Attachment F:
Air Quality Analysis of Aircraft Taxiing & Queuing Alternatives for the Proposed Centerfield Taxiway at Logan International Airport

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Prepared for:
Harris Miller Miller & Hanson Inc.
and the
Federal Aviation Administration

Prepared by
KB Environmental Sciences, Inc.

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EXECUTIVE SUMMARY

This document represents Attachment F to the main report "Logan International Airport, Additional Taxiway Evaluation Report."[1] This attachment contains the technical details of the Phase 2 air quality analysis of taxi and queuing alternatives for the proposed Centerfield Taxiway.

The purpose of the assessment reported here is to evaluate the potential effects on both regional and local air quality resulting from aircraft taxi operations (only) during two modeled operational alternatives for the planned Centerfield Taxiway at Logan International Airport.

For this analysis, a "worst-case" scenario for aircraft operations at the north end of the airport was developed for the year 2010, shortly after the Centerfield Taxiway is expected to open. The scenario assumes a busy day with "south flow," when Runways 22R and 22L are in continuous use for departures and forecasted levels of operations and the aircraft fleet for 2010 is assumed. The two modeled operational alternatives are referred to as "Alternative 1" and "Alternative 2"; their differing operational characteristics are intended to "bracket" the range of potential environmental effects of varying operational use of the taxiways.

The overall approach to completing this assessment involves the use of an airport air quality computer model, appropriate input data and other supporting information. This includes the newest version of the Federal Aviation Administration (FAA) *Emissions Dispersion & Modeling System* (EDMS) to compute emissions from aircraft engines. Aircraft and taxiway operational data developed for this analysis were also used. For consistency, these are the same data utilized by Harris Miller Miller & Hanson Inc. (HMMH) for its study of the potential noise effects associated with the Centerfield Taxiway alternatives.

The air quality assessment is comprised of two primary components: a quantitative analysis and a qualitative analysis. According to the results, two primary findings are evident when comparing Alternative 1 and Alternative 2. These are summarized as follows:

- Alternative 1 will result in lower (less) total aircraft emissions when compared to Alternative 2. This is because the total aircraft taxi and queue times are forecasted to be less for Alternative 1 than for Alternative 2.
- Under Alternative 1, fewer (less) aircraft emissions will also be generated north of Runway 15L when compared to Alternative 2. This is because taxiing and

[1] "Logan International Airport, Additional Taxiway Evaluation Report per FAA August 2, 2002 Record of Decision," Harris Miller Miller & Hanson Inc. Report 300280.001, May 2006.

queuing aircraft will spend less time in this area of the airfield under Alternative 1.

Importantly, neither alternative is expected to have a significant impact on regional air quality conditions. This is because the differences in the amounts of emissions between the alternatives are small when compared in context to the total amounts associated with the airport. Local air quality in the areas of East Boston and Winthrop, which are closest to Taxiway November, will also likely not experience any measurable effects from either alternative for much the same reason.

Finally, the effects of total airport-related emissions (including those associated with Taxiway November and the Centerfield Taxiway) were also analyzed in the *Logan Airside Improvements Planning Project Supplemental DEIS/FEIR*. The dispersion modeling results from this analysis indicated that these emissions will not cause nor substantially contribute to any violation of the National Ambient Air Quality Standards. Furthermore, the differences in emissions between the alternatives evaluated in this study are not expected to exceed the *de minimis* emission thresholds contained in the Federal Clean Air Act General Conformity Rule.

I. INTRODUCTION & APPROACH

This document represents Attachment F to the main report "Logan International Airport, Additional Taxiway Evaluation Report,"[2] and contains the technical details of the Phase 2 air quality analysis of taxi and queuing alternatives for the proposed Centerfield Taxiway. This section of the report discusses the background, study purpose, the operational alternatives and the study approach. Both quantitative and qualitative discussions of the results follow and the overall findings are summarized at the end of the report.

