

**COMMISSION AUTHORIZED**

TESTIMONY OF  
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Before the  
Transportation Committee  
City Council  
City of Dallas, Texas

On

**The Proposed Repeal of Restrictions on the Use of Love Field**

**September 5, 1989**

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<sup>1</sup> These comments are the views of the staff of the Dallas Regional Office and the Bureau of Economics of the Federal Trade Commission. They are not necessarily the views of the Commission or of any individual Commissioner.

Mr. Chairman, members of the Committee, my name is Tom Carter. I am Director of the Federal Trade Commission's Dallas Regional Office. I appreciate the opportunity to testify today before the Transportation Committee of the Dallas City Council on the potential Congressional repeal of the federal statute called the "Wright Amendment." The Wright Amendment prohibits commercial airlines from providing through service or interlining service between Dallas' Love Field (Love Field) and cities that lie in states other than Texas, Arkansas, Louisiana, New Mexico and Oklahoma.<sup>2</sup> With your permission, I would like to offer a statement on behalf of the staff of the Dallas Regional Office and the Bureau of Economics of the Federal Trade Commission. Before I begin, however, I must state that my testimony today is the view of the Dallas Regional Office and the Bureau of Economics staff of the Federal Trade Commission and does not necessarily represent the view of the Commission or of any individual Commissioner.

My comments are offered for the limited purpose of analyzing some of the effects on consumers, both inside and outside the Dallas area, which may result from removal of the current flight restrictions on Love Field. One effect of repealing the Wright Amendment may be increased competition among air carriers serving

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<sup>2</sup> "Interline" service permits passengers to make reservations and receive a ticket for travel to a single destination using two or more different air carriers to reach that destination.

locations outside the five state region to which flights from Love Field are currently restricted. Such increased competition may result in lower air fares for consumers flying between Dallas and those locations. In addition, if some air carrier traffic is shifted to close-in, underutilized Love Field from the more congested Dallas/Fort Worth International Airport (D/FW) as a result of the removal of those restrictions, consumers may save time as a result of fewer delayed flights and reduced commuting distances, and they may save money on parking and commuting expenses.

## I. Introduction

Before addressing these issues specifically, I would like to make some introductory remarks.

The Federal Trade Commission is an independent regulatory agency which for 75 years has been charged with the responsibility of protecting competition and safeguarding the interests of consumers. Section 5 of the Federal Trade Commission Act prohibits unfair methods of competition and unfair or deceptive acts or practices.<sup>3</sup> Pursuant to this mandate, the Commission seeks to serve the public interest by, among other things, protecting the marketplace from unreasonable restraints of trade. Upon request by federal, state, and local governmental

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<sup>3</sup> 15 U.S.C. § 45.

bodies, the FTC staff regularly assesses the competitive impact of legislative and regulatory proposals in order to identify provisions that may benefit consumers by promoting competition and reducing prices, and provisions that may harm consumers by impairing competition or increasing costs without offering offsetting benefits.

The FTC staff has had considerable experience in evaluating competitive aspects of the air carrier industry and related airport issues. Commission staff have studied and commented on numerous issues including airline deregulation,<sup>4</sup> slot regulation,<sup>5</sup> airport charges,<sup>6</sup> and airline computer reservation systems.<sup>7</sup> In response to your invitation to us for comment, the

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<sup>4</sup> J. Ogur, C. Wagner, and M. Vita, "The Deregulated Airline Industry: A Review of the Evidence," Bureau of Economics, Staff Report to the Federal Trade Commission, January 1988; See Also Statement of James C. Miller, III, Chairman, Federal Trade Commission, Before the Subcommittee on Aviation of the House Committee on Public Works and Transportation, July 26, 1983.

<sup>5</sup> D. Koran and J. Ogur, "Airport Access Problems: Lessons Learned from Slot Regulation by the FAA," Staff Report to the Federal Trade Commission, May, 1983; "Slots Transfer Methods," before the Federal Aviation Administration (FAA), Docket No. 24105, 1984. See also "Discussion Authority for Agreement to Shift Schedules," Before the Department of Transportation, Docket No. 44634, 1987; "Elimination of Airport Delays," Before the FAA, Docket No. 24206, 1984.

<sup>6</sup> "Proposal for Airport Capacity Efficiency," Before the Massachusetts Port Authority, 1988; "Charges for Use of Metropolitan Washington Airports," Before the FAA, Docket No. 25204, 1987.

<sup>7</sup> "Airline Computer Reservation Systems," Before the Civil Aeronautics Board, Docket No. 41686, 1983.

staff of the Dallas Regional Office and the Bureau of Economics offer these remarks on the issue of the repeal of the use restrictions on Love Field.

## II. The Wright Amendment

In the 1960's, Love Field was the only Dallas airport served by major commercial airlines. Concern about the capacity of Love Field and other local airports and the ability of the airports to keep up with the region's growth caused the cities of Dallas and Fort Worth to develop jointly a regional airport located midway between the two cities. In 1968 the cities passed a concurrent bond ordinance authorizing the issuance of the bonds for the construction of D/FW. All of the airlines operating out of Love Field at the time signed agreements to move their operations to D/FW.

