

# Dallas Love Field Impact Analysis Update

In the Absence of the Wright Amendment

Executive Summary



Prepared by:  
DMJM Aviation

May 31, 2006

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DMJM Aviation  
and GRA, Inc.

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## Preface

The subject of this report is the impact of Dallas Love Field, specifically how it may be expected to change in the absence of Wright Amendment control over the limits of scheduled air carrier service. With few exceptions, airports exist as tradeoffs between environmental and economic impacts. The degree to which airports are able to balance these impacts is largely dependent on the policies and plans enacted and approved by leaders of local government and the practices of individuals charged with management of airport operator organizations. For both policy makers and managers, the cooperation of a large third party comprised of airport tenants, users and aircraft operators is usually essential to achieve a balance between environmental and economic impact.

Dallas Love Field, operating in the shadow of Dallas/Fort Worth International Airport for 32 years, had achieved an acceptable balance. While the efforts of airport management deserve much credit, a major reason for this balance has been a federal regulation known as the Wright Amendment. Under Wright Amendment tenets familiar to all by now, there has been little need for policies and plans relating to scheduled air carrier services or compatible off-airport land use and development. Capital facilities development for increased capacity, level of service improvement, or to meet governmental requirements have been minimal in volume and nature with the exception of recent auto parking garage, passenger terminal curbside and security additions and improvements. Adjusted residential property values have risen over the years and continue to rise in support of the municipal tax base and actual tax contributions from the communities and businesses surrounding Love Field.

The balance was upset when in 1999 the startup of a new airline served as the catalyst for sudden changes in the volume and characteristics of scheduled air carrier services. To restore balance, albeit at a new level of off-airport impact, the City of Dallas commissioned the preparation of a Love Field Master Plan / Airport Impact Analysis. After many months of analysis and coordination with all interested parties, including; airlines, other airport tenants and users, residents and home owners, and local, regional and federal government, broad and strong consensus was reached in favor of the Airport Master Plan published in March 2001 and unanimously approved by the City Council.

However, the Master Plan and supporting Airport Impact Analysis were based on a continuation of the Wright Amendment's provisions at the time. Since publication, the Wright Amendment has been modified to again upset the balance that had been achieved between economic and environmental impact. Many of the parties that had participated in forging consensus support for the new plan, and the City that had unanimously approved it, became bystanders to an increasingly acrimonious debate that began with a national campaign to repeal the Wright Amendment in its entirety. Finally, members of the U.S. Congress encouraged a local solution be formed or it would act to repeal the federal statute by the end of 2006.

In response, the Mayor and Council of Dallas have joined in mutual discussions with the City of Fort Worth to explore potential solutions that would, once again, establish an acceptable new balance for Love Field should the Wright Amendment be repealed. This time, however, the Dallas initiative would attempt to gain regional

support and would need effective measures to manage the growth of Love Field consistent with the environmental impacts agreed to in the 2001 Master Plan.

This report describes the results of studies performed to determine how the impact of Dallas Love Field would change in the following areas:

- Aircraft noise;
- Ground traffic in the airport vicinity;
- Air quality; and
- Economic activity.

With few exceptions, the individuals (planners, engineers/scientists and economists) who were prominent in the development of the Airport Master Plan have been the principal contributors to this impact update effort. This enabled the work to be completed within the brief period ultimately determined by the federal mandate, and assured an understanding of the master plan as the background for the performance and documentation of this work.

The starting point for the impact analysis update was the completion of the analysis of air service activity in absence of the Wright Amendment, performed by the firm of GRA, Inc. GRA performed the market analysis of scheduled service opportunities and profit potentials in much the same manner as would an airline itself, assuring the study of an accurate and authoritative starting point.

The analyses of aircraft noise, ground traffic and air quality impacts were performed as closely as possible to the methods and techniques used in the original Master Plan / Airport Impact Analysis. Care was exercised to assure the results could be fairly compared directly to the Master Plan results. Differences from master plan techniques were adopted only in cases where better tools had become available and even then the ability to make fair comparisons with the Master Plan was provided for. Without exception, for the same number of aircraft gates as developed in the Master Plan, the results of the environmental and community impact analyses describe consistently greater impacts than had been agreed to by the Master Plan Advisory Committee and approved by Council, as presented in direct comparison with the master plan. However, when the number of aircraft gates is allowed to increase only slightly above the existing number of passenger terminal gates, which is considerably less in total number than the Master Plan, the impacts of aircraft noise, ground traffic and air quality conform much more closely with the Master Plan.

As would be expected with the greater number of passengers and aircraft operations capable of being generated by the Master Plan, economic impact is greater than would be expected under a lesser number of gates which correspond to the levels of environmental and community impact established in the Master Plan. The results of the economic impact update, however, must be used with discretion. Because Love Field operates in the shadow of D/FW International Airport, the extent to which economic impact will accrue in the region and to Dallas due to increased aircraft activity and passengers at Love Field may, in part, materialize as a reduction or a slow down in the rate of economic generation at DFW. Previous studies have shown the business and commerce community and citizens of Dallas receive some 70% of the economic impact of DFW. Caution should also be used in interpreting the economic impact results in that the generated economic activity does not accrue entirely to the City of Dallas. Not all airport employees are citizens of Dallas, not all

businesses at the airport are Dallas owned, and not all purchases are made from Dallas owned and staffed businesses. Studies far more time consuming and detailed would be needed to isolate the economic impact of Love Field to the City of Dallas exclusively, and such studies, out of necessity, would have to consider the economic impact of the entire Metroplex system of airports and air transportation.

The future of Dallas Love Field, the level of air service it can provide for its business community seeking the convenience of close-in airport access, and the degree to which it will affect and shape the future of the residential communities surrounding it, will be determined by the Mayor and Council on behalf of the citizens of Dallas. It will surely have to pass the scrutiny of federal regulators seeking equal access to airport facilities and competition among airlines. In the aftermath, the City will have the challenge of managing the use and development of Love Field under a new balance between environmental and economic impact, one that will be predictable, not subject to the imposition of national interests above those of its citizens.