Background

The overall study of which this Attachment is a part was conducted to evaluate the environmental effects of alternative scenarios pertaining to the taxiing and queuing of aircraft on Taxiway November and on the proposed new Centerfield Taxiway whose impacts were assessed in the Environmental Impact Statement for Logan Airside Improvements Planning Project. This overall study is designed to address requirements of the Record of Decision on the EIS in which the Federal Aviation Administration (FAA) deferred a decision on the new taxiway pending an additional analysis of taxiway operations on the northern portion of the airfield. Phase 1 of the evaluation addressed Taxiway November, and is reported in the main report and other technical Attachments. The Phase 2 analysis reported herein was "to assess potential beneficial operational procedures that would preserve or improve the operational and environmental benefits of the Centerfield Taxiway."[3]

Study Purpose and Alternatives

The purpose of the assessment reported in this Attachment is to evaluate the potential effects on both regional and local air quality resulting from taxi operations (only) during two modeled operational alternatives for the planned Centerfield Taxiway at Logan International Airport. A "worst-case" scenario for aircraft operations for air quality impacts in the surrounding communities at the north end of the airport was developed for the year 2010, which would be the first full year of operations on Centerfield Taxiway, if it is approved. The scenario assumes a busy 24-hour day with "south flow," when Runways 22R and 22L are in continuous use for departures, and forecasted levels of operations and the aircraft fleet for 2010 are assumed. For this analysis, the two alternatives are referred to as "Alternative 1" and "Alternative 2"; their differing operational characteristics are intended to "bracket" the range of potential environmental effects of varying operational use of the taxiways. Those characteristics are described

[2] "Logan International Airport, Additional Taxiway Evaluation Report per FAA August 2, 2002 Record of Decision," Harris Miller Miller & Hanson Inc. Report 300280.001, May 2006.
[3] Lewis, Paula, Department of Transportation, Federal Aviation Administration New England Region, "Record of Decision, Airside Improvements Planning Project, Logan International Airport, Boston, Massachusetts," Section VIII (3); 2 August 2002.

briefly here, and in more detail in Attachment D, the Centerfield Taxiway operations report.[4]

Centerfield Taxiway Modeled Operational Alternatives

Alternative 1 – Existing taxiway use patterns would be retained, with aircraft taxiing and queuing on existing Taxiway November and departing on Runway 22R, with the exception that departures assigned to Runway 22L would taxi to the northern end of Runway 22L, east via Taxiway Q (which is south of Runway 15R) across Runway 22R and then north via the Centerfield Taxiway. This taxiing route would replace the existing taxiing route, in which aircraft taxi north on Taxiway November to the northern end of Runway 22R and then turn east to cross Runway 22R and enter the Runway 22L departure queue.

Alternative 2 – This alternative was evaluated to determine the effects of using the Centerfield Taxiway to balance the departure queue on Taxiway November. In this alternative, the Centerfield Taxiway is used as an alternate route for Runway 22R departures. Aircraft that are assigned this alternate route cross Runway 22R via Taxiway Quebec south of Runway 15R, and then taxi north on the Centerfield Taxiway. This balancing of the departure queue occurs during departure peak periods. The use of the Centerfield Taxiway by Runway 22L departures is identical to that in Alternative 1.

Study Approach

For this analysis, the sources of airport-related air emissions of primary importance are taxiing and queuing aircraft utilizing Taxiway November and the planned Centerfield Taxiway. All of these facilities are located in the north end of the airfield. Other sources of emissions at Logan Airport (i.e. aircraft operation on other runways and taxiways, ground support equipment (GSE), fuel storage facilities, motor vehicles, etc.) are expected to remain unaffected by either of the Centerfield Taxiway operational alternatives. Based on these considerations, the overall Study Area for this assessment is illustrated on Figure 2 in the Appendix.

The air quality assessment is accomplished using a computer model and appropriate input data to compute the types and amounts of aircraft emissions generated in the Study Area. Both quantitative and qualitative analyses of the two operational alternatives are conducted and the results are compared, as discussed in the following section.

[4] "Attachment D: Operational Analysis of Centerfield Taxiway Use Alternatives at Logan International Airport" prepared by Leigh Fisher Associates, May 2006.

II. TECHNICAL ANALYSIS

As discussed above, the sources of air emissions of primary importance for this assessment are taxiing and queuing aircraft utilizing the Centerfield and November Taxiways. During the taxi and queue mode, aircraft engines emit a variety of substances; some of which are considered air pollutants. These include carbon monoxide (CO), nitrogen oxides (NOx), volatile organic compounds (VOC) and particulate matter (PM).[5] Emissions of sulfur oxides (SOx) also occur, but in much smaller amounts.

In order to evaluate the potential effects of the Centerfield Taxiway operational alternatives on these pollutants, the air quality assessment is comprised of a quantitative analysis and a qualitative analysis. The methodologies and objectives of these analyses are summarized below.