By the time D/FW was completed, Love Field was operating at its peak capacity.<sup>8</sup> Also by that time a new airline, Southwest Airlines, had begun operations out of Love Field. It offered flights between the four major cities in Texas. Southwest never signed an agreement to move its operations to D/FW, and on January 13, 1974, when all the other air carriers moved their operations to D/FW, Southwest stayed at Love Field. A lawsuit

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<sup>8</sup> Love Field had 446,160 takeoffs and landings in 1973. Dallas Love Field Activity Report, 1972-78.

was instituted in an effort to force Southwest to move to D/FW; however, Southwest prevailed and continued to operate out of Love Field.<sup>9</sup>

Because of a concern that unrestricted air travel out of Love Field would endanger the success of the new airport and the possibility that the cities would not be able to meet their bond obligations, legislation was introduced in the United States House of Representatives that would place restrictions on the use of Love Field.<sup>10</sup> The legislation that was enacted by Congress, commonly referred to as the "Wright Amendment,"<sup>11</sup> prohibits airlines from using Love Field for flights to and from cities that lie in states other than Texas, Arkansas, Louisiana, New Mexico and Oklahoma. The Wright Amendment also prohibits air service from being extended beyond the five states by means of through service, connecting service, or interline service.<sup>12</sup> For example, not only are airlines prohibited from flying nonstop

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<sup>9</sup> City of Dallas v. Southwest Airlines Company, 371 F. Supp. 1015 (N.D. Tex. 1973). aff'd, 494 F.2d 773 (5th Cir. 1974), cert. denied, 419 U.S. 1079, reh'g denied, 420 U.S. 913 (1975).

<sup>10</sup> S. Henigson, "House Limits Love Flights to 4 States," Dallas Time Herald, Jan. 31, 1980, p. A-1.

<sup>11</sup> Pub. L. No. 96-193, 94 Stat. 50, Feb. 18, 1980.

<sup>12</sup> It is possible that the type of restrictions imposed by the Wright Amendment may have been an efficient way to assure the success of D/FW and therefore were justifiable at the time. Whether or not this was true, there would now seem to be little justification for continuing to impose restrictions on Love Field as a means for assuring the success of D/FW (see Section III, below).

from Love Field to Los Angeles, but they are also prohibited from writing a ticket for a passenger from Love Field to Los Angeles on a flight from Love Field to Albuquerque, New Mexico, that continues to Los Angeles.<sup>13</sup>

### III. Status of D/FW and Love Field

Dallas/Fort Worth International Airport has grown and prospered in the 15 years since it opened and is now the second busiest airport in the nation.<sup>14</sup> Indeed, it has begun to experience the problems that inevitably accompany such a large amount of traffic. Delay has become more prevalent. Both American Airlines and Delta, which operate major hubs at D/FW, have gate space shortages.<sup>15</sup> D/FW, which currently has 6 commercial runways is planning construction of two more

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<sup>13</sup> The Department of Transportation has determined that Continental Airlines could provide service from Love Field to Houston, if such service did not interline or list connecting flights to restricted destinations. DOT Order 85-12-81 (July 26, 1985), aff'd, Continental Airlines v. Dept. of Transportation, 483 F.2d 1444 (D.C. Cir. 1988).

<sup>14</sup> R. Dunham and R. Calhoun, "Congressman wants Love Field limits repealed," Dallas Times Herald, July 15, 1989, p. B-1.

<sup>15</sup> Both airlines have announced plans to build more gates. Op-Ed piece by Ted Tedesco, Vice President-Corporate Affairs, American Airlines, Inc., "Opportunity can land here," Dallas Morning News, August 7, 1989, p. A-9; M. Zimmerman, "Delta studying D/FW expansion," Dallas Morning News, August 3, 1989, p. D-1.

runways.<sup>16</sup> Moreover, parking close to the terminals is in short supply.

Total operations (takeoffs and landings) at D/FW were 675,061 in 1988. Of these, nearly 75% were commercial airline operations. The airport's operations are increasing at a rate of 5% per year.<sup>17</sup> Even with the improvements that are being planned, D/FW expects to reach its capacity sometime around the year 2000.<sup>18</sup> In order to deal effectively with this capacity problem, a group of north Texas local governments have commissioned a study to explore possible solutions, including the construction of one or more satellite airports in the area.<sup>19</sup> Moreover, although the D/FW Airport Board has not taken a position on the issue of the repeal of the Wright Amendment, the Board does not expect repeal of the amendment to be detrimental to D/FW.<sup>20</sup> One estimate is that repeal of the Wright Amendment

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<sup>16</sup> Interview, William Cyran, Marketing Department, D/FW Airport Board, August 1, 1989.

<sup>17</sup> Oris Dunham, Dallas/Fort Worth Executive Director, D/FW Report to the City of Dallas, Council Transportation Committee, Public Hearing, August 15, 1989.

<sup>18</sup> C. Austin and A. Van Zelfden, "War brewing over Love Restrictions," Dallas Times Herald, July 16, 1989, p. B-1.

<sup>19</sup> Interview, Danny L. Bruce, Director of Aviation, City of Dallas, August 1, 1989.