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### Introduction

**Background** - The Dallas Love Field Impact Analysis/Master Plan, published in early 2001, was prepared in close coordination with and received the approval of a Master Plan Advisory Committee consisting of airlines, other airport users and the citizens residing in communities in the immediate vicinity of the airport. That report and this one are available at [www.dallas-lovefield.com](http://www.dallas-lovefield.com). The plan was based on a projection of the characteristics and volume of scheduled air carrier aircraft operations as permitted at the time under the 1979 Wright Amendment. With the support of users and residents, the Master Plan established the levels of aircraft noise, air quality and ground traffic congestion that could be expected under the Wright Amendment air traffic projection.

The validity of the Master Plan is now in question owing to a national campaign organized to repeal the Wright Amendment. The Congress has requested regional resolution of the issue before it acts with new legislation as early as the end of 2006. The City of Dallas has determined it will seek a regional solution acceptable to Congress that is consistent with the goals and achievements of the Master Plan.

DMJM Aviation was engaged to prepare a technical study to update the air service projections and impact analyses contained in the 2001 Airport Master Plan/Impact Analysis to reflect a “No Wright Amendment” demand for scheduled air carrier services at Love Field.

**Purpose** - The purpose of this engagement was:

- to develop future air service scenarios at Dallas Love Field that could realistically result if the Wright Amendment is repealed;
- to assess and compare the noise, air quality, traffic, and economic impacts of each air service scenario to the 2001 Master Plan 32 Gate full build-out scenario that presumed the Wright Amendment would remain in place.

**Methodology** - In this study update there are no market demands or operational restrictions imposed on the characteristics and growth of scheduled air carrier operations other than the number of gates available for use and a limit to domestic destinations.

The methodologies employed to conduct the technical analyses of noise, air quality, traffic, and economic impacts were essentially the same as those which were used in the 2001 Master Plan, updated to the latest versions of the tools, to ensure the most equitable comparison of results.

**Summary of Findings** - The results of the analyses presented in this report indicate that the overall impacts of operating 20 Gates under a No Wright Amendment scenario are the most comparable to the environmental thresholds agreed to and established in the 2001 Master Plan/Impact Analysis 32 Gate scenario with the Wright Amendment in place. Aircraft noise exposure is slightly less for the DNL 65 dB level used by the FAA for noise mitigation actions. Average traffic delays are within a second or two, per vehicle per intersection, of the Master Plan results. Some air pollutants are greater than the Master Plan levels, but the pollutants that contribute to ozone formation, which is the area of non-attainment for the region, are less.

The following provides a summary of the elements that have been assessed in this update under a No Wright Amendment scenario and compared to the 2001 report.

## Air Service Activity in Absence of Wright Amendment

The first task of this assignment was to develop a realistic, market-driven forecast of airline activity at Dallas Love Field (DAL) if the Wright Amendment was repealed. GRA, Inc. was tasked with developing two long-term operational scenarios, the first with 20 gates and the second with 32 gates. For both scenarios, a flexible accommodation of carriers at gates was assumed for a typical range of aircraft.

This air service analysis and demand forecast was prepared, in part, to update the existing Master Plan forecast developed before the events of 9/11. In that earlier forecast, the Wright Amendment was assumed to remain in place, allowing operations beyond the non-stop service area only with reconfigured standard jet and regional jet aircraft up to 56 seats.

Other events in the airline industry have now eclipsed that forecast and the potential for the repeal of the Wright Amendment would change the dynamics at the airport in the future. In the year 2005, there were approximately 85,000 commercial operations at DAL resulting in the enplanement of approximately three million passengers. Without the repeal of the Wright Amendment, FAA expects relatively slow growth at DAL, with enplanements increasing only two percent per year over the period 2006 through 2020. In that same period, FAA expects commercial operations to grow only one percent per year.<sup>1</sup>

The repeal of the Wright Amendment would change the potential profit opportunities of carriers at DAL. Today, there are 30 markets not served on a non-stop basis from DAL that produce 300 or more passengers per day each way (PDEW) from/to the Dallas/Fort Worth Metroplex. While all of these markets receive non-stop service at DFW, some carriers may find service at DAL to be financially attractive. The repeal of the Wright Amendment would make it possible for carriers to fly to either coast and to any region for the first time with standard jet aircraft. Because standard jets can produce commercial airline seat miles at much lower costs than the aircraft of 56 seats or less that are currently allowed to fly beyond the Wright Amendment defined area, it may be possible for carriers to mount profitable operations in many of these large markets.

To examine these opportunities, a methodology was employed that is designed to replicate as closely as possible the decision-making process of commercial airlines.

These items were performed in this new air service analysis and demand forecast:

- Review of recent forecasts made by other firms.
- Discussions with Southwest Airlines, American Airlines, DFW Airport, Dallas Love Field and other airline network planners.
- Examination of data on the catchment areas for the two major commercial service airports in the Dallas/Fort Worth Metroplex.
- Application of methodologies in GRA's airline practice that examine profit opportunities for carriers at DAL in the event of repeal of the Wright Amendment.

The methodology is discussed in greater detail in the main body of this report. Markets with the following characteristics were the focus of this analysis:

- Significant demand (defined as passengers per day each way) to/from the Metroplex.
- Opportunities to stimulate demand because of the absence of low cost carriers in a non-stop market to the Dallas/Fort Worth Metroplex today.
- Opportunities to have a sustainable cost advantage or to be cost competitive in the market.

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<sup>1</sup> 2006 FAA *Terminal Area Forecast*



- Markets where a carrier would have a structural advantage either in Dallas or at the other end of the flight segment.
- Markets where a carrier would be unlikely to face direct non-stop competition.

