indicated that DIA violated the agreement on September 12, 2001 – a day when no commercial or private planes were flying whatsoever, due to the terrorist attacks the day before.[136]

At this point though, the likelihood of an amended IGA seems unlikely as there has been resistance to changing the noise parameters from the Adams County city council. In a recent interview, Adams County Commissioner Elaine Valente stated, "to really help out Denver, I'm afraid we would have to do some things we aren't willing to do."[137]

Another concern regarding the IGA, is its reliance on the FAA to intercede in disputes by implementing flight procedures.[138] Based on prior history, the likelihood of the FAA imposing flight procedures on DIA is minimal.[139] The Federal Aviation Act of 1958 gave the FAA authority over air safety and the nation's navigable airspace.[140] The FAA is authorized to "insure the safety of aircraft and the efficient utilization of such airspace" and "for the protection of persons and property on the ground."[141] Even though a 1968 congressional amendment required the FAA to develop standards to protect the public from aircraft noise, the

129. *Id* at 29.

130. Kevin Vaughan & Mike Patty, *Hickenlooper Aims to Alter Noise Battle*, ROCKY MTN. NEWS, Jan. 14, 2004, at 16A.

131. *Id.*

132. *Bd. of County Comm'r. of Adams County*, 40 P.3d at 36, *cert. denied* Jan. 22, 2002.

133. *Id.* at 29-30; Vaughan & Patty, *supra* note 130, at 16A.

134. *See* Vaughan & Patty, *supra* note 130, at 16A.

135. *See generally* Denver Int'l Airport Noise Abatement Office, Revised Annual Report (1998), at 3, *available at* http://www.flydenver.com/biz/noise/reports/1998_ar.pdf.

136. Vaughan & Patty, *supra* note 130, at 16A.

137. *Id.*

138. *See Bd. of County Comm'r. of Adams County*, 40 P.3d at 34.

139. *See* Schlesinger, *supra* note 26, at 334.

140. *Id.*

141. *Id.*

FAA has shown a clear desire to support the economic success of the air transportation system over environmental concerns.[142] A survey of recent lawsuits against airport operators indicates that the courts have followed suit, and have generally resisted efforts by landowners to recover for noise impacts from government agencies.[143]

Public policy concerns play a large role in courts' decisions to rule against airports – even in lawsuits brought by sister municipalities. This lesson was learned in *National Aviation v. City of Hayward,* a case taken to the U.S. District Court to determine if a curfew banning all aircraft which exceeded a specified noise level between 11:00 p.m. and 7:00 a.m. was unduly burdensome on the airport.[144] The court focused on whether the regulation discriminated against interstate commerce, ruling that the burden on commerce must be balanced against the local interests supporting the legislation.[145] In this ruling, the *Hayward* court relied on the Supreme Court's formulation of this standard: "[w]here the statute regulates even-handedly to effectuate a legitimate local public interest, and its effects on interstate commerce are only incidental, it will be upheld unless the burden imposed on such commerce is clearly excessive in relation to the putative local benefits."[146]

The City of Burbank v. Lockheed Air Terminal, Inc., also amplifies this analysis.[147] In this case, the Supreme Court affirmed a decision by the Ninth Circuit Court of Appeals invalidating a municipal noise control ordinance on the grounds that federal law trumped the local ordinance.[148] The Court held that federal statutes supersede local ordinances when municipalities enact regulations that hamper interstate commerce.[149]

The ramifications of deciding in favor of the local government makes this ruling particularly important. If municipalities were allowed to dictate when flights can and cannot take off, it would severely limit the flexibility of the FAA in controlling air traffic flow.[150] The Court foresaw that a weather delay halfway around the world could conceivably cause a flight to miss the curfew at the destination airport.[151] The airline would then be forced to reroute their passengers or cargo to a municipality with less stringent noise codes, ultimately causing significant scheduling

142. *Id.*
143. *Id.* at 334-36.
144. *Id.* at 336 (citing Nat'l Aviation v. City of Hayward, 418 F. Supp. 417, 418 (Cal. Ct. App. 1976)).
145. Schlesinger, *supra* note 26, at 336-37.
146. *Id.* at 337.
147. City of Burbank v. Lockheed Air Terminal, Inc., 411 U.S. 624 (1973).
148. *Lockheed Air Terminal, Inc.*, 411 U.S. at 639-40.
149. *Id.* at 640.
150. *Id.* at 639.
151. Baliles, *supra* note 8, at 1338-39.

problems for the airline and the entire industry in general.[152] Thus, the Court has concluded that the FAA could only balance safety and efficiency in the air transportation system when there was uniform system of federal regulations.[153] This leaves little room for local control.[154]

2. DIA Noise Mitigation

While the FAA has shown reluctance to interfere with DIA's flight procedures, the airport has taken commendable strides to combat airport noise under its own volition. The primary weapon used by the Noise Abatement Office in the fight against noise pollution is the Airport Noise and Operations Monitoring System ("ANOMS").[155] The ANOMS is a computer system designed to monitor aircraft noise at DIA, and to calculate the NEPS values, as defined by the IGA, at 101 points throughout Adams County and at twenty-eight permanent terminals located in the metro Denver area.[156] The system is capable of matching actual flights with individual noise events and matching noise complaints with individual flight tracks.[157] Using the data emitted from 347,420 individual flights, DIA analyzes which type of aircraft on which runway at which time of the day is responsible for what level of noise.[158]

Utilizing this data, DIA developed noise abatement procedures called the Deci-Belle Departure Procedure ("Deci-Belle").[159] One of the key elements of the Deci-Belle program is the preferential runway and flight track use.[160] The program includes distinct procedures for daytime hours, from 7 a.m. to 10 p.m., and nighttime hours, from 10 p.m. to 7 a.m.[161] For instance, only aircraft that have been built with modern noise reduction standards may use certain runways for takeoff at night.[162] This excludes aircraft that has been deemed "Noise-Critical" including MD80s and re-certificated/hushkitted Boeing 727s, 737-200s, and DC9s.[163] While some runways may not be used at all for nighttime departures, others may be used for takeoff, but the aircraft must climb on specified headings, generally staying east of the Airport until reaching various specified