<sup>20</sup> R. Dunham and R. Calhoun, supra, note 14.

would extend by two years the date when D/FW reaches its capacity.<sup>21</sup>

Love Field, on the other hand, has a significant amount of excess capacity. Consultants for the city estimate that the capacity of Love Field is approximately 435,000 operations per year.<sup>22</sup> However, in 1988 Love Field had only 212,823 operations, 106,534 of which were commercial operations. At the present time, Southwest Airlines, the only major commercial airline operating out of Love Field, uses only 15 gates on one concourse of the three concourses.<sup>23</sup> Prior to the opening of D/FW, 55 gates were in operation at Love Field.<sup>24</sup> There is also ample space available for additional airline ticket counters.<sup>25</sup> Due to recent improvements, Love Field also has excess parking

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<sup>21</sup> Oris Dunham, supra note 17. According to Mr. Dunham repeal of the Wright Amendment would have no major impact on the viability of D/FW. In addition it may temporarily alleviate the need to expand facilities at D/FW.

<sup>22</sup> Interview, Danny L. Bruce, supra, note 19.

<sup>23</sup> Id.

<sup>24</sup> Letter dated August 3, 1989, with enclosures, from Danny L. Bruce, Director of Aviation, City of Dallas, to Thomas B. Carter, Director, Dallas Regional Office, Federal Trade Commission. There are at least nine elevated gates which could be used immediately. Some gates have been converted to other uses since D/FW opened, however they could be reconverted to airline gates, subject to certain lessees' interests.

<sup>25</sup> Interview, Danny Bruce, supra note 19.

capacity.<sup>26</sup> The city estimates that, even during current peak periods, approximately 40% of the airport's garage and surface lot parking is unused.<sup>27</sup>

Removal of the restrictions on Love Field will allow airlines to more freely compete with carriers based at D/FW. It will immediately allow Southwest Airlines to provide through service and connecting service to the 15 restricted destinations that it now serves through other airports.<sup>28</sup>

Southwest will also be permitted to provide nonstop service to these and other destinations. In addition, three other airlines, Continental, America West, and Midway can be expected to initiate service from Love Field.<sup>29</sup> Even American Airlines is making

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<sup>26</sup> The City of Dallas recently spent \$21.5 million on Love Field to renovate the terminal and provide more parking spaces. D. Dillon, "The New Look of Love," Dallas Morning News, Feb. 4, 1988, p. C-1.

<sup>27</sup> Letter from Danny L. Bruce, supra, note 24. Moreover, there exist additional sites where parking facilities have been located in the past.

<sup>28</sup> Those destinations are Kansas City, St. Louis, Nashville, Birmingham, Chicago, Detroit, Indianapolis, Phoenix, Las Vegas, San Diego, Ontario, Los Angeles, San Francisco, and Oakland.

<sup>29</sup> M. Zimmerman, "Field of Dreams," Dallas Morning News, July 18, 1989, p. D-1; B. Roth, "Continental wins Love Field Battle," Dallas Times Herald, March 31, 1988, p. B-1. Airlines that operate out of D/FW may be limited in their use of Love Field by the terms of their use agreements with D/FW and the requirements of the 1968 Regional Airport Concurrent Bond Ordinance adopted by the City Councils of Dallas and Fort Worth. Section 9.5 of the Bond Ordinance requires the cities to phase out the use of all existing airports, including Love Field, by commercial air carrier services. The extent of the limitation on

contingency plans to begin service from Love Field if the restrictions are lifted.<sup>30</sup> In total, it has been estimated that Love Field operations (and passengers served) would more than double in the first five years following repeal of the Wright Amendment.<sup>31</sup>

#### **IV. Benefits to Consumers in Removing Restrictions**

Removal of the restrictions on the use of Love Field would likely increase airline competition, provide added convenience, and reduce congestion at D/FW. As a result, consumers, both in Dallas and elsewhere, could benefit substantially. Some of the benefits that could result include lower airfares to certain locations, lower parking and commuting cost, and reduced delays. I will discuss each of these potential benefits in turn.

We do not address the implications of repeal for changes in noise levels in the Dallas/Fort Worth area. We note, however, that whatever these implications might be, imposing restrictions

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carriers operating out of D/FW has not been fully determined. See, e.g., City of Dallas v. Continental Airlines, Inc., 735 S.W.2d 496 (Tex. Ct. App. 1987). See also "The Impact on Air Traffic Activity at Dallas Love Field Resulting from Repeal of the Wright Amendment", Reese & Company, July 31, 1989.

<sup>30</sup> David Jackson, "City is Promised Business, Warned of Noise if Love Field Limits Lifted," Dallas Morning News, August 16, 1989. p. A-27.

<sup>31</sup> "The Impact on Air Traffic Activity at Dallas Love Field Resulting from Repeal of the Wright Amendment", supra note 29.

on flight destinations may be an extremely inefficient method for controlling noise pollution. Except to the extent that changes in the routes served by Love Field cause changes in the types of aircraft using the Field (a change that could tend to reduce noise levels, if less noisy aircraft replace noisy aircraft), the changes in noise levels will be determined largely by changes in the aggregate number of operations performed at the airport, not by the origins and destinations of these additional flights. The council may wish to consider whether the goals of increased air service and noise abatement can be better served through other means, such as measures that directly affect flight frequency and aircraft choice. For example, noise abatement can be dealt with by measures such as a varying of landing fees.