The increased opportunity to connect traffic at DAL and at other airports due to lifting of the through ticketing provision of the Wright Amendment was also considered.

In developing these forecasts, the gate and other facility capacities at DAL were taken into account. Two scenarios were examined - 20 and 32 gates, which create different profit opportunities for airlines because more gates can physically accommodate more traffic, if it were profitable. It was assumed that point-to-point carriers could produce up to 10 to 11 departures and arrivals (turns) per gate per day at DAL, while hub-and-spoke carriers would produce on average eight turns per day. The difference between the two types of carriers is due primarily to their business models: hub carriers must time flights to match connecting hub banks, whereas point-to-point carriers do not.

**Table ES-1** summarizes the findings for the 15 largest markets in the Dallas/Fort Worth Metroplex. In the 32 gate scenario, the GRA forecast suggests in the long-term there would be non-stop service in 14 of the 15 largest markets consisting of existing and new service. In contrast, the 20 gate scenario shows non-stop service to 12 of the top 15 markets.

Looking at all service changes to all points, in the 32 Gate scenario, there would be new non-stop services to 36 cities not currently served from DAL. In the 20 gate scenario, there would be new non-stop services to 16 cities. Obviously, the scenarios with fewer gates show new services primarily concentrated in the largest markets.

**Table ES-1: 15 Largest Markets for the Dallas/Fort Worth Metroplex**

	Location	METROPLEX PDEW	2006 Service	NEW SERVICES AT DAL	
				GRA 32 GATES	GRA 20 GATES
1	Houston (HOU)	1621	ü		
2	Atlanta	1453		ü	
3	New York - LaGuardia	1216			
4	Las Vegas	1213		ü	ü
5	Chicago – O’Hare	1147		ü	ü
6	Los Angeles	1116		ü	ü
7	San Antonio	1052	ü		
8	Denver	929		ü	ü
9	Orlando	924		ü	ü
10	Austin	771	ü		
11	Baltimore	713		ü	ü
12	Houston (IAH)	709	ü		
13	Newark	709		ü	ü
14	Boston	709		ü	
15	Phoenix	683		ü	ü
<b>Existing Non-Stop Service Points</b>			<b>4</b>		
<b>New Non-Stop Service Points</b>				<b>10</b>	<b>8</b>
<b>Total Number of Non-Stop Points</b>			<b>4</b>	<b>14</b>	<b>12</b>

**Summary of Long-Term Forecasts**

**Table ES-2** provides a summary of the long-term forecasts. The summary separately lists annual enplanements and annual operations for each of the GRA forecasts (20 and 32 gates) and compares them to the current FAA forecast for the year 2020. <sup>2</sup> In the 20 gate scenario,

<sup>2</sup> 2006 FAA Terminal Area Forecast

both operations and enplanements are up approximately 42 percent relative to the FAA forecast, and are double the FAA forecast in the 32 gate scenario.

Also shown in **Table ES-2** is a comparison of the GRA forecast with existing operations at DAL as published in the April 2006 edition of the *Official Airline Guide*. In the 20 Gate No Wright Amendment scenario, seats per day increase by 53 percent and weekday operations are 39 percent higher than in the April 2006 OAG. Average seats per operation are about 10 percent higher than today. Average turns per gate are about a third more than today.

In the 32 Gate No Wright Amendment scenario, seats per day increase by approximately 109 percent, while operations increase by 95 percent. Seats per operation are up by seven percent, and the average operation has seven percent more seats than today. If the airport expanded to 32 gates, the GRA forecast suggests that, on average, airlines would turn their aircraft 9.1 times per gate whereas today they turn them 7.9 times per existing gate per day.