Quantitative Analysis

Under this analysis, the taxi and queue times for each aircraft using the Centerfield and November Taxiways were computed and combined with appropriate aircraft engine emissions factors to estimate emissions of CO, NOx, VOC, SOx and PM. The aircraft operational data were developed for the year 2010 by Leigh Fisher Associates and HMMH.[6] Aircraft engine emissions data were derived from the newest version of the Federal Aviation Administration (FAA) *Emissions Dispersion & Modeling System* (EDMS Version 4.4). Other important variables used for this analysis include the aircraft fleet mix and engine combinations for Logan.[7]

In the form of an emissions inventory, the outcome from EDMS is expressed as total aircraft emissions on the Centerfield and November Taxiways in units of tons/day, by pollutant (e.g., CO, NOx, etc.) and alternative (i.e., Alternative 1 and Alternative 2). For this analysis, the emission inventory results are further segregated by aircraft emissions that are generated on these two taxiways north of Runway 15L.

Qualitative Analysis

For the qualitative analysis, the amounts and locations of aircraft emissions generated and released on the Centerfield and November Taxiways were evaluated by air quality

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[5] For this assessment, VOCs also include hydrocarbons (HC) and it is assumed that PM includes both respirable (PM-10) and fine (PM-2.5) particulates. Because the pollutant ozone (O_3) is formed as a secondary pollutant from the interaction of NOx and VOC, the two precursors are considered to be surrogates to the formation of this pollutant. Finally, emissions of hazardous air pollutants (HAPs) are assumed to be included as subsets to the pollutants VOCs and PM.

[6] These data consisted of Total Minutes (Taxi/Queue) in 24 Hours, by aircraft type and by position on the Centerfield and November Taxiways. The data were developed by Leigh Fisher Associates and HMMH, and provided to KB Environmental Science, Inc. (KBE) and are contained in the Appendix. Further details of the operational data and its development are given in the Phase 2 operations report, Attachment D.

[7] The fleet mix was derived from the data set discussed under footnote 3 (above) and the aircraft/aircraft engine combination data were obtained from the *2003 Environmental Data Report* (EDR) for Logan International Airport.

specialists.[8] Their training and experience is used to help determine the effect (if any) these factors have on the air quality conditions both regionally and locally.

Supporting Information & Assumptions

Additional information and a number of assumptions were also used to complete the quantitative and qualitative analyses. These are briefly summarized as follows:

- Aircraft times-in-mode and emissions for the takeoff, climbout, landing and taxi-in portions of the landing and takeoff (LTO) cycle are essentially unchanged between the two alternatives. It is only the taxi-out portion of the LTO cycle (including the queue time) on the Centerfield and November Taxiways that varies between the two alternatives and is of importance to this assessment.
- Aircraft taxi-in, taxi-out (including the queue time), takeoff and landing operations elsewhere on the airfield remain unchanged between the two alternatives.
- Other sources of air emissions associated with the airport (i.e. GSE, motor vehicles, fuel facilities and stationary facilities) are unchanged.
- Wind speed and direction in the vicinity of the Centerfield and November Taxiways will have the same effect on the dispersion of air emissions associated with each alternative.

[8] See List of Preparers at the end of this report.

III. RESULTS

As discussed above, this air quality assessment consisted of quantitative and qualitative analyses conducted for both operational alternatives (i.e., Alternative 1 and Alternative 2) for the Centerfield Taxiway. The results are discussed separately below.

Quantitative Results

The outcome of the air emissions inventory is summarized in Table 1. As stated above, this inventory is only for taxiway operations north of Runway 15R, and represents a worst-case busy 24-hour period for these taxiways. The data are expressed in units of tons/day, for both alternatives and by pollutant type; including CO, VOC, NOx, SOx, and PM. The results are further segregated by location (i.e. north and south of Runway 15L) and for comparison, the total amounts of airport-related emissions at Logan are also shown – for an annual-average day.