#### A. Potential Reductions in The Price of Airline Tickets

There are several reasons why removing the restrictions at Love Field could result in lower airline ticket prices. First, removing restrictions from Love Field will increase the number of potential competitors faced by airlines at D/FW operating flights to destinations that cannot currently be served from Love Field. Eliminating these restrictions will allow Southwest and other potential entrants to offer services to these destinations. Any impact on price will depend, in part, on the extent of existing

competition among airlines to provide service to these destinations from D/FW.

Second, on those occasions when D/FW operates at capacity, the shortage of gates and other scarce airport facilities may give rise to "scarcity rents."<sup>32</sup> In other words, if D/FW cannot keep up with growing demand, airline ticket prices could increase to reflect these scarcities. Removal of restrictions at Love Field will increase available airport facilities, which is likely to erode any economic rents embedded in the pricing of airline tickets at D/FW.

Examination of existing ticket prices may help suggest the potential price reductions that might occur if the restrictions at Love Field are eliminated. The discussion that follows is not based on a sophisticated analysis of airline ticket prices in which we control for all the determinants of prices. Consequently, the price differences that we focus on below should be viewed as illustrative of potential fare reductions that might occur with the removal of restrictions at Love Field, rather than conclusive evidence that fares will decline. Moreover, we do not attempt to measure what part of these conjectured fare

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<sup>32</sup> When a factor of production, such as an airport gate, is in fixed supply, increases in the demand for that factor will cause its price to rise. If this factor is already earning a competitive return before the price increase, the additional revenue generated by this price increase is termed a "scarcity rent."

reductions is attributable to erosion of "scarcity rents" and what part is due to increased competition faced by carriers operating from D/FW.

Since Southwest Airlines is the major carrier at Love Field and American Airlines is the major carrier at D/FW, we compare American and Southwest prices in the analysis that follows. We first compare prices on routes in which both American and Southwest are permitted to provide service in order to examine whether the two airlines price similarly when serving the same destinations. We make these comparisons for assorted flights originating from both the Dallas and the Houston areas. If the two airlines charge the same price for city-pair routes which they both currently serve, it raises the suggestion that American and Southwest prices would be similar on routes that Southwest would serve once the restrictions at Love Field are removed.

After comparing these prices we then compare American prices from D/FW to destinations that Southwest cannot serve from Love Field with American and Southwest prices from the Houston area to these same destinations.<sup>33</sup> Service from D/FW and Houston to the listed destination is similar, in that both Dallas and Houston have a newer regional airport and an older, in-town airport, the

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<sup>33</sup> There are no destination restrictions on flights leaving from Houston, therefore it is possible to compare Southwest fares and American fares from Houston to destinations which Southwest cannot serve from Love Field.

distances of the routes to the listed destinations are comparable, and the cities are of comparable size and location.<sup>34</sup> Consequently, providing that no significant remaining differences exist between flights originating in Dallas and Houston, differences in fares may reflect the impact that the restrictions at Love Field have on prices.<sup>35</sup>

Table 1 [attached] provides the price comparisons discussed above. The American prices were obtained from one of the computer reservation systems (CRS) used by travel agents all over the United States.<sup>36</sup> The Southwest prices were obtained by contacting Southwest directly. Consequently, prices obtained are likely to be accurate indicators of what consumers actually pay for their airline tickets. We use prices listed on the CRS and/or quoted on August 4, 1989. We provide data on the lowest available fare and on unrestricted fares (full fare) for weekday travel.<sup>37</sup> These latter fares are provided to estimate the

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<sup>34</sup> The American prices are for "coach" travel which is the closest comparable service to that offered by Southwest.

<sup>35</sup> As discussed above, we have not taken into account all possible differences in demand and supply considerations between the city-pair routes we compare. Thus, our price comparisons should not be viewed as conclusive evidence that the Love Field restrictions are solely responsible for the price differences we observe.

<sup>36</sup> "Full fare" prices were double-checked by contacting American reservations directly.

<sup>37</sup> Some of the unrestricted fares have limits on the number of stopovers and may require a roundtrip booking. It is interesting to note that these limitations may have been imposed to prohibit Dallas passengers from taking advantage of the lower

typical fares business travelers are likely to face when flying during weekdays without advance reservations.<sup>38</sup>

The price comparisons in Table 1 suggest that for routes unaffected by the Wright Amendment, American tends to offer the same range of prices as Southwest. For example, the lowest price for a roundtrip Southwest flight from Love Field to either Little Rock, Houston, Austin, or San Antonio is \$38. American's lowest priced fares from D/FW to these cities is also \$38.<sup>39</sup> Similarly, Southwest's and American's lowest priced flights from Houston to Nashville, Birmingham, and St. Louis are identically priced at \$98. Comparisons of full fares suggest that the airlines also price these types of fares similarly though some differences exist between American and Southwest fares from Houston to the assorted destinations. These price comparisons suggest that when Southwest and American serve the same city-pairs, the two airlines tend to offer a similar range of fares. This suggests that if Southwest were permitted to serve

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fares on flights out of Houston that require a stop in Dallas before continuing to destinations that airlines may not serve from Love Field. Other than these limitations, American's full fares reflect the lowest fare a passenger could obtain without any conditions on advance purchases, minimum stay, time of day travel, etc.