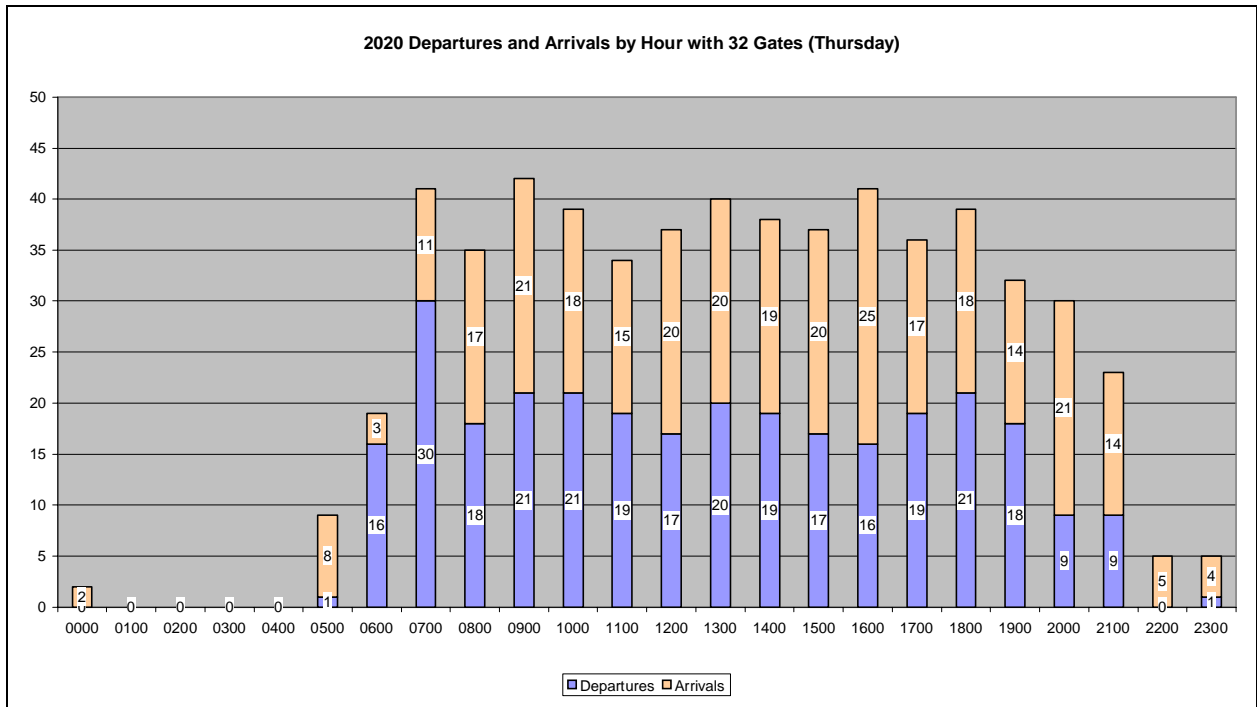
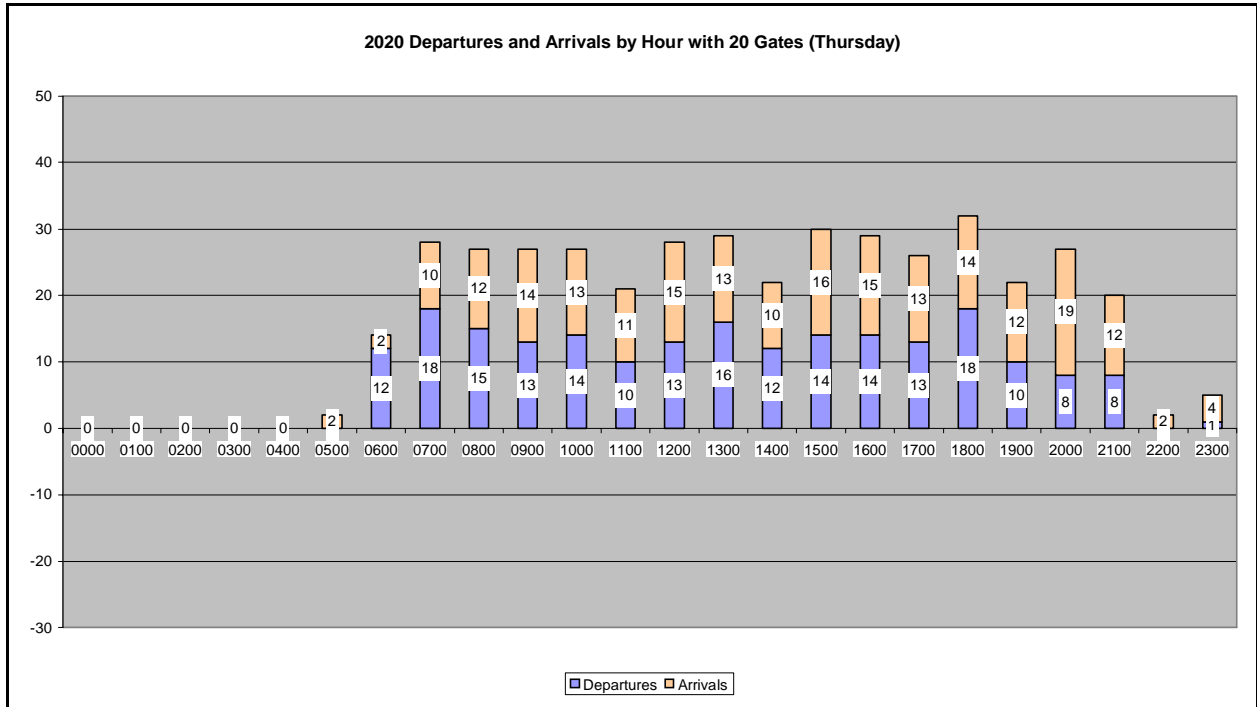
**Table ES-2: Summary of Long-Term Forecasts: 20 and 32 Gate Scenarios**

2020 DAL	GRA 20 Gates	FAA TAF	Percent Higher
Annual Enplanements	6,155,406	4,391,123	40.2%
Annual Operations	135,947	96,102	41.5%
		April 2006 OAG	
Total Seats – Weekday	53,876	35,282	52.7%
Total Operations – Weekday	416	300	38.7%
Average Seat Per Operation	129.5	117.6	10.1%
Turns Per Gate	10.4	7.9	31.7%

2020 DAL	GRA 32 Gates	FAA TAF	Percent Higher
Annual Enplanements	8,757,139	4,391,123	99.4%
Annual Operations	190,848	96,102	98.6%
		April 2006 OAG	
Total Seats – Weekday	73,576	35,282	108.5%
Total Operations – Weekday	584	300	94.7%
Average Seat Per Operation	126.0	117.6	7.1%
Turns Per Gate	9.1	4.7	94.7%

Finally, **Figure ES-1** shows the pattern of arrivals and departures in each scenario for a future weekday. Obviously, an airport with 32 gates could and would accommodate significantly more flying than the 20 gate airport.

Figure ES-1: Comparison of Hourly Weekday Operations in the 20 and 32 Gate Scenarios



## Noise Impacts

To examine the aircraft noise impact of each gate scenario, a methodology was employed to objectively evaluate only the impacts related to repeal of the Wright Amendment for comparison against the impacts identified in the 2001 Master Plan 32 Gate scenario.

The methodology is discussed in detail in Section 2 and includes the following items used in modeling each of the gate scenarios:

- FAA's INM Version 6.1 and 2000 census database;
- Annual and daily air carrier activity;
- Aircraft fleet mix and schedule profiles;
- Master Plan general aviation activity and aircraft mix;
- Master Plan runway and flight track utilization.