Table 1 Aircraft Taxiing & Queuing Emissions North of Runway 15R (by Alternative) and Total Airport-Related Emissions

Alternative	Location	Pollutant (tons per day)				
		CO carbon monoxide	**VOC** volatile organic compounds	**NOx** nitrogen oxides	**SOx** sulfur oxides	**PM** particulate matter
Alternative 1	N. of 15L	1.29	0.20	0.21	0.04	0.005
	S. of 15L	0.43	0.07	0.06	0.02	0.004
	Totals N. of 15R	1.72	0.27	0.27	0.06	0.009
Alternative 2	N. of 15L	1.75	0.28	0.28	0.06	0.010
	S. of 15L	0.29	0.05	0.05	0.01	0.001
	Totals N. of 15R	2.04	0.33	0.33	0.07	0.011
Airport-Related Totals on an Average Day		13.58	2.23	7.20	0.59	0.24

Source: Alternatives 1 and 2 data from KB Environmental Sciences based upon EDMS output. Airport-related totals from Logan Airside Improvements Planning Project Supplemental DEIS/FEIR pp. 6-116 to 6-120 and converted from tons per year to tons per day.

The results show that north of 15R the total amounts of aircraft emissions are lower (i.e., less) under Alternative 1 when compared to Alternative 2. This is to be expected since the forecasted aircraft taxi and queue times on the November and Centerfield Taxiways are less by comparable amounts for Alternative 1 when compared to Alternative 2. The results also show that the total amounts of aircraft emissions generated north of Runway 15L are lower under Alternative 1 than under Alternative 2. This too is expected as the

forecasted taxi/queue times in this area are less for Alternative 1 when compared to Alternative 2.

However, it is important to note that the differences in emissions between Alternative 1 and Alternative 2 are small when compared to the total amounts of emissions associated with the airport. These differences are shown in context graphically as a percentage of the airport-related totals in Figure 1. This comparison represents a worst-case assessment since the emissions computed north of Runway 15R are based on a worst-case busy day for the Centerfield and November taxiways, while the airport totals are based on an annual-average day.

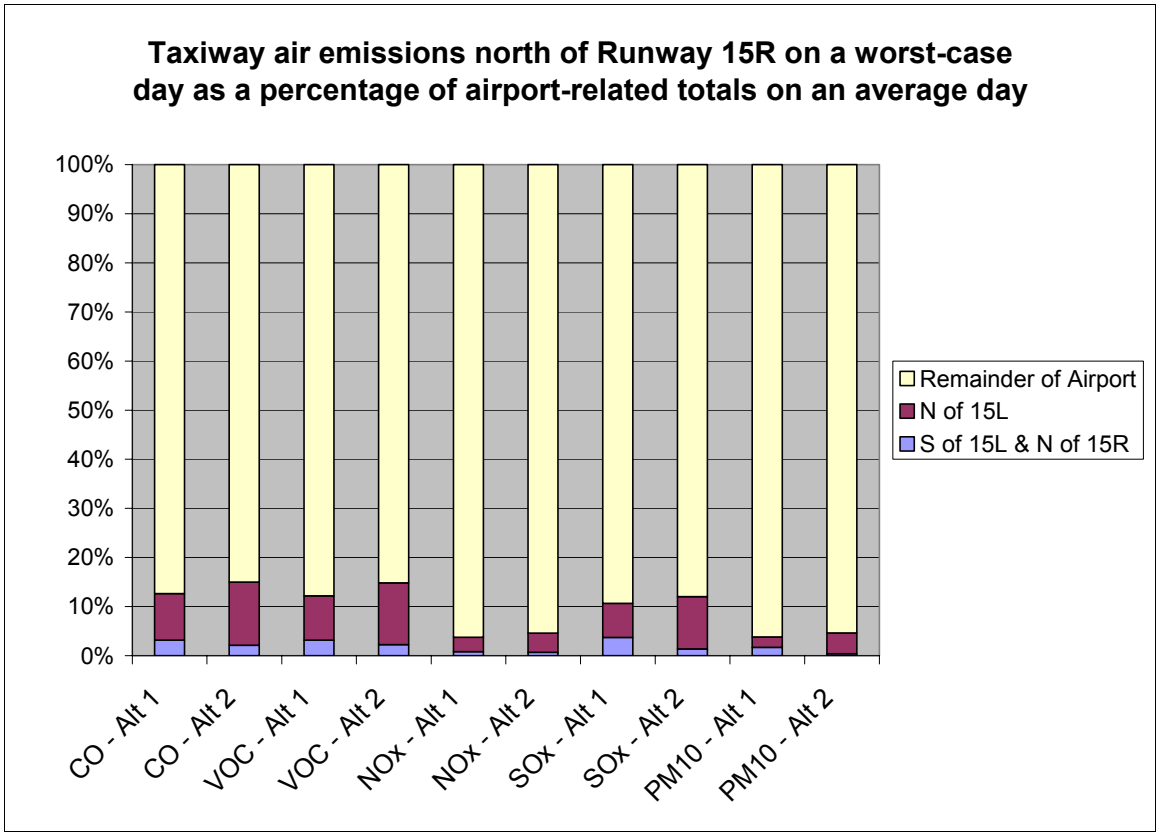

Figure 1 Taxiway Air Emissions North of Runway 15R on a Worst-case Day as a Percentage of Airport-Related Totals on an Average Day