152. *See Lockheed Air Terminal, Inc.*, 411 U.S. at 640.
153. Zambrano, *supra* note 13, at 462.
154. *Id.*
155. *See* DENVER INTERNATIONAL AIRPORT, 14 CFR PART 150 STUDY, NOISE EXPOSURE MAPS 2-1 (2002), *available at* http://www.flydenver.com/biz/noise/reports/150_study.pdf. at 2-1 (last visited Oct. 8, 2004).
156. *Id.*
157. *Id.*
158. *Id.*
159. *Id.* at 3-3.
160. *See id.*
161. *Id.*
162. *See id.* at 3-4.
163. *Id.*

altitudes or distances.[164] On other runways, nighttime arrivals must turn onto their final approach course outside the outer markers to each runway or at specified minimum distances or altitudes.[165] The noisiest aircrafts are routed to the north or south of DIA before they can begin their turns to the west.[166] This procedure keeps aircraft and related noise well east of the Denver Metropolitan area and away from more heavily populated areas.[167]

To further remedy the effect of noise pollution DIA applied for a $655,000 grant in 2001 to participate in the FAR Part 150 Noise Compatibility Planning Program.[168] This program prescribes systems for, "measuring noise at airports and surrounding areas that generally provides a highly reliable relationship between projected noise exposure and surveyed reaction of people to noise; and . . . determining exposure of individuals to noise that results from the operations of an airport."[169] This study also identifies "land uses which are normally compatible with various levels of exposure to noise by individuals. It provides technical assistance to airport operators, in conjunction with other local, State, and Federal authorities, to prepare and execute appropriate noise compatibility planning and implementation programs."[170]

Additionally, DIA has taken steps to provide noise reduction treatments for residences surrounding the airport. Included in the $40 million settlement with Adams County is a $4 million payout to residents of 250 homes in unincorporated Adams County.[171] People living within two miles of the airport are eligible to receive up to $20,000 to soundproof their homes, while people living farther away get smaller amounts.[172] Fortunately for Denver's coffers, anyone who purchased their home after 1995 will be precluded from suing the airport authority to recover for damages attributable to noise because of the Aviation Safety and Noise Abatement Act of 1979 ("ASNA Act").[173] The original ASNA Act provided in relevant part:

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164. *Id.* at 3-3.

165. *Id.*

166. *Id.* at 3-4.

167. *See* DIA NOISE ADVISORY COMMITTEE, Meeting Minutes, at 2, Nov. 20, 2002 [hereinafter Noise Advisory Committee], *available at* (last visited Oct. 8, 2004).

168. *See* Final Policy on Part 150 Approval of Noise Mitigation Measures: Effect on the Use of Federal Grants for Noise Mitigation Projects, 63 Fed. Reg. 16,409 (Apr. 3, 1998) *available at* (last visited Oct. 8, 2004).

169. Aeronautics and Space, 14 C.F.R. § 150.1 (2004), *available at* (last visited Oct. 8, 2004).

170. *Id.*

171. Berny Morson, *Making Noise Over Soundproofing Plan*, ROCKY MTN. NEWS, July 24, 2003, at 19A.

172. *Id.*

173. *Id.*

No person who acquires property or an interest therein after the date of enactment of the Act in an area surrounding an airport with respect to which a noise exposure map has been submitted under section 103 of this title shall be entitled to recover damages with respect to the noise attributable to such airport if such person had actual or constructive knowledge of the existence of such noise exposure map unless, . . . such person can show that—,
(1) a significant change in the type or frequency of aircraft operations at the airport; or
(2) a significant change in the airport layout; or
(3) a significant change in the flight patterns; or
(4) a significant increase in nighttime operations;
occurred after the date of the acquisition of such property. . . .[174]

B. Dallas Love Field, Dallas, Texas

Contrary to DIA, Dallas Love Field ("DLF") is located in a noise-sensitive area of the city near residential neighborhoods.[175] In 2001, Dallas decided that the increase in airport traffic necessitated an airport expansion.[176] The federal government cleared the way for this expansion in March 2002, approving their $147 million master plan for upgrading the airport and, in effect, capping flights at the city-owned facility.[177] Dallas recognized early on that the neighborhoods surrounding DLF were essential for providing economic, social and cultural stability for the city, and wanted to develop a plan to protect their quality of life.[178] Especially since residential property values for homes that fall within the average 55 decibel noise contour total $3.9 billion and generate annual property tax revenue of about $100 million.[179]

At the same time, the importance of operating an efficient airport that attracts business to Dallas was readily apparent. The potential increase in flights due to expansion is estimated to generate an additional $1 billion in economic impact totaling $4.4 billion annually.[180] In order to balance these needs, the Dallas City Council officially adopted the Dallas

174. The Aviation Safety and Noise Abatement Act of 1979 Pub. L. No. 96-193, 94 Stat. 53 (1980) (codified as amended at 49 U.S.C. § 47506 (2004)).

175. Dallas Love Field, Noise Abatement Advisory Committee [hereinafter *DLF Noise Committee*], *at* http://www.dallas-lovefield.com/environment/environment2.html (last visited Oct. 8, 2004).

176. Dallas Love Field, Airport Impact Analysis/Master Plan Questions & Answers 1 (June 29, 2001) [hereinafter *Dallas Love Field Master Plan*], *at* http://dallaslovefieldmasterplan.com/Docs/MP%2-0Q&A.pdf (last visited Oct. 8, 2004).

177. Roy Appleton, *Love Field Gets Final OK for Limited Expansion; Master Plan Addresses Traffic, Noise, Pollution; Work to Begin Soon*, Dallas Morning News, Mar. 7, 2002, at 1A.

178. *DLF Noise Committee*, *supra* note 175.

179. *Dallas Love Field Master Plan*, *supra* note 176, at 3.