## Findings of Noise Analysis

The noise contours were processed using the most updated version of the FAA's Integrated Noise Model (INM), Version 6.1. The original 2001 Master Plan contours were processed using the then current INM Version 6.0 and 1990 U.S. Census database. To maintain consistency, the Master Plan contours were reprocessed in INM 6.1, along with new population data from the 2000 U.S. Census, to update the results using this enhanced version of the model. The results slightly altered the previously reported impacts from the Master Plan Impact Analysis; however, the results are in accordance with today's standards for noise modeling and allow for a more accurate and fair comparison with the two new gate scenarios.

The level of noise exposure for the 20 Gate No Wright Amendment scenarios decreases from that estimated for the Master Plan 32 Gate scenario while the 32 Gate No Wright Amendment scenario increases the level of noise exposure. **Table ES-3** on page ES-9 comparatively summarizes the inputs and results of the modeling of each scenario.

- The DNL 65 dB noise contour for the 20 Gate No Wright Amendment scenario is approximately 4.3 percent smaller than the Master Plan 32 Gate scenario and impacts approximately 3,800 fewer people.
- The DNL 65 dB noise contour for the 32 Gate No Wright Amendment scenario is approximately 4 percent larger in area than the Master Plan 32 Gate scenario and includes approximately 4,350 additional people.

In each of the No Wright Amendment scenarios, the Master Plan 32 Gate regional jet fleet mix has been replaced for the most part by standard air carrier jets. These aircraft are larger and have a louder noise footprint than the CRJ, EMB135 and EMB145 aircraft. Furthermore, under the air service analysis some of the standard jets are departing at heavier take off weights to service more distant non-stop destinations than were possible under the Wright Amendment.

The updated INM calculations use 2000 census data versus the 1990 data adjusted for growth that was used in the Master Plan. As a result, the population impact numbers are more current than those presented in the Master Plan, and by updating the Master Plan contours, a more accurate and fair comparison between the scenarios is made.

In terms of both the area of impact and the population estimated within each DNL noise contour, the findings are clear:

- Removal of the Wright Amendment restrictions, while increasing to 20 gates, will reduce noise impacts from those projected in the Master Plan 32 Gate scenario.

- Increasing the number of gates to 32, without Wright Amendment restrictions, will increase noise impacts from those projected in the Master Plan 32 Gate scenario.

## Traffic Impacts

This section provides an assessment of the roadway traffic impacts that could result from the 20 and 32 gate air service scenarios. The variations in impacts to the neighboring roadway system have been evaluated, as represented by twelve selected nearby roadway intersections.

Airport related roadway traffic was estimated using the forecast air passenger activities, combined with the non-airport traffic projections from the Master Plan, to generate total traffic levels and to evaluate the Levels of Service (LOS) that would result at the selected intersections. LOS is a standard traffic engineering methodology to evaluate the level of congestion and delays associated with increasingly heavy traffic conditions, with a range from light conditions (LOS 'A') to over-capacity conditions (LOS 'F').

To enable direct comparison to the 2001 Master Plan, the current analysis assumed the same improvements at the selected intersections as defined in the Master Plan. These included the improvements that had been planned by the City prior to the Master Plan and those recommended in the Master Plan to help resolve remaining congestion concerns. Most of the Master Plan recommended improvements were relatively minor, except for the grade separated intersection at Mockingbird Lane and Cedar Springs Road.

A summary comparison of the assumptions and results is presented in **Table ES-3** on page ES-9. These results include both the delays that would be experienced as well as the number of intersections with poorer LOS. While the 32 Gate No Wright Amendment scenario would have much higher air carrier activity, the 20 Gate scenario is about 11 percent heavier than the Master Plan conditions (Wright Amendment 32 Gates). When the higher likely connecting passenger ratio is considered, the number of originating and terminating passengers in the 20 Gate scenario are essentially the same as the Master Plan.

The results indicate that traffic impacts in the 20 Gate No Wright Amendment scenario would be slightly worse than in the Master Plan 32 Gate scenario. The 32 Gate No Wright Amendment scenario would be significantly worse with considerably greater congestion levels. PM delays would be more than twice the AM levels and five major intersections would be at LOS 'F'; even with the recommended Master Plan improvements.

## Air Quality Impacts

An updated air quality evaluation was expressly used to quantify the impacts for Dallas Love Field under the 20 and 32 Gate No Wright Amendment scenarios and compare them to the 2001 Master Plan 32 Gate scenario.

The air quality results produced for the original 2001 Master Plan Impact Analysis were modeled using Emission Dispersion Modeling System (EDMS) Version 3.2. However, in order to maintain consistency between all gate scenarios, the 2001 Master Plan input data was entered into an updated EDMS Version 4.4 and reprocessed to update the results using this enhanced version of the model. The reprocessing of this data slightly altered the results previously reported in the Master Plan Impact Analysis; however, the results are in accordance with today's standards for air quality modeling and allow for a more accurate and fair comparison with the three new gate scenarios.

The methodology used for this air quality evaluation followed very closely the methodology used for the 2001 Master Plan. Annual emissions were calculated in metric tons for several pollutants based upon the annual aircraft operations, operation of ground support equipment

and aircraft auxiliary power units, and from vehicles driving or parking on the airport property. All of the assumptions used in the 2001 air quality analysis were carried over into this analysis including the previously used year 2010 vehicle fleet to provide a more direct comparison to the analysis conducted for the Master Plan. Ground vehicles emissions were also calculated using the Mobile 5a option to compare to the 2001 Master Plan analysis.

**Table ES-3** on page ES-10 presents the results of the modeling effort for each of the future gate scenarios in comparison to the Master Plan 32 Gate scenario which presumed the Wright Amendment would be in place. In summary,

- The 20 Gate No Wright Amendment scenario has less nitrous oxide and carbon monoxide emissions than the Master Plan 32 Gate scenario.
- The 32 Gate No Wright Amendment scenario will have NOx emissions approximately 12 percent greater than the Master Plan 32 Gate scenario emissions forecast.
- The 32 Gate No Wright Amendment exceeds the Master Plan 32 Gate forecast of emissions for pollutants for which Dallas County is in attainment: Hydrocarbons, CO, SOx, and PM10.
- In addition, the Master Plan did not forecast emissions for VOC and PM2.5. In comparison, the Master Plan 32 Gate scenario re-calculated with the new model, the VOC, PM10, and PM2.5 each were greater under the 20 and 32 Gate No Wright scenarios.