Qualitative Results

Based upon the results of this analysis, neither Alternative 1 nor Alternative 2 is expected to have a significant impact on regional air quality conditions. This is because the differences in the amounts of emissions between the alternatives are small when compared in context to the total amounts associated with the airport. Local air quality in the areas of East Boston and Winthrop, which are closest to Taxiway November, will also likely not experience any measurable effects from either alternative for much the same reason.

IV. CONCLUSIONS

According to the results of this assessment, two conclusions related to air quality are evident when comparing Alternatives 1 and 2 for the Centerfield Taxiway. These are summarized as follows:

- Alternative 1 will result in less total aircraft emissions when compared to Alternative 2. This is because the total aircraft taxi and queue times are also forecasted to be less under Alternative 1.
- Under Alternative 1, fewer aircraft emissions will be generated north of Runway 15L when compared to Alternative 2. This is because taxiing and queuing aircraft will spend less time in this area under Alternative 1.

However, neither Alternative 1 nor Alternative 2 is expected to have a significant impact on regional air quality conditions as the differences in the amounts of emissions between the alternatives are small when compared in context to the total amounts associated with the airport. Local air quality in the areas of East Boston and Winthrop, which are closest to Taxiway November, will also likely not experience any measurable effects from either alternative for much the same reason.

Importantly, the effects of total airport-related emissions (including those associated with Taxiway November and the Centerfield Taxiway) were also analyzed in the *Logan Airside Improvements Planning Project Supplemental DEIS/FEIR*. The dispersion modeling results from this analysis indicated that these emissions will not cause nor substantially contribute to any violation of the National Ambient Air Quality Standards. Furthermore, the differences in emissions between the alternatives evaluated in this study are not expected to exceed the *de minimis* emission thresholds contained in the Federal Clean Air Act General Conformity Rule.

LIST OF PREPARERS

The following individuals were involved in the preparation of this air quality assessment report.

KB Environmental Sciences, Inc.

Michael Kenney: Vice President – Responsible for technical assessment of air quality impacts including the overall approach, interpretation of data and presentation of results. Over 25 years experience with air quality assessments of airports across the U.S. and around the world. Certified Hazardous Materials Manager, Qualified Environmental Professional and Certified Industrial Hygienist.

L. Carrol Bryant: President – Responsible for QA/QC of the air quality analysis. Over 25 years experience with air quality assessments of airports across the U.S.

Wayne Arner: Environmental Specialist – Involved in data analysis and responsible for preparation of air emissions inventory. Over four years experience with air quality assessments of airports. Certified Engineer-In-Training.

Harris Miller Miller & Hanson Inc.

Christopher Menge: Principal Consultant – Responsible for overall project coordination, FAA liaison, presentation of results, report preparation and noise impact assessment.

REFERENCES

The following publications and resource materials were used in support of this air quality assessment.

1. *Emissions & Dispersion Modeling System* (EDMS) Version 4.4, release date November 11, 2005, Office of Environment and Energy, Federal Aviation Administration.

2. *2003 Environmental Data Report* (EDR) for Boston Logan International Airport, June 2004.

3. *Daily Daytime/Nighttime Taxi and Queue Minutes by Aircraft Type and by Position* data from Harris Miller Miller & Hanson Inc. (HMMH) and Leigh Fisher Associates (LFA), 2005.

4. *Logan Airside Improvements Planning Project Supplemental Draft Environmental Impact Statement/Final Environmental Impact Report*, Federal Aviation Administration, March 2001.

5. *Logan Airside Improvements Planning Project Final Environmental Impact Statement*, Federal Aviation Administration, June 2002.

6. *Record of Decision, Airside Improvements Planning Project, Logan International Airport, Boston, Massachusetts*, Federal Aviation Administration New England Region, 2 August 2002.