<sup>38</sup> Since we do not have information on how many tickets were purchased at these and other prices our discussion is based on comparisons of list prices, not average prices.

<sup>39</sup> These are the lowest fares available. They require 3 weeks notice and are nonrefundable. Other restrictions may apply.

destinations that it cannot presently serve from Love Field, American would price similarly to Southwest on flights from D/FW to these destinations.

We now compare American prices on routes from D/FW to destinations that Southwest cannot serve from Love Field with prices on routes from Houston to these same destinations. In particular, we present American fares from D/FW to Kansas City, Nashville, Birmingham, and St. Louis as well as American and Southwest fares from Houston to these same cities. Table 1 shows that the lowest available fares from Houston to Kansas City, Nashville, Birmingham, or St. Louis are significantly below the fares from D/FW to these destinations. For example, the lowest available fare from the Houston area to St. Louis is \$98 and the lowest available fare from Dallas to St. Louis is \$200. For full fares, the differences are even larger, with full fares from D/FW being sometimes as much as four times more than full fares on routes originating in Houston. Thus, while the fare from Houston to Nashville is \$168, the same airline's fare from Dallas to Nashville is \$672.

In summary, our analysis suggests that when serving the same city-pairs Southwest and American have similar fares. Moreover, the prices from D/FW to destinations that cannot be served by operations from Love Field are significantly higher than fares from Houston to these same destinations. This evidence, though

illustrative rather than conclusive, suggests that removal of restrictions may lower fares to consumers flying into and out of Dallas.

#### B. Potential Reductions in Delay Time

There are other potential benefits of eliminating restrictions on traffic into and out of Love Field. There may be times when the demand for operations at D/FW exceeds the airport's capacity. During these peak use periods, the cost of an aircraft using terminal gate space, taxiway, and runways consists of the actual resource costs incurred (e.g., the use of air and ground traffic controllers) plus the additional cost that the operation imposes on other operations that would have used the airport facilities. The costs associated with preventing other aircraft from using airport facilities are known as congestion costs. During peak use periods when many aircraft want to use the limited airport facilities at the same time, the congestion costs for any single operation can be significant.

The gains from eliminating restrictions from Love Field and moving operations from D/FW to Love Field are, in part, embodied in the reduction of congestion costs. There are empirical data suggesting that the congestion costs at D/FW are significant. For example, one important cost is the delay time imposed on

passengers on flights waiting to use a runway. In December 1988 alone, well over 1,000 departures at D/FW were delayed more than 15 minutes.<sup>40</sup> During all of 1988 there were over 10,000 delays at D/FW. Many of these delays, as discussed below, are related to aircraft congestion.

Delays can be caused by a variety of factors including bad weather, constraints on the air traffic control system, equipment failure, and airport volume. Airport volume can affect delay time for a variety of reasons. Airport volume is a likely major determinant of delays due to bottlenecks such as limited runway capacity and limited availability of gate space. For example, from March through July 1989, D/FW experienced over 5,300 delays, approximately 18% of which were attributed to airport volume.<sup>41</sup> This implies that a reduction in operations when an airport is near its capacity can have a significant impact on delay time. It has been estimated, for example, that if there were 20 departures per runway per hour, a 1% increase in commercial air carrier departures would cause an increase in average departure delay of 2.9%. Similarly, if there were 20 arrivals per runway in the same hour, a 1% increase in commercial air carrier arrivals per runway would increase departure delay by an

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<sup>40</sup> FAA Air Traffic Operations Service, "Air Travel Activity and Delays Report for December, 1988", NAS Analysis Branch, AT0-130.

<sup>41</sup> FAA Daily Aircraft Operations, D/FW and DAL, January - July 1989.

additional 1.6%.<sup>42</sup> Thus, given traffic volume at peak hours at D/FW, a reduction in the number of operations is likely to cause a significant reduction in delays.

Love Field, by contrast, does not appear to be capacity constrained. For example, as reported in the Dallas Morning News, "[t]he Federal Aviation Administration estimates that Love Field can handle about 432,000 takeoffs and landings a year. It recorded only 216,000 in 1988."<sup>43</sup> The FAA estimates that from March through July 1989 Love Field experienced only 349 delays,<sup>44</sup> none of which was attributable to airport volume.<sup>45</sup> Thus, delays caused by air traffic volume are less likely to be a significant problem and increases in traffic volume are less likely to affect operations at Love Field than at D/FW.

Appendix A presents estimates of the dollar value of the time air passengers may be expected to save if the restrictions at Love Field are removed. These savings can arise because removal of the Love Field restrictions is likely to shift operations from an airport with high congestion costs to an

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<sup>42</sup> S. Morrison and C. Winston, "Enhancing the Performance of the Deregulated Air Transportation System," Brookings Papers on Economic Activity, M. Bailey and C. Winston, Ed., Brookings Institution, Washington, D.C., 1989.