180. *Id.*

Love Field Noise Control Program in December 1981.[181] Working with consultants, neighborhood representatives, aviation industry leaders, and the FAA, the city of Dallas developed and implemented a voluntary program to responsibly address the noise issue and effectively reduce the adverse impact of aircraft operations at Love Field.[182] Some aspects of this program include:

- A noise abatement advisory committee;
- 24 hour noise complaint recording and investigation; and
- Introduction of the new generation of quieter aircraft into the commercial and general aviation fleets. . .
- Nighttime Preferential Runway for turbojet aircraft and aircraft weighing over 12,500 lbs. . . .
- Established Channelization Tracks and Altitude Restrictions for Helicopters. . .
- A prohibition from midnight to 6 a.m. on all maintenance run-ups; . . .
- Prohibition against training flights between the hours of 10 p.m. and 7 a.m. . . .[183]

The Love Field Master Plan Advisory Committee ("MPAC") believes that advances in aviation technology coupled with these airport procedures will result in the number of people who fall within the high-noise area around the airport (noise levels of 65 decibels or greater) to fall dramatically, even though there are more flights.[184] Predictions are that those effected will drop from nearly 27,000 people in 1998 to fewer than 23,000 in 2010.[185]

C. Dallas/Fort Worth International Airport, Dallas, Texas

Dallas Love Field is not the only major Texas airport taking significant measures to combat noise pollution. In 1995, DFW averaged forty-two noise complaints per month.[186] Illustrating its resolve to bring this high number down, it is estimated that in addition to the $190 million spent to construct the new runway that opened in October 2003, DFW also spent $150 million in an effort to mitigate noise.[187]

181. Dallas Love Field Noise Control Program, *at* http://www.dallas-lovefield.com/environment/environ-ment.html (last visited Oct. 8, 2004).

182. *Id.*

183. *Id.*

184. Dallas Love Field, Airport Impact Analysis/Master Plan 4 (Jan. 30, 2001), *at* http://www.dallas-lovefieldmasterplan.com/Docs/FINAL%20Executive%20Summary.doc (last visited Oct. 8, 2004).

185. *Id.*

186. Natural Resources Defense Council, Flying Off Course, Environmental Impact of America's Airports (citing data from 1995 National Airport Survey), *available at* http://www.nrdc.org/air/trans-portation/foc/aairintr.asp (last visited Oct. 8, 2004).

187. *See* Center for Transportation Research, Aviation Projects, *available at* http://146.6.177.150/website/research_programs/introd.html (last visited Oct. 8, 2004).

Addison Airport, just outside of Dallas, recently invested $115,000 to develop procedures that reroute airplanes farther south of the airport over industrial property.[188] In the past, planes veered to the east over residential property to avoid the traffic of DFW and Love Field.[189] Addison airport authorities have already seen benefits from these procedures. There were just four complaint calls from January 10 to February 10, 2004, when, in the past, the airport could usually count on as many as eighteen to twenty complaints over a weekend.[190]

1. DFW Economic Development

If one were to ask DFW airport officials if airport noise has effected economic development around their airport, most would answer "no". Clayton Chamber of Commerce president from Georgia, Steve Rieck would probably agree with their assessment. According to Rieck, DFW is "the poster child of development around an airport."[191] This is high praise, as DFW and Atlanta's Hartsfield International Airport often compete for the same business, and are often compared to one another.[192] They are both busy airports that pump billions of dollars into their respective economies.[193] However, when it comes to growth in the areas surrounding the airports, the two cities are very different. The best office space in the Dallas/ Fort Worth metropolitan area is considered to be directly next to the airport.[194] While Hartsfield, with the exception of Delta's national headquarters, is surrounded mostly by distribution warehouses, a few hotels, and Mountain View, a community that was abandoned decades ago due to airport noise.[195] Higher end development that attracts white-collar employment has been slow to come to the Hartsfield area.[196]

This has led to economic and population stagnation in the areas surrounding Hartsfield relative to DFW.[197] For example, from 1990 to 1998, Irving, Coppell, and Grapevine, all cities that surround DFW, saw their populations grow by 23%.[198] During the same period, Forest Park, East

188. Margaret Allen, *Shhh! Fly Quietly Around Addison Airport,* DALLAS BUS. J., June 22, 2001.
189. *Id.*
190. *Id.*
191. Gary Hendricks, *Tale of Two Airports: DFW a Magnet, Hartsfield Penned In,* ATLANTA J. CONST., May 1, 2000, at B1.
192. *Id.*
193. *Id.*
194. *Id.*
195. *Id.*
196. *Id.*
197. *See id.*
198. *Id.*

Point, Hapeville, and College Park, which surround Hartsfield, suffered a net population loss of 2%.[199]

Experts believe that a major reason for this disparity is because DFW has a public-private marketing partner, the North Texas Commission, that is financed by local governments and businesses.[200] This entity helps promote relocation to the city and encourages high-end development around DFW.[201] Hartsfield has no such counterpart.[202]

Another reason for the differences between the two airports is the amount of available land around the airports. DFW sits on 18,000 acres, while Hartsfield sits on less than 4,000 acres, and struggles to find room to expand.[203] In Dallas, tracts as large as 12,000 acres have been sold to developers, while Atlanta is surrounded by some of the oldest suburbs in the metro area, making it is difficult for Atlanta developers to find even a 100 acre tract to develop.[204] The Las Colinas project is a prime example of what developers in Dallas have accomplished with these large tracts.[205] It contains more than twenty million square feet of office, retail, and industrial space, has 17,000 households, five-star hotels, and four golf courses.[206] The airport noise from its proximity to DFW has not inhibited companies like Microsoft, Nokia, Verizon, Abbot Labs, Kimberly Clark, and ExxonMobil from leasing office space at Las Colinas.[207] On the contrary, Las Colinas actually uses its close proximity to DFW as a marketing tool.[208] When corporate relocation experts and site selectors can point to these high profile corporations as potential neighbors, it makes the area around DFW an easier sell than the areas around Hartsfield.[209] With the area around DFW further boasting a fourteen campus school system of 8,500 students described by Texas Education Agency as exemplary, families are easily convinced that dealing with the airport noise is worth it.[210] A lesson that developers in other cities can glean from DFW is that people may be willing to deal with airport noise when there is so many benefits from living in an airplane's fight path.

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199. *See* Hendricks, *supra* note 191.