Overall, the 20 Gate No Wright Amendment scenario results are similar and have fewer emissions than the 32 Gate Master Plan scenario for each of the pollutants calculated by the EDMS model, whereas the 32 Gate No Wright Amendment scenario has greater emissions than the 32 Gate Master Plan scenario.

## Economic Impacts

The methodology and approach used for assessing the economic impact resulting from the 20 and 32 gate air service scenarios is a general one, with the aim of providing an overview of the airport's economic activity and impact in the region. Several sources of data went into the assessment, including the economic impact analysis developed for the 2001 Master Plan/Impact Analysis, recent data on airport activity and tenants, the GRA forecasts for DAL activity in the absence of the Wright Amendment, and regional economic data from the U.S. Department of Commerce Regional Input-Output Modeling System (RIMS-II).

The assessment finds that DAL is responsible for an economic impact in 2005 of approximately \$4.3 billion in the City of Dallas and the metropolitan statistical area that includes the city. For the future gate scenario years, economic impact levels are estimated (in 2005 dollars) by scaling economic activity to the growth forecasts for the aviation activities that drive the airport's economic activity. **Table ES-3** provides a comparative summary of the results of the assessment for each of the scenarios.

## Property Tax Contribution

An updated evaluation was completed to estimate the total property tax contribution from Dallas residential property owners residing within the 55+ DNL noise contours for all gate scenarios generated for this update. The estimated property tax contribution totals by contour level were derived using GIS information obtained from the City of Dallas Public Works and Transportation, GIS Division and the Dallas Central Appraisal District for Tax Year 2005. The new data allowed for updating the results of the Master Plan 32 Gate scenario to reflect 2005 property tax contribution. Compared to the Master Plan 32 Gate scenario, the 20 Gate No Wright Amendment scenario results in the following: as follows:

- There are approximately **11,768** residential parcels located within the DNL 55 dB or greater noise contour in the 20 Gate No Wright Amendment scenario (20 Gate NWA), and approximately **16,910** in the 32 Gate No Wright Amendment (32 Gate NWA) , while the Master Plan 32 Gate scenario (MP 32 Gate) contains approximately **10,945**.
- The estimated market value of the above properties is approximately **\$2.79 billion** (20 Gate NWA), **\$2.97 billion** (32 Gate NWA), and **\$2.76 billion** (MP 32 Gate).
- The taxable value of all residential properties within the DNL 55 dB or greater noise contour is approximately **\$2.17 billion** (20 Gate NWA), **\$2.32 billion** (32 Gate NWA), and **\$2.16 billion** (MP 32 Gate).
- The estimated property tax contribution is approximately:
  - § DNL 55 – 60 dB property tax contribution - **\$33,577,927** (20 Gate NWA), **\$35,375,572** (32 Gate NWA), and **\$33,104,323** (MP 32 Gate)
  - § DNL 60 – 65 dB property tax contribution - **\$14,274,677** (20 Gate NWA), **\$15,175,353** (32 Gate NWA), and **\$14,087,637** (MP 32 Gate)
  - § DNL 65 – 70 dB property tax contribution - **\$2,207,810** (20 Gate NWA), **\$2,674,524** (32 Gate NWA), and **\$2,373,978** (MP 32 Gate)
- The total estimated property tax contribution from those residing within the Love Field noise contours - **\$50.2 million** (20 Gate NWA), **\$53.4 million** (32 Gate NWA), and **\$49.7 million** (MP 32 Gate).

A summary of the tax contribution for each of the gate scenario's is presented in **Table ES-4**.

### Survey of Real Estate Values

A survey of real estate values for the areas surrounding Love Field was compiled and presented in the 2001 Master Plan/Impact Analysis for the years 1997 – 2000. This survey data has been researched from current sources and updated for the years 2001 – 2005 and is presented in **Table ES-5**. It should be noted that the data available for this update differed from that available at the time of the 2001 Master Plan in that it is for single family homes only. This, it should not be compared to the Master Plan in terms of numeric values, but it is an updated indicator of the continued positive growth in property values over the past 5 years.

**Table ES-3: Impact Summary Table**

Noise Impact Analysis								
Description	Wright Amendment				No Wright Amendment			
	32 Gates				20 Gates		32 Gates	
	INM 6.0/1990 U.S. Census		INM 6.1/2000 U.S. Census		INM 6.1/2000 U.S. Census			
Air Carrier Activity (annual ops)	182,804		182,804		135,947		190,848	
Air Carrier Activity (daily ops)	501		501		373		523	
Fleet Mix/Schedule Profile	<input type="checkbox"/> Standard Jets (7 States) <input type="checkbox"/> Reconfigured Jets (56 Seats) <input type="checkbox"/> Regional Jets (50 Seats)		<input type="checkbox"/> Standard Jets (7 States) <input type="checkbox"/> Reconfigured Jets (56 Seats) <input type="checkbox"/> Regional Jets (50 Seats)		<input type="checkbox"/> Standard Jets <input type="checkbox"/> Longer Haul Routes		<input type="checkbox"/> Standard Jets <input type="checkbox"/> Longer Haul Routes	
GA Activity & Fleet Mix*	Master Plan Forecast		Master Plan Forecast		Master Plan Forecast		Master Plan Forecast	
Runway Use/Flight Tracks*	Master Plan 2001		Master Plan 2001		Master Plan 2001		Master Plan 2001	
<b>Noise Impact: DNL 65 dB Area</b>	4.8 Sq. Miles		4.6 Sq. Miles		4.4 sq. Miles		4.8 Sq. Miles	
<b>Impact by Contour</b>	<b>Square Miles</b>	<b>Population</b>	<b>Square Miles</b>	<b>Population</b>	<b>Square Miles</b>	<b>Population</b>	<b>Square Miles</b>	<b>Population</b>
DNL 55 dB +	22.3	95,533	23.2	111,395	23.8	111,759	26.9	117,369
DNL 60 dB +	10.4	60,802	10.3	71,355	10.4	70,429	11.6	76,451
DNL 65 dB +	4.8	23,198	4.6	24,872	4.4	21,045	4.8	29,219
DNL 70 dB +	2.2	860	1.9	2,686	1.8	2,620	2	2,655
DNL 75 dB +	0.9	0	0.9	0	0.8	0	0.9	0