<sup>43</sup> M. Zimmerman, supra note 29.

<sup>44</sup> The number of delays per thousand operations at D/FW is almost 6 times greater than at Love Field.

<sup>45</sup> The FAA Daily Aircraft Operations, supra note 41.

airport with lower congestion costs.<sup>46</sup> The calculations in Appendix A are based on several assumptions and are only illustrative of the types of savings consumers may realize rather than precise estimates. These calculations suggest that the dollar value of reduced delay time may be substantial, perhaps on the order of tens of millions of dollars per year.

### C. Savings in Commuting To and From the Airport

Love Field is closer to downtown Dallas than D/FW (by approximately 10 miles). Since a large percentage of air travelers are likely to be traveling to or from downtown Dallas, shifting traffic from D/FW to Love Field will lower commuting costs to these passengers.<sup>47</sup> Appendix B provides an analysis of the value of commuting time saved if the restrictions concerning Love Field are removed. The analysis in the Appendix should be viewed as illustrative of the types of savings consumers may

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<sup>46</sup> A shift in operations could occur because Southwest would expand its operations to routes that were previously restricted, thereby reducing the demand for operations at D/FW. In addition, air-carriers other than Southwest may be able to shift their operations from D/FW to Love Field. Note that our analysis would be similar if instead of existing operations shifting from D/FW to Love Field, Love Field received a greater proportion of any growth in the demand for operations.

<sup>47</sup> Note that commuters who live closer to Love Field than D/FW will also experience lower commuting costs to the extent they are able to make greater use of Love Field. In addition, those commuters who live closer to D/FW will still be able to use that airport.

realize if the restrictions at Love Field are removed rather than precise estimates of these savings. The analysis suggests that the savings from reduced travel time alone might exceed two million dollars per year.

In addition to the time savings, there is the direct savings from traveling 10 fewer miles. The second part of Appendix B provides an analysis of these savings to consumers. The direct savings to consumers who shifted from D/FW to Love Field might exceed three million dollars per year.

#### D. Savings Due to Airport Parking Arrangements

Shifting traffic from D/FW to Love Field also will enable consumers to save on parking fees and/or save time getting to and from the airport terminal. Parking close to the terminals at D/FW costs \$10 per day. Parking close to the terminal at Love Field is \$6 per day in the covered garage and \$4.50 per day in the open lot. D/FW has remote parking at comparable rates to parking at Love Field, but it is far from the terminals and involves waiting for transportation to arrive and entails a significant amount of travel time between the lots and the terminal. Therefore, the ability to fly from Love Field could

save consumers money in parking fees and/or time expended getting to and from the parking lot to the terminal.<sup>48</sup>

### Summary

This analysis has provided a framework to analyze the impact of removing restrictions at Love Field on airline ticket prices, commuting costs, and delay time. The analysis suggests that removing the restrictions may result in lower air fares as well as reductions in delays and commuting costs to air passengers. Our analysis indicates that even without considering the substantial savings that may arise from lower air fares, the savings from reduced delay time and commuting costs alone could be substantial.

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<sup>48</sup> At some point, the currently ample parking at Love Field might become crowded, which could lead to higher parking rates and, in turn, reduce these savings.

Table 1  
Roundtrip Airline Fares on Selected Routes

<b>Destinations That Can Be Served From Love Field</b>				
<b>Destination</b>	<b>Lowest Available Fares From Dallas<sup>1</sup></b>		<b>Full Price Fares From Dallas<sup>2</sup></b>	
	<b>AA(DFW)</b>	<b>SW(Love Field)</b>	<b>AA(DFW)</b>	<b>SW(Love Field)</b>
Little Rock, AR	\$38	\$38	\$122	\$122
Albuquerque, NM	\$76	\$76	\$164	\$164
Houston (Hobby), TX	\$38	\$38	\$122	\$122
Austin, TX	\$38	\$38	\$122	\$122
Oklahoma City, OK	\$38	\$38	\$102	\$102
San Antonio, TX	\$38	\$38	\$122	\$122
New Orleans, LA	\$76	\$76	\$164	\$164

  

<b>Destinations That Can Not Be Served From Love Field</b>				
<b>Destination</b>	<b>Lowest Available Fares From Dallas</b>		<b>Lowest Available Fares From Houston<sup>3</sup></b>	
	<b>AA</b>	<b>SW</b>	<b>AA</b>	<b>SW</b>
Kansas City, MO	\$198	Restricted	\$108	\$108
Nashville, TN	\$200	Restricted	\$98	\$98
Birmingham, AL	\$200	Restricted	\$98	\$98
Saint Louis, MO	\$200	Restricted	\$98	\$98

  

<b>Full Price Fares From Dallas</b>		<b>Full Price Fares From Houston</b>		
<b>Destination</b>	<b>AA</b>	<b>SW</b>	<b>AA</b>	<b>SW</b>
Kansas City, MO	\$476	Restricted	\$230	\$236
Nashville, TN	\$672	Restricted	\$168	\$188
Birmingham, AL	\$672	Restricted	\$238	\$198
Saint Louis, MO	\$630	Restricted	\$162	\$178

**1** Lowest fares offered by each airline; all require 3 week advance purchase and are non-refundable; other restrictions may apply.