200. *Id.*

201. *Id.*

202. *Id.*

203. Hendricks, *supra* note 191.

204. *Id.*

205. *Id.*

206. *See id.*

207. *See* LAS COLINAS ASSOCIATION, *Los Colinas Facts, available at* http://www.lascolinasassn.com/facts.html.

208. *See id.* The development is a ten-minute drive from both DFW International Airport and Dallas Love Field.

209. *Id.*

210. *Id.*

D. Hartsfield Atlanta International Airport, Atlanta Georgia

Located just ten miles from downtown Atlanta, Hartsfield Atlanta International Airport is consistently rated the world's busiest airport.[211] In 2004, Hartsfield saw more than eighty million passengers walk through its gates.[212] To accommodate these passengers, Hartsfield employs over 55,000 people, 70% of whom work directly for the airlines serving the airport.[213] The other 30% work for entities such as air-freight carriers, ground transportation firms, retail concessions in the airport terminals, or with security firms and skycaps.[214] This translates to a total airport payroll of $1.9 billion, resulting in a total annual regional economic impact of over $18 billion.[215]

Poised for future growth, Hartsfield is currently instituting a Master Plan for capital improvement to create a bigger, more user-friendly airport.[216] This $5.4 billion, ten year capital improvement plan will begin with the construction of a new extended fifth runway and a four-gate expansion in the International Terminal.[217] Other improvements include enhanced road and rail access and additional parking facilities.[218] While this capital improvement plan should bring more airport-related jobs to the region, it is also hoped that the updated airport will be a catalyst for economic development for communities surrounding the airport.[219] Specifically, it is hoped that the improvements will attract the white-collar investment that north Georgia's communities have so far been lacking.[220]

The suburbs surrounding Hartsfield, such as North Clayton, are considered old and rundown, and lacking in the type of commercial and retail infrastructure that typically attracts corporations looking to relocate.[221] Ferdinand Seefried, of Seefried Properties, who has built seven distribution parks around Hartsfield, says that as a result, most of the major com-

211. *See Atlanta Still World's Busiest Airport*, Aug. 8, 2003, *available at* http://news.airwise.com/stories/2003/08/1060361148.html (last visited Oct. 7, 2004).

212. *Atlanta: A Center of Excellence* (2004) [hereinafter *Atlanta Excellence*], *available at* http://www.for-tune.com/fortune/services/sections/fortune/region/2004_03atlanta.html (last visited Oct. 7, 2004).

213. *Id.*

214. *See id.* Hartsfield-Jackson is also a major economic power in the region. It has 55,000 employees right at the airport and another 18,000 personnel who work off-site.

215. *Atlanta Excellence*, *supra* note 212.

216. Hendrick, *supra* note 191.

217. *Id.*

218. *See* Hartsfield Atlanta International Airport, Recommended Plan (Apr. 15, 2002), *available at* http://www.atlamasterplan.com/recommended_plan.htm (last visited Oct. 11, 2004).

219. Hendricks, *supra* note 191.

220. *Id.*

221. *Id.*

panies in Atlanta settle in the Georgia 400 corridor because they like being around other corporate headquarters.[222] However, efforts to encourage corporations to reconsider the Hartsfield area are underway in Atlanta. In exchange for an agreement not to block the airport's $5.4 billion expansion proposal, Clayton representatives asked the City of Atlanta for a commitment to help attract high tech jobs to the surrounding communities.[223] As a sign of their dedication to growth, Clayton officials along with taxpayers and local businesses recently put up $28.5 million to start Gateway Village.[224] This is a joint venture between Clayton State University, the Economic Development Authority of Clayton County, the cities of Morrow and Lake City, and the University Financing Foundation.[225] This mixed-use development will encompass 165 acres of property with the potential to be a $110 million plus development designed to offer 500,000 square feet of Class "A" office space, a 200-room high-tech executive conference center, a hotel, student housing, and a multi-modal/passenger rail station.[226]

Gateway Village already has its first two tenants – National Archives and Records Administration's southeast regional headquarters and the Georgia State Archives.[227] According to a press release,

> The two archives facilities . . . represent the first such model in the nation to combine both state and federal facilities, providing "one-stop shopping" for archive researchers. The joint facility will be a high tech, state-of-the-art facility with online access to these records.
> It is expected that most of the corporations who will converge on Gateway Village will target the technology industry.[228]

Further signs of change in Hartsfield's surrounding communities began in 2000 when McDonough and Clayton Counties received awards of $75,000 and $80,000 respectively by the Atlanta Regional Commission.[229] They were among nine metro communities to get planning money to draw up long-range development plans for their municipality.[230] These awards served to facilitate the creation of the 3,400-acre Southside Harts-

222. *Id.*

223. *Id.*

224. *Id.*

225. *Gateway Village Wins ARC "Development of Excellence" Award,* CLAYTON STATE CAMPUS REV., (Dec. 2002), *available at* (last visited Oct. 11, 2004).

226. *Id.*

227. *Id.*

228. *Id.*

229. Kevin Duffy, *McDonough, Clayton Win Planning Funds Airport, City Square Study Areas*, ATLANTA-J. CONST., Feb. 12, 2004, at JI-1; ATLANTA REGIONAL COMMISSION, *ARC's Livable Centers Initiative Funds New Smart Growth Studies,* at 3 (2004) [hereinafter *ARC'S Livable Centers*], *available at* http://www.atlantaregional.com/regionaldata/ActionMarApr04.pdf.