NOTE: The impacts for each contour include the entire area for that contour level. For example, the DNL 55 dB and above impacts includes the impacts for the DNL 60, 65, 70 and 75 dB and above contour.

Roadway Traffic Impact Analysis								
Description	Wright Amendment				No Wright Amendment			
	32 Gates				20 Gates		32 Gates	
<b>Air Carrier Activity (annual enplanements - 2020)</b>	5.54 Million				6.16 Million		8.76 Million	
<b>Connecting Passenger Ratio</b>	19 percent				25 percent		25 percent	
<b>2020 Originating Passengers</b>	4.49 Million				4.62 Million		6.57 Million	
<b>Intersection Improvements</b>	<input type="checkbox"/> City 1999 Plans <input type="checkbox"/> Master Plan recommendations				Same		Same	
<b>12 Intersections Analyzed</b>	<input type="checkbox"/> Eight along Mockingbird <input type="checkbox"/> Five along Lemmon (including the one at Mockingbird)				Same		Same	
<b>Average Delay (sec.) per Vehicle per Intersection</b>	<b>AM Peak Hour</b>		<b>PM Peak Hour</b>		<b>AM Peak Hour</b>	<b>PM Peak Hour</b>	<b>AM Peak Hour</b>	<b>PM Peak Hour</b>
	23		39		24	41	30	74
<b>Number of Intersections by LOS</b>	<b>AM Peak Hour</b>		<b>PM Peak Hour</b>		<b>AM Peak Hour</b>	<b>PM Peak Hour</b>	<b>AM Peak Hour</b>	<b>PM Peak Hour</b>
	LOS C or Better		6		11	6	9	4
	LOS D or Better		11		12	10	11	7
	LOS E		0		0	1	1	0
	LOS F		1		0	1	0	5



Air Quality Analysis				
Description	Wright Amendment		No Wright Amendment	
	32 Gates		20 Gates	32 Gates
Pollutant	EDMS 3.22	EDMS 4.4	EDMS 4.4	
<b>Nitrous Oxides (Nox)</b>	<b>614.1</b>	<b>511.5</b>	<b>502.6</b>	<b>687.6</b>
Aircraft	542.6	462.3	452.9	617.9
GSE/APU	35.5	13.2	13.9	18
Traffic	36	36	35.8	51.7
<b>Carbon Monoxides (CO)</b>	<b>1,226</b>	<b>1,809</b>	<b>1,684</b>	<b>1,982</b>
Aircraft	695	1,293	1,194	1,285
GSE/APU	154	211	179	248
Traffic	376	305	311	449
<b>Hydrocarbons</b>	<b>123.2</b>	<b>106.2</b>	<b>141.3</b>	<b>162.9</b>
Aircraft	76.1	69.9	106.4	113
GSE/APU	6.3	8.3	7.3	10
Traffic	40.8	28	27.6	39.9
<b>VOC</b>	<b>N/A</b>	<b>107.7</b>	<b>145.4</b>	<b>167</b>
Aircraft	N/A	73.8	112.3	119.7
GSE/APU	N/A	7.9	6.9	9.5
Traffic	N/A	26	26.2	37.8
<b>SOx</b>	<b>30.1</b>	<b>45.2</b>	<b>38.1</b>	<b>51.3</b>
Aircraft	27.3	42.2	35.1	47.6
GSE/APU	0.8	2.7	2.7	3.3
Traffic	1.9	0.3	0.3	0.4
<b>PM10</b>	<b>3.05</b>	<b>8.2</b>	<b>9.43</b>	<b>12.39</b>
Aircraft	0	5.8	6.91	9.09
GSE/APU	1.5	1.2	1.25	1.46
Traffic	1.55	1.2	1.27	1.84
<b>PM2.5</b>	<b>N/A</b>	<b>7.8</b>	<b>8.92</b>	<b>11.65</b>
Aircraft	N/A	5.8	6.91	9.09
GSE/APU	N/A	1.2	1.21	1.41
Traffic	N/A	0.8	0.8	1.15

Economic Impact Analysis				
Type of Economic Impact	Wright Amendment		No Wright Amendment	
	2005		20 Gates	32 Gates
Primary Airport Direct impacts	\$1,533.00		\$1,846.70	\$2,627.30
Primary Non-Airport Impacts (Visitors)	\$563.90		\$1,145.50	\$1,610.90
Primary Airport Induced Impacts	\$1,734.50		\$2,089.40	\$2,972.50
Primary Non-Airport Induced Impacts	\$502.30		\$1,020.30	\$1,434.80
<b>TOTAL Regional Economic Impact</b>	<b>\$4,333.70</b>		<b>\$6,101.90</b>	<b>\$8,645.40</b>
(Dollar amounts in Millions)				

**Table ES-4: Property Tax Contribution from Residential Parcels within the DNL 55 dB Noise Contour****Master Plan 32 Gate (updated for INM 6.1)**