**2** Lowest unrestricted fares offered for "coach" travel on weekdays; they do not require advance purchase, minimum stay, time of day travel, and are fully refundable; there may be a limit on stopovers and may require round trip purchase.

**3** Fares from both Houston airports (Hobby and International) were the same.

## Appendix A

### I. Dollar Value of Reduced Delay Time

In this appendix we estimate the value of reduced delays to travelers. We compute these savings under two different scenarios regarding shifts in traffic from D/FW to Love Field subsequent to the removal of restrictions at Love Field. We assume, respectively, that 5% and then 10% of D/FW's commercial traffic moves to Love Field.<sup>1</sup> These computations assume that the average delay at D/FW is 10 minutes.<sup>2</sup> We also employ several assumptions regarding the impact of traffic reductions at D/FW on the average delay. Furthermore, we assume that because Love Field is underutilized, the increased traffic would not affect delays at Love Field.<sup>3</sup>

The first group of passengers that might be expected to experience less delay time is the group that shifts from using D/FW to Love Field. The number of passengers in this category

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<sup>1</sup> We focus on a shift of commercial operations since general aviation is not restricted by the "Wright Amendment" and commuter operations are less likely to fly to restricted destinations. A shift in operations could occur because Southwest expands its operations to routes that were previously restricted, thereby reducing the demand for operations at D/FW. Alternatively, other air carriers could shift their operations from D/FW to Love Field. Note that our analysis would be similar if instead of existing operations shifting from D/FW to Love Field, Love Field received a greater proportion of any growth in the demand for operations. The analysis that follows assumes that there is a one-time shift of 5% or 10% of commercial operations from D/FW to Love Field.

<sup>2</sup> In 1988, there were over 10,000 airline departure delays at D/FW which exceeded fifteen minutes. Official records are not kept showing delays of less than fifteen minutes. Therefore, an average delay of ten minutes seems to be a reasonable assumption.

<sup>3</sup> The FAA estimates that from March through July 1989 Love Field experienced only 349 delays, none of which were attributable to airport volume. Even if 10% of the operations shifted to Love Field, the airport would still have a large amount of excess capacity so that delays due to air traffic volume are assumed not to increase.

We also assume that the increase in operations at Love Field would not change air traffic patterns in a manner that would increase delays for operations originating from Love Field.

will depend on the number of operations shifted from D/FW to Love Field, the type of aircraft shifted, and the load factors of the aircraft. Assuming a 5% shift in commercial operations, an average aircraft capacity of 164 seats and a 50% load factor,<sup>4</sup> the number of passengers shifted to Love Field would equal 2,048,114 per year.<sup>5</sup> Assuming a 10% shift in operations this number would double to 4,096,228 passengers per year. If operations at D/FW were delayed on average by 10 minutes and the average value of passengers' time equals \$10.00 per hour,<sup>6</sup> then a 5% shift in operations would yield a \$3,413,523 savings per year and a 10% shift would yield a \$6,827,046 savings.

The second group of passengers that might be expected to experience less delay time is the group that continues to use D/FW. This group would experience less delay because a shift in operations away from D/FW would reduce delay time there as well. If 5% of the commercial operations shifted from D/FW to Love Field there would still be 474,568 commercial air-carrier operations, 155,264 commuter aircraft operations, and 20,251 general aviation operations at D/FW per year.<sup>7</sup> If each percentage point shift in commercial operations results in a 3% decline in overall delay (i.e., the elasticity of delay time with respect to commercial operations equals 3) and there was a 10 minute average delay per operation, such a 5% shift would result in over a 1.5 minute decline in delay per operation.

Assuming that commercial aircraft carry 164 passengers, commuter aircraft 22 passengers, and general aviation aircraft 4 passengers, and assuming a load factor of 50%, commercial air-carriers average 82 passengers per flight, commuter aircraft average 11 passengers per flight, and general aviation aircraft average just 2 passengers per flight. Then there would continue to be 40,662,995 passengers using D/FW per year. Again placing a \$10.00 per hour value on passengers' time, the decline in delay time would imply a \$10,165,749 annual saving.

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<sup>4</sup> "Load Factor" as used here means the average percentage of seats sold on an aircraft.

<sup>5</sup> The formulas used for the various computations are provided in Section II of this appendix.

<sup>6</sup> Although estimates of time value vary, the estimate of \$10.00 per hour is actually a very conservative estimate of the value of time. For example, Morrison and Winston (1989) value passenger time at \$42.55 per hour.

<sup>7</sup> FAA data indicate that of total operations at D/FW, 74% were air carrier operations, 23% were of commuter operations, and 3% were general aviation operations.