230. *Id.*

field Redevelopment Plan Area.[231] The vision behind this development is to create a mixed-use, pedestrian community that will not only pay its way with increased tax revenue, but will also provide an enhanced quality of life.[232] The Southside Hartsfield redevelopment plan also hopes to promote the enhancement of the local business community, promote quality development initiatives on the part of local governments, and facilitate improvement of supportive systems for transportation and utilities as well as education, public safety and community development.[233] Implementation of this plan will be financed through a "long-term process of coordinated public-private efforts and investments."[234]

1. Hartsfield Privatization

Another possible reason behind the disparity between Hartsfield and DFW is that Atlanta's airport is publicly owned and marketed, whereas DFW is marketed by a public-private organization dedicated to promoting growth in the area.[235] While this is not to say that government officials are not as motivated as private entities to promote growth in the areas surrounding Hartsfield, private entities are often more profit driven than government authorities.[236] Moreover, private business generally recognizes that enhancing growth around the airport will ultimately benefit the airport itself.[237] As discussed *supra*, under the current government ownership model, the goal of airport management is to get planes on and off the ground, move users and cargo in and out of the airport and, whenever possible, cover operating costs.[238]

However, this may soon change as Hartsfield recently emerged as a possible candidate for privatization under the federal Airport Privatization Pilot Program.[239] This privatization push is spearheaded by the Fulton County Taxpayers Association.[240] In response to Atlanta's decreased financial strength "no cash reserves, a substantial negative cash balance, and a multi-billion-dollar consent decree on combined sewer overflow" the Taxpayers Association is proposing to lease the airport to a major airport firm to generate new cash flow for the city from lease pay-

231. *See* Duffy, *supra* note 229, at JI-1.

232. *ARC's Livable Centers*, *supra* note 229, at 3.

233. Southside Hartsfield Redevelopment and Stabilization Plan (May 15, 2003), *available at* draft_recommendations_summary_5-15-03.pdf (last visited Oct. 7, 2004).

234. *Id.*

235. Hendrick, *supra* note 191.

236. *See* Powers & Freeman, *supra* note 18, at 114.

237. *Id.* at 115.

238. Sander, *supra* note 19.

239. *Global Airport Privatization*, *supra* note 78.

240. *Id.*

ments.[241] While no decision has yet been made, it is notable that Delta Airlines, the major carrier in Atlanta, and a major tax-payer in Georgia, has opposed the idea.[242] Furthermore, Georgia has a state law that no foreign-owned company can operate the airport, which greatly diminishes the number of qualified private management companies that could bid on the project.[243] While this is not an insurmountable hurdle it is clear that evidence that stumbling blocks in the prospective road to privatization may exist.[244]

2. *Hartsfield Airport Noise*

Growth surrounding Hartsfield has also been hampered by airport noise. In 1975, the City of Atlanta was forced to purchase and relocate the entire Mountain View Community in Clayton County due to the effects of noise.[245] Purchasing over 2,700 structures and the process of relocating the residents cost the city $171 million.[246] Since then, the city has paid a further $175 million for acoustical enhancements to more than 10,000 homes and buildings in other communities surrounding the airport.[247]

As a result, Hartsfield has taken significant measures to mitigate airport noise. In fact, the noise abatement/mitigation program at Hartsfield has been ongoing since 1972, making it one of the oldest programs in the country.[248] The airport has installed a permanent noise and operations monitoring system ("NOMS") to provide the public information on Hartsfield's operations and address specific community concerns.[249] This system consists of sixteen permanent noise-monitoring stations, and a direct-connect to the FAA's radar system for the purpose of acquiring flight track information.[250] The integration of these two systems allows information to be gathered on the movement of aircraft and their corresponding noise emissions over communities surrounding the airport.[251] Further evidence of Hartsfield's commitment to noise mitigation is the recent rejection of a proposal to build a sixth runway in fear that it would substan-

241. *Id.*
242. *Id.*
243. *Id.*
244. *Id.*
245. *See* HARTSFIELD ATLANTA INTERNATIONAL AIRPORT, AIRCRAFT NOISE INFORMATION 1 (Oct. 15, 2001), *available at* www.atlanta-airport.com/sublevels/airport_info/pdfs/Brochure_updated (last visited Oct. 7, 2004).
246. *Id.*
247. *Id.*
248. *Id.*
249. *Id.*
250. *Id.* at 2.
251. *Id.*

tially increase noise levels and create a significant disruption to local communities.[252]

E. O'Hare International Airport, Chicago, Illinois

The city of Chicago is currently embroiled in a debate over the expansion of O'Hare International Airport. Central to the discussions are concerns over possible increases in airport noise, and whether to keep the airport in city hands or to privatize the system.[253] Suburban cities opposed to O'Hare's $6 billion expansion have proposed plans for public-private development of another airport in the southern Illinois suburb of Peotone.[254] The private partner in the Peotone project would be a consortium headed by LCOR, a primary player in the development and operation of the $1.2 billion Terminal Four at Kennedy International in New York.[255] The $600 million Peotone project has met with strong opposition from Chicago Mayor Richard Daley, who prefers only to expand O'Hare.[256] However, other key political figures have lent their endorsement to the idea of both an O'Hare expansion and the development of a third airport in Peotone.[257] Representative William Lipinski stated, "[j]ust as expanding O'Hare doesn't eliminate the need for a third airport, building Peotone won't replace O'Hare modernization. They're not mutually exclusive. Both are needed to address serious aviation capacity problems in the region and the nation."[258] Lipinski's support of the Mayor Daley's plan, rests in the belief that the new runway configuration will reduce the number of people impacted by airport noise by half, and includes $450 million in city funds for soundproofing surrounding areas.[259]

Other Illinois politicians and municipalities are not as supportive of the O'Hare expansion plan. Recently, Illinois Senate President Pate Philip, Congressman Henry Hyde, and the Village of Bensenville filed suit to challenge the legality of the agreement between Chicago Mayor Richard M. Daley and Illinois Governor George Ryan to expand

252. *See* Hartsfield Atlanta International Airport, *Master Plan Process* (2002) (indicating that a plan for a sixth runway was scrapped in part due to concerns over its negative impact on the community), *available at* http://www.atlmasterplan.com/master_plan_process.htm.

253. *See* Robert McCoppin, *O'Hare Noise: Who Will Win, Who Will Lose*, Daily Herald (2002), *available at* http://www.oharenoise.org/Ohare_noise.htm; Status of Airport Privatization Efforts: Hearing Before the Subcomm. on Aviation of the Comm. on Transportation & Infrastructure, 106th Cong. (1999).

254. *Global Airport Privatization*, *supra* note 78.

255. *Id.*

256. *Id.*

257. *Id.*

258. Rep. William O. Lipinski, *O'Hare Expansion is Good for Chicago, Country* (June 13, 2003), *available at* http://www.house.gov/lipinski/wh_ohareeditorialforhillnewspaper.htm (last visited Oct. 7, 2004).