<b>DNL</b>	<b>Residential Parcels Under Contour</b>	<b>Total Market Value</b>	<b>Rate</b>	<b>Total Potential Tax Contribution</b>
55-60	6,150	\$1,839,129,070	1.8%	\$33,104,323
60-65	3,514	\$782,646,490	1.8%	\$14,087,637
65-70	1,181	\$131,887,680	1.8%	\$2,373,978
70-75	100	\$7,416,020	1.8%	\$133,488
<b>Totals</b>	<b>10,945</b>	<b>\$2,761,079,260</b>	<b>1.8%</b>	<b>\$49,699,427</b>

**20 Gate No Wright Amendment Scenario**

<b>DNL</b>	<b>Residential Parcels Under Contour</b>	<b>Total Market Value</b>	<b>Rate</b>	<b>Total Potential Tax Contribution</b>
55-60	6,093	\$1,849,051,690	1.8%	\$33,282,930
60-65	3,513	\$793,037,600	1.8%	\$14,274,677
65-70	1,111	\$122,656,130	1.8%	\$2,207,810
70-75	67	\$4,935,530	1.8%	\$88,840
<b>Totals</b>	<b>10,784</b>	<b>\$2,786,069,630</b>	<b>1.8%</b>	<b>\$50,149,253</b>

**32 Gate No Wright Amendment Scenario**

<b>DNL</b>	<b>Residential Parcels Under Contour</b>	<b>Total Market Value</b>	<b>Rate</b>	<b>Total Potential Tax Contribution</b>
55-60	6,770	\$1,965,309,540	1.8%	\$35,375,572
60-65	3,753	\$843,075,150	1.8%	\$15,175,353
65-70	1,260	\$148,584,660	1.8%	\$2,674,524
70-75	137	\$9,916,840	1.8%	\$178,503
<b>Totals</b>	<b>11,920</b>	<b>\$2,966,886,190</b>	<b>1.8%</b>	<b>\$53,403,951</b>

Table ES-5: Survey of Real Estate Data

Location	Total Sales	Average Sales Price	Low	High	Days on Market
<b>AREA 1</b>					
2001	405	\$ 237,877	\$ 32,000	\$ 895,000	58
2002	432	\$ 246,412	\$ 26,000	\$ 860,000	60
2003	410	\$ 265,915	\$ 68,500	\$ 1,800,000	60
2004	379	\$ 277,722	\$ 50,000	\$ 535,000	67
2005	406	\$ 241,153	\$ 30,000	\$ 380,000	59
<b>Percent Increase 2001 to 2005</b>	<b>0%</b>	<b>1%</b>	<b>-6%</b>	<b>-58%</b>	<b>2%</b>
<b>AREA 2</b>					
2001	11	\$ 679,273	\$ 79,900	\$ 2,450,000	75
2002	10	\$ 360,175	\$ 90,750	\$ 950,000	47
2003	8	\$ 576,500	\$ 55,000	\$ 1,845,000	113
2004	23	\$ 570,452	\$ 128,000	\$ 1,750,000	93
2005	20	\$ 709,438	\$ 138,000	\$ 2,800,000	99
<b>Percent Increase 2001 to 2005</b>	<b>82%</b>	<b>4%</b>	<b>73%</b>	<b>14%</b>	<b>32%</b>
<b>AREA 3</b>					
2001	15	\$ 69,170	\$ 26,650	\$ 106,000	70
2002	15	\$ 70,323	\$ 27,000	\$ 99,900	81
2003	10	\$ 85,783	\$ 39,900	\$ 138,000	38
2004	18	\$ 95,494	\$ 48,000	\$ 135,000	71
2005	28	\$ 96,125	\$ 43,000	\$ 135,000	60
<b>Percent Increase 2001 to 2005</b>	<b>87%</b>	<b>39%</b>	<b>61%</b>	<b>27%</b>	<b>-14%</b>
<b>AREA 4</b>					
2001	45	\$ 222,486	\$ 55,000	\$ 519,000	72
2002	36	\$ 202,416	\$ 45,000	\$ 635,617	60
2003	51	\$ 221,075	\$ 63,750	\$ 541,000	83
2004	55	\$ 225,151	\$ 72,500	\$ 685,000	83
2005	56	\$ 268,633	\$ 64,900	\$ 680,000	56
<b>Percent Increase 2001 to 2005</b>	<b>24%</b>	<b>21%</b>	<b>18%</b>	<b>31%</b>	<b>-22%</b>
<b>AREA 5</b>					
2001	776	\$ 668,857	\$ 49,000	\$ 7,500,000	77
2002	836	\$ 692,915	\$ 51,000	\$ 4,500,000	78
2003	850	\$ 732,980	\$ 51,400	\$ 9,250,000	83
2004	947	\$ 623,298	\$ 53,000	\$ 7,995,000	69
2005	880	\$ 836,550	\$ 33,500	\$ 3,349,500	58
<b>Percent Increase 2001 to 2005</b>	<b>13%</b>	<b>25%</b>	<b>-32%</b>	<b>-55%</b>	<b>-25%</b>
<b>AREA 6</b>					
2001	519	\$ 164,353	\$ 40,000	\$ 571,428	51
2002	499	\$ 177,442	\$ 27,500	\$ 529,000	53
2003	496	\$ 185,649	\$ 50,447	\$ 535,000	67
2004	509	\$ 196,392	\$ 30,000	\$ 1,175,000	75
2005	560	\$ 206,456	\$ 22,500	\$ 730,000	62
<b>Percent Increase 2001 to 2005</b>	<b>8%</b>	<b>26%</b>	<b>-44%</b>	<b>28%</b>	<b>22%</b>

Source: Lynell Jones , using North Texas Real Estate Info. Systems, Inc., 5/25/06

Property type: Single family homes only.

Status: Homes Sold

Areas are keyed to the map presented in Figure 5-1

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