Table A-1 shows the dollar savings to passengers remaining at D/FW under the assumptions stated. If 10% of the operations shift from D/FW to Love Field, and the elasticity of delay time with respect to operations equals 3, the remaining passengers at D/FW would save \$19,307,399. Finally, even if the delay per operation is applicable to only 20% of the flights, the savings would still be substantial.<sup>8</sup>

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**Table A-1**  
**Dollar Savings To Remaining Passengers at D/FW**

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Initial Minutes of Delay Per Operation = 10

<u>Percent Shift in Operations</u>	<u>Elasticity of Delay With Respect to Operations</u>		
	1	3	5
5%	\$3,388,583	\$10,165,749	\$16,942,915
10%	\$6,435,800	\$19,307,399	\$32,178,998

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## II. Formulas and Computations for Delay Analysis

The computations given below are based on the assumption that 5% of traffic shifts from D/FW to Love Field, that delay per operation at D/FW is 10 minutes, and the elasticity of delay with respect to operations equals 3.

1. The number of air carrier operations shifting from D/FW to Love Field: (ACS)

ACS = total number of operations at D/FW \* percent of D/FW operations that are air carrier \* percentage of air traffic that shifts from D/FW to Love Field.

$$24,977 = 675,061 \cdot .74 \cdot .05$$

2. Total Number of Passengers Shifting From D/FW to Love Field: (PSHIFT)

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<sup>8</sup> These savings can be computed by multiplying all entries in Table A-1 by .2.

PSHIFT = ACS \* passengers per air carrier operation.

$$2,048,114 = 24,977 * 82$$

3. Value of Time Saved By Passengers that Shift From D/FW to Love Field: (VTSHIFT)

VTSHIFT = PSHIFT \* the 10 minutes of delay per operation saved by moving from D/FW to Love Field (expressed as a portion of an hour) \* the value of passenger time per hour.

$$\$3,413,523 = 2,048,114 * 10 / 60] * \$10$$

4. Number of Passengers that Remain at D/FW: (PSTAY)

PSTAY = remaining air carrier operations at D/FW \* passengers per air carrier operation + commuter operations at D/FW \* passengers per commuter operation + general aviation operations at D/FW \* passengers per general aviation operation.

$$40,662,995 = (675,061 * .74 - 24,977) * 82 + (675,061 * .23) * 11 + (675,061 * .03) * 2$$

5. Time Saved by Passengers that Remain at D/FW: (TSAVE)

TSAVE = Average minutes delay at D/FW \* Percentage of air travel that shifts from D/FW to Love Field \* Elasticity of delay with respect to commercial operations.

$$1.5 = 10 * .05 * 3$$

6. Value of Time Saved By Passengers that Remain at D/FW: (VTSTAY)

VTSTAY = PSTAY \* TSAVE (expressed as a portion of an hour) \* value of passenger time per hour.

$$\$10,165,749 = 40,662,995 * (1.5 / 60) * \$10$$

## **Appendix B**

### **I. Savings in Commuting Time To and From the Airport**

D/FW is approximately 10 miles farther from downtown Dallas than Love Field. We assume that, on average, the commute to Love Field is 12 minutes shorter than the commute to D/FW.<sup>1</sup> If we assume that 5% of the operations move from D/FW to Love Field, that 30% of the passengers on these flights are travelling to or from downtown Dallas, and that passenger time is valued at \$10/hour, then the savings to these passengers would equal \$1,228,868 per year.<sup>2</sup> Calculations are given below based on these assumptions. This estimate depends on the speed of travel and the number of passengers affected by the shift in operations. For example, if 10% of the operations shift from D/FW to Love Field the savings would increase to \$2,457,736.

**Value of Time Saved Because of Shorter Commuting Time:  
(VSHORT)**

VSHORT = PSHIFT<sup>3</sup> \* the difference in commuting time between D/FW and Love Field (expressed as a portion of an hour) \* the proportion that commute from Dallas \* value of passenger time per hour.

$$\$1,228,868 = 2,048,114 * (12/60) * .30 * \$10.$$

### **II. Out-of-Pocket Savings From the Shorter Commute**

As before, we assume that the direct costs of traveling affects 30% of the passengers who would use flights from Love Field instead of D/FW. If it costs \$.25 per mile to commute, then the additional passengers that would use Love Field save an additional \$1,536,086. This calculation is performed below. As in our previous analysis, the savings will depend upon the percentage of the operations that shift from D/FW to Love Field,

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<sup>1</sup> This implicitly assumes that after the shift in operations from D/FW to Love Field travelers could average 50 miles per hour to either airport. If travelers average less than this speed the savings in minutes from driving the 10 fewer miles would be greater.

<sup>2</sup> An additional percentage of the passengers shifted from D/FW to Love Field, commuting to or from places other than downtown Dallas, can be expected also to have a shorter commute and therefore would experience savings.

<sup>3</sup> See the discussion in Appendix A for the calculation of PSHIFT, the number of passengers that shift from D/FW to Love Field.

as well as upon the direct cost of traveling the additional miles. For example, in the above scenario, if 10% of air carrier operations shift from D/FW to Love Field, the savings would be \$3,072,171.

Out-of-Pocket Savings from Shorter Commute: (OUTPOCKET)

OUTPOCKET = PSHIFT \* the cost of commuting an extra 10 miles  
\* the proportion of passengers that commute from Dallas.

$$\$1,536,086 = 2,048,114 * (\$0.25 * 10) * .30$$