259. *Id.*

O'Hare.[260] Citizens of the Village of Bensenville, the cities of Elmhurst and Wood Dale, and DuPage County have joined in the opposition to the proposed O'Hare expansion.[261] Chicago's dual, triple-parallel runway plan, if implemented, will enable O'Hare to handle up to 1,600,000 flights per year, up from its existing use of 900,000 flights per year.[262] With the vast majority of aircraft landing and taking-off in an east-west direction over Elk Grove and portions of Cook and DuPage County, residents fear that Mayor Daley's promises of a decrease in noise will be hard to keep.[263] They argue that it is implausible that O'Hare can double their flights while cutting the airport noise by half.[264]

Another complaint regarding the O'Hare expansion is that it renders town planning obsolete.[265] Elk Grove, for instance, was constructed to minimize the impact of the airport by locating industries on the eastern half of the community abutting the airport, while residential neighborhoods were located farther away from O'Hare.[266] Town planners then built expressways, highways, and a forest to buffer neighborhoods from existing flight paths.[267] As this planning was based on the airport's current configuration, many Elk Grove residents believe that the proposed airport configuration would effectively destroy the quality of life the town planning had ensured.[268]

The Alliance of Residents Concerning O'Hare ("AreCO"), an organization representing residents from forty-one communities opposes the O'Hare expansion proposal not only because of the potential increase in airport noise.[269] They claim that the projected loss of businesses from the government exercising their power of eminent domain will create financial shortfalls for neighboring suburbs.[270] It is estimated that the losses to all taxing bodies from businesses forced to leave Elk Grove Village Business Park alone may exceed $20 million.[271] It is feared that this loss of tax revenue may have an adverse impact on the governments serv-

260. Illinois *ex rel.* Birkett v. City of Chicago, 779 N.E.2d 875 (Ill. 2002).

261. *Id.*

262. O'HARE AIRPORT, What's New, Negative Impact of New or Reconfigured Runways (2000-2001), *available at* http://www.elk-grove-village.il.us/new/oha6.htm (last visited Oct. 6, 2004).

263. *Id.*

264. *See id.*

265. *Id.*

266. *Id.*

267. *Id.*

268. *Id.*

269. ALLIANCE OF RESIDENTS CONCERNING O'HARE, INC., Regarding O'Hare Modernization Program, Environmental Impact Statement (Aug. 21, 2002) (oral testimony of Jack Saporito of the Alliance of Residents Concerning O'Hare, Inc.), *available at* (last visited Oct. 5, 2004).

270. *See id.*

271. SUBURBAN O'HARE COMMISSION, *Explaining the Facts: O'Hare Expansion Means Sub-*

ing northeastern Illinois schools.[272] In particular, School District 214 which comprised the cities of Arlington Heights, Buffalo Grove, Des Plaines, Elk Grove, Rolling Meadows, and Prospect Heights, and School District 59 serving the children of Arlington Heights, Des Plaines, Elk Grove, and Mount Prospect will be negatively effected.[273]

1. O'Hare Noise Mitigation

In response to citizens' concerns over airport noise, O'Hare has stepped up its noise mitigation program over the past few years. The Noise Commission's 2002 Annual Report illustrated that twenty-seven of O'Hare's thirty-one permanent noise monitors reported a 1 dB or greater reduction in aircraft noise levels in 2002 as compared to 2000.[274] The average among all the monitors was a 2 dB reduction, which is a significant change on the noise scale.[275] Since 1997, there has been an overall 5 dB reduction in aircraft noise around O'Hare.[276] The significance of this reduction is evident in the number of residents' complaints to the O'Hare Noise Hotline, which has fallen significantly from a peak of 25,773 calls in 1998 to 5,190 calls in 2002.[277]

Other indications of O'Hare's commitment to noise reduction can be seen in their soundproofing efforts. To date, eighty schools have been sound insulated at a cost of $198.1 million, and another twenty-three schools are in the construction or design stages, bringing the program expenditure to $234.7 million.[278] More than 4,700 homes have been insulated at a total cost of nearly $157 million after the completion of the 2003 Residential Sound Insulation Program.[279]

F. Pittsburgh International Airport, Pittsburgh, Pennsylvania

In November 1999, the FAA gave Pittsburgh's airport authority the go-ahead to operate the county's two airports, Pittsburgh International

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urban Loses, *at* http://www.suburban-ohare.org/detail.asp?OBJECT_ID=552 (last visited Oct. 5, 2004).

272. *Id.*

273. *Id.*

274. Press Release, O'Hare Noise Compatibility Commission, Commission Wraps Up 2002 Citing Significant Noise Reduction (Mar. 7, 2003) [hereinafter O'Hare Press Release], *available at* http://www.oharenoise.org/NewsReleases/2003/commission_wraps_up_2002_citing_.htm (last visited Oct. 5, 2004).

275. *Id.*

276. *Id.*

277. *Id.*

278. O'Hare Press Release, *supra* note 274.

279. *Id.*

Airport in Findlay and the Allegheny County Airport in West Mifflin.[280] The switch to privatized management was supported by US Airways, which viewed Pittsburgh International Airport as a major expense for the airline.[281] In 1997, US Airways spent $75 million in rent and landing fees, partly to support the bonds that built the passenger terminal that opened in 1992.[282] This was almost double what US Airways spent on fees at other airports.[283] US Airways believed that privatization would remove the airport from political influences, giving it greater financial independence than government-run agencies, and would provide for more business-like operations by bringing efficiencies in purchasing and operations.[284]

In the debate over privatization, voters were swayed by promises that converting to a privatized airport model would result in a financial boon to the airport system. A goal set by the Aviation Director at the time of the transfer was to cut costs and/or increase revenues by $7.2 million over the first eighteen months.[285] While efficiencies and cost savings have been realized, the overall financial strength of the Pittsburgh airport has been hampered by the financial problems of their tenants. Pittsburgh is learning all too well that a downside of privatization is that project revenues are effected by both operational decisions as well as the financial strength of the airlines utilizing the airport.[286] For example, US Airways, the airport's primary carrier, recently eliminated all Saturday outbound flights.[287] As a result, overall traffic at Pittsburgh International was down 9.4% for January 2004 (compared with January 2003), marking the first time in four years that less than one million passengers passed through the airport's terminals.[288] In response to this decline, Fitch Ratings announced that it would keep a negative rating watch in place on the Airport Authority's $676.2 million revenue bonds, and is unlikely to upgrade their rating in the near future due to the continued uncertainty

280. Mark Belko, *Airport Authority Lawsuits Dropped*, PITTSBURGH-POST GAZETTE, Nov. 5, 1999, *available at* http://archives.californiaaviation.org/airport/msg03332.html.

