

Houston Area Airport Emissions as Reported in 2000, 2002 and 2005

Table 1: Aircraft Landing and Take Offs (LTOs) for Houston Area Airports

Airport	2000	2002	2005
Intercontinental - commercial aircraft	207,329	201,340	259,002
Hobby - commercial aircraft	65,019	58,450	56,091
Others - commercial aircraft and general aviation	13,958	7,101	1,755
Total	286,306	266,891	316,848

The LTOs for 2000, 2002 and 2005 were obtained from U.S. Department of Transportation Bureau of Transportation Statistics Office of Airline Information; Airport Activity Statistics of Certificated Air Carriers Summary Tables, Table 7, twelve months ending December 31, 2000, 2002, and 2005.

Table 2: LTOs Ratio for Each Airport Relative to the Community LTO Total (see Table 1)

Airport	2000	2002	2005
Intercontinental	72 %	75 %	81 %
Hobby	23 %	22 %	18 %
Others	5 %	3 %	1 %
Total	100 %	100 %	100 %

Table 3: Initial Modeling Emissions from Commercial Aircraft, General Aviation, and Ground Support Equipment (GSE) in Tons per Day (tpd)

Calendar Year	2000*		2002**		2005**	
	NO _x	VOC	NO _x	VOC	NO _x	VOC
Commercial Aircraft & General Aviation	4.46	1.27	5.56	1.59	3.81	1.27
Ground Support Equipment (GSE)	1.21	0.41	0.79	0.09	0.64	0.08
Total	5.67	1.68	6.35	1.68	4.5	1.35

* 2000 emissions were from the Houston 2000 SIP : TCEQ, 2002. Revisions to the State Implementation Plan (SIP) for the Control of Ozone Air Pollution, December, 2002.

** 2002 and 2005 were from TexAER. EDMS model (version 4.12) was used to estimate the commercial aircraft emissions. GSE included projected reductions from Memorandum of Agreements between Southwest Airlines and the TCEQ and between Continental Airlines and the TCEQ.

Table 4: Summary of Emissions for Houston Area Airports

Airport	Intercontinental						Hobby						Others					
	2000		2002		2005		2000		2002		2005		2000		2002		2005	
Calendar Year																		
Pollutant (tons per Average Ozone Season day)	NO _x	VOC	NO _x	VOC	NO _x	VOC	NO _x	VOC	NO _x	VOC	NO _x	VOC	NO _x	VOC	NO _x	VOC	NO _x	VOC
Commercial & GA Aircraft Emissions	3.23	0.92	4.19	1.20	3.16	1.04	1.01	0.29	1.22	0.35	0.68	0.22	0.22	0.06	0.15	0.04	0.02	0.01
GSE Emissions	0.88	0.30	0.60	0.07	0.52	0.07	0.27	0.09	0.17	0.02	0.11	0.01	0.06	0.02	0.02	0.00	0.00	0.00
Total Area Airport Emissions Tons/day	4.11	1.22	4.79	1.27	3.68	1.11	1.28	0.38	1.39	0.37	0.79	0.23	0.28	0.08	0.17	0.04	0.02	0.01

Emissions allocation was calculated by multiplying the LTOs ratio in table 2 by the modeling emissions in tables 3.

Example: $0.72 * 4.46 = 3.23\text{tpd}$.

Next Steps:

1. Obtain 2007 commercial aircraft LTOs from U.S. Department of Transportation Bureau of Transportation Statistics Office of Airline Information; Airport Activity Statistics of Certificated Air Carriers Summary Tables, Table 7, twelve months ending December 31, 2007.
2. Use annual compounded growth rate of 2.24 to estimate emissions to 2015 and 2.35 growth rate to estimate emissions from 2016 to 2018 for Intercontinental Airport. See Terminal Area Forecast Summary for Fiscal Year 2005 -2025, U.S. Department of Transportation Federal Aviation Administration, FAA-APO-06-1 March 2006, page 17.
3. Use annual compounded growth rate of 2.01 to estimate emissions to 2015 and 2.03 growth rate to estimate emissions from 2016 to 2018 for William P. Hobby Airport. See Terminal Area Forecast Summary for Fiscal Year 2005 -2025, U.S. Department of Transportation Federal Aviation Administration, FAA-APO-06-1 March 2006, page 17.
4. Use annual compounded growth rate of 1.16 to estimate emissions to 2015 and 1.27 growth rate to estimate emissions from 2016 to 2018 for Other Airports. See Terminal Area Forecast Summary for Fiscal Year 2005 -2025, U.S. Department of Transportation Federal Aviation Administration, FAA-APO-06-1 March 2006, page 17.