281. Mark Belko, *Council Hears Backer, Critics of Airport Authority,* PITTSBURGH-POST GAZETTE, Sept. 30, 1999, *available at* http://post-gazette.com/regionstate/19990930airport4.asp.

282. *Id.*

283. *Id.*

284. *Id.*

285. Mark Belko, *Airlines to Reap Savings from Bond Refinancing,* PITTSBURGH-POST GAZETTE, Nov. 13, 1999, *available at* http://post-gazette.com/regionstate/19991113airport5.asp.

286. Powers & Freeman, *supra* note 18, at 121-22.

287. Mark Belko, *Airport Authority Forced to Take Over Baggage System in Pittsburgh,* PITTSBURGH-POST GAZETTE, Mar. 14, 2004, *available at* http://www.miami.com/mld/miamiherald/business/nat-ional/8193301.htm?1c.

288. *Id.*

over the future of the US Airways hub at Pittsburgh.[289]

1. Pittsburgh Economic Development

Pittsburgh's shift from a government operated to an authority run airport has done little to promote the growth of the airport's surrounding areas. Since opening in 1992, the $1 billion facility has won international accolades for its design, ease of use, and shopping, yet much of the 10,000 acres of county-owned land surrounding the airport has remained unchanged.[290] Despite predictions that the terminal would generate anywhere from 18,000 to 30,000 jobs by 2003, economic development, especially on the privately owned land ringing the airport, has been slow to occur.[291] Both government and non-government experts seem to agree that several factors have hampered development, namely:

> -Failure to get land ready for development by clearing sites and installing water and sewer lines and access roads;
> -Failure to engage in better land use planning and to obtain federal releases [to help] potential developers get through the intricate Federal Aviation Administration regulations that apply to much of the land;
> -Delays in completing access ramps from Interstate 79 . . . toward the airport and in starting the Findlay Connector between Route 22 and the Airport Expressway, which would open more land to development;
> -A lack of regional cooperation and focus.[292]

Getting the land around the airport ready for development is expensive. Predictions are that it will cost an average of $100,000 an acre to clear and prepare land that will fetch no more than $60,000 per acre on the market.[293] However, it is believed that even if the county sells the land at a loss, the long-term gains generated by employment, appreciating land values, and increased tax revenues would more than offset the initial losses.[294]

Although not mentioned as a primary reason for the lack of development around Pittsburgh International Airport, one can infer from the numerous claims filed by residents that airport noise has had a negative impact on growth as well.[295] In 1998, after an eighteen year battle, Alle-

289. Mark Belko, *Deal Fails to Give Airport Upgraded Bond Rating,* PITTSBURGH-POST GAZETTE, Jan. 9 2004, *available at* http://post-gazette.com/pg/04009/259493.stm.

290. Mark Belko, *Push on to Develop Land Around Airport; A Decade Later, Property Near Midfield Terminal is Unchanged,* PITTSBURGH-POST GAZETTE, Sept. 29, 2002, *available at* http://post-gazette.com/localnews/20020929airport4.asp.

291. *Id.*

292. *Id.*

293. *Id.*

294. *Id.*

295. *Lawsuits Over Noise at Pittsburgh Airport Are Settled After 18 Years* (Nov. 22, 1998), *available at* (last visited Oct. 5, 2004).

gheny County, Pennsylvania, settled a number of noise pollution lawsuits.[296] The suits cost the county roughly $6 million to settle, with a percentage of the settlement going to soundproof homes near the runway.[297] To date the county has settled 244 of 402 lawsuits filed after the construction of the runway in 1980.[298]

VI. Challenges Facing Noise Mitigation Programs Throughout the Country

With some exceptions, economic development in areas that surround major airports has been hampered by airport noise. Airports can point to their noise mitigation programs to show that they are making strides to combat noise pollution, but airport neighbors are demanding that airports take greater steps to ensure that noise emissions do not disrupt their quality of life. In the airports' defense, noise mitigation is not an easy task, as it requires cooperation from many players. Crucial to any mitigation plane is participation by the airlines that service the airport. A recent survey of aircraft departure tracking data at DIA indicates that full participation in the airports' efforts is sometimes lacking.[299] This survey revealed that 32% of departing aircraft turned off their designated flight plans earlier than desired, creating increased noise in surrounding areas as a result.[300] At Dallas Love, non-compliance by some airlines in 2003 was as high as 45.2%.[301] Further indication of the importance of airline compliance is that Andy Harris of DIA's Noise Advisory Committee has stated that airline compliance with noise mitigation plans is one of the airport's greatest challenges.[302]

Another challenge revolves around the exorbitant costs airlines face when purchasing new planes that incorporate sound-reduction technology.[303] Modern commercial aircraft can last for three decades or more, so to expect the airline industry to scrap working airplanes and spend billions of dollars to purchase noise-modified models is unrealistic.[304] Furthermore, much of the new quiet engine technology is not currently available for some of the more common commercial planes, particularly

296. *Id.*

297. *Id.*

298. *Id.*

299. Noise Advisory Committee, *supra* note 167.

300. *Id.*

301. *See* Dallas Love Field, Preferential Runway Airport Compliance Report (Aug. 2003), *available at* http://www.dallas-lovefield.com/environment/minutes/NAAC/200309/MonthlyPreferentialRunwayNonCompliance.pdf.

302. Noise Advisory Committee, *supra* note 167.

303. *See* Baliles, *supra* note 8, at 1338.

304. *See id.* at 1334.

the Boeing 737 and the Airbus A321.[305] The engines that fit the quieter 777 do not fit structurally under the wings of a 737 or an A321.[306] Industry experts are confident that manufacturers will address the issue of improving the noise performance in these smaller planes in the near future.[307]

Another factor that may present a stumbling block for noise mitigation programs throughout the U.S. is the "S-curve" phenomenon.[308] This phenomenon deals with the relationship between the number of flights offered by an airline and its market share. Studies show that an airline's market share increases as frequency of service increases, and decreases as frequency is reduced.[309] The S-curve phenomenon suggests that passengers prefer airlines offering more flights because they can find better departure times and available space on the carrier with greater capacity.[310] As a result, airlines will compete for market share by providing excess flights.[311] Therefore, while airports may have every intention of limiting flights, and limiting the hours of take-off and departure to fight noise pollution, they may find resistance from airlines looking to increase their market share.

VII. How the Aerospace Industry is Helping

The aerospace industry has been making a concerted effort to assist noise reduction efforts in the commercial airline industry. For instance, Quiet Airport Technology ("QAT") is a comprehensive five-year study that NASA began in 2001 to assess technical possibilities for noise reduction.[312] To accomplish this goal NASA is taking a holistic approach, looking at airframe system noise reduction, engine system noise reduction, and community noise impact.[313] William Willshire Jr., the NASA scientist heading up the QAT program believes that engine technology is the key to reducing the impact of airport noise on neighboring communities.[314] The QAT program's mission is to design aircraft engines that emit less noise while maintaining their power and efficiency.[315] The current pro-

305. *Id.* at 1339.
306. *Id.*
307. *Id.*
308. Zambrano, *supra* note 13, at 450.
309. *Id.* at 450-51.
310. *Id* at 451.
311. *Id.*
312. *See* Bill Wilshire, *Progress Toward Quieter Aircraft* (Feb. 27, 2001), *at* http://www.its.berk-eley.edu/techtransfer/events/air/2001/dl/wilshire.pdf (last visited Oct. 9, 2004).
313. *Id.* at 3.
314. *Id.* at 17.
315. *See id.*

gram has engineered designs that cut 5 dB from engines.[316] Within ten years, they hope to develop commercial engines that provide a 10 dB noise reduction.[317]

Leonard Tobias, also of NASA, advocates Decision Support Tools ("DST") to aid Air Traffic Controllers in noise mitigation.[318] It is his belief that software such as Final Approach Spacing Tool ("FAST") can generate noise reduction by helping arrival controllers dictate runway assignments, landing sequences, speed advisories, and landing trajectories, as well as vectoring and spacing of aircrafts.[319] At Logan International Airport in Boston, for example, the air traffic controllers use DSTs to develop preferential flight plans that direct airplanes away from high population density areas in order to reduce the number of people effected by each flight's noise emissions.[320]

VIII. Conclusion

When a municipality surrounding an airport can boast Class "A" office space, five-star hotels; luxury residences, a top-notch school district, several golf courses, and has available land for future growth, the negative effects of airport noise on the municipality's economic development generally diminishes. In this scenario, it seems that companies and private citizens are not deterred by noise when they receive so many benefits from their proximity to the airport.

Conversely, when there is little land available for development surrounding an airport, and the already existing neighborhoods are old or unattractive from a business location perspective, municipalities have difficulty convincing people that the benefits of being close to an airport outweigh the negative life-style impacts associated with airport noise.

However, all is not lost for those municipalities that don't possess the golden attributes that make noise less consequential. When a group of government and business leaders step forward, who are dedicated to turning their city into a place where companies and growth-minded people want to be, there is ample evidence that great results can follow. Without this strong leadership though, it is unlikely that an area exposed

316. *Id.*

317. *Id.* at 3.

318. *See* Leonard Tobias, *Air Traffic Control Decision Support Tools for Noise Mitigation* (Feb. 2001), *at* http://www.its.berkeley.edu/techtransfer/events/air/2001/dl/flieger-raemer.ppt (last visited Oct. 9, 2004).

319. *Id.*

320. *See* Terry Flieger & Benjamin Raemer, *Boston-Logan Runway 27, and the Use of Advanced Navigation Procedures* (Feb. 27, 2001), *at* http://www.its.berkeley.edu/techtransfer/events/air/2001/dl/tu-bias.ppt (last visited Oct. 9, 2004).

to significant airport noise, and without much high-end infrastructure, will experience significant economic development on its own.

In terms of management models, while airport privatization is still in its infancy in the U.S., there is evidence that privatization has been largely successful in increasing the quality of airport services and amenities throughout the rest of the world.[321] This should give pause to government officials in airport regions who support growth, because companies looking for a place to establish themselves or to relocate will certainly take into consideration things like ease of use and quality of airport services when making their site selection.

As to airport expansion issues, while it can lead to an increase in airport noise, it is also shown to enhance economic development in surrounding areas. Most municipalities surrounding airports want to create sustainable economic development and to increase tax revenue. Therefore, it is important for municipalities to support airport expansion plans so as not to curtail the economic growth and opportunity that this can bring. At the same time, airports, airlines, and airplane manufacturers must act to address concerns about noise and to bring noise relief to people around airports. While many of the major airports have shown significant results from their noise mitigation efforts, until all reasonable steps have been taken, there will always be room to improve in this area. However, until quieter engine technology is implemented industry wide, there is only so much airports can accomplish in these endeavors before their flight schedules are completely disrupted.

In the interim, airport proprietors can avoid liability for nuisance or trespass by acquiring easements over neighboring property.[322] Luis Zambrano, an expert in the airline industry believes that by compensating landowners in exchange for property rights, future uncertainties and litigation can be significantly reduced.[323] He further adds that the federal government should encourage mitigation programs by providing tax incentives to private operators and transportation funding to public operators to compensate landowners in order to avoid future problems.[324]

321. *See* EUROMONEY INSTITUTIONAL INVESTOR, WORLD AIRPORT PRIVATIZATION STUDY (Sept. 2002), *at* http://www.mindBranch.com/listing/product/R242-071.html (last visited Oct. 9, 2004).

322. Zambrano, *supra* note 13, at 447.

323. *See id.* at 445.

324. *See id.* at 445-46.