APPENDIX

Figure 2 Air Quality Assessment Study Area

Aircraft Taxi/Queue Operational Data Used in Support of the Air Quality Analysis, Alternative 1 Daytime Minutes by Position
1 of 2

A/C	N1	N10a	N10b	N11	N12	N13	N14	N15	N16a	N16b	N2a	N2b	N3	N4	N5	N6	N7	N8	N9	X10
ER3	1.67	0.73	13.02	12.35	15.08	9.47	7.20	13.10	3.93	2.47	38.37	28.05	14.92	20.83	25.87	19.00	16.83	18.80	13.85	0.37
ER4	0.82	0.80	4.98	3.32	3.27	2.43	2.25	2.23	1.38	0.87	9.58	9.42	7.40	9.98	11.53	5.42	9.35	7.88	9.30	0.00
ERD	0.22	0.15	2.22	1.53	1.55	2.75	1.48	0.85	1.23	0.33	4.68	4.82	3.72	3.13	1.22	1.83	4.20	3.03	4.35	0.00
738	0.52	0.22	6.50	5.98	5.68	2.73	2.17	4.80	1.83	0.82	13.95	10.65	8.67	9.22	6.97	10.03	5.70	8.50	4.98	0.00
757	1.55	1.48	12.38	19.38	13.25	8.90	10.90	9.73	3.70	2.43	34.83	22.03	29.77	32.22	29.78	25.77	28.23	17.13	20.43	0.88
763	0.20	0.07	0.60	2.90	2.12	0.70	0.70	0.67	0.43	0.28	1.95	1.37	5.53	3.58	1.35	1.20	2.18	3.23	0.70	0.35
777	0.20	0.53	2.00	7.60	1.40	4.97	2.83	0.73	0.70	0.27	2.47	1.88	3.77	4.22	6.93	6.78	4.95	6.68	2.27	0.00
AB6	0.13	0.07	0.45	0.53	0.50	0.52	0.53	0.52	0.32	0.20	2.78	0.48	1.15	4.47	1.62	0.65	0.90	0.53	0.52	0.18
M80	1.20	3.65	8.02	7.73	12.03	9.00	5.42	4.70	2.83	1.83	32.97	18.08	14.95	30.23	19.00	12.78	17.95	11.42	20.63	0.00
M83	0.18	0.08	0.60	0.70	0.68	0.68	0.72	0.68	0.40	0.28	2.52	1.38	1.82	2.60	0.68	0.72	0.68	0.67	0.72	0.00
B762	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DC93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
319	2.77	3.88	21.52	17.65	14.52	13.83	14.32	11.37	7.57	4.27	57.18	40.72	48.23	50.95	30.82	46.55	38.68	38.93	39.22	0.17
CRJ	2.97	2.12	26.30	26.55	27.47	24.95	16.07	20.62	9.67	4.82	72.30	54.27	43.33	45.17	42.70	35.68	41.18	41.92	33.52	0.00
CR7	0.18	0.08	0.62	0.72	0.68	0.67	0.72	0.68	0.45	0.27	2.23	3.95	1.40	3.48	2.53	2.28	4.40	0.75	0.72	0.00
DH1	0.12	0.08	1.30	3.08	1.63	1.45	0.63	4.07	0.32	0.20	3.37	2.67	1.30	2.57	2.60	0.78	5.37	3.35	0.87	0.00
343	0.28	0.12	1.33	3.00	5.15	1.12	1.53	2.03	0.63	0.40	5.08	3.05	7.13	3.97	3.70	5.72	3.67	3.47	6.12	0.00
320	1.22	4.58	9.53	11.93	8.60	10.48	7.32	5.48	3.15	2.10	33.43	18.90	26.72	30.10	16.18	20.12	18.18	18.30	13.08	0.33
73H	0.22	0.12	0.87	0.90	0.85	0.88	0.87	0.87	0.53	0.33	3.40	2.10	2.52	1.80	4.07	2.77	2.22	0.98	3.35	0.00
737	0.05	0.02	2.05	0.90	0.72	1.28	0.98	1.67	0.10	0.07	0.68	0.15	0.58	3.02	0.30	2.12	1.08	0.17	0.92	0.00
739	0.08	0.05	1.62	0.47	0.33	0.35	0.35	0.35	0.20	0.15	1.37	3.33	2.47	1.40	1.43	0.47	3.22	1.05	0.78	0.00
767	0.83	0.05	0.30	0.33	0.35	0.35	0.33	0.37	0.20	0.13	1.82	2.68	1.65	2.18	1.35	0.67	0.35	0.35	0.35	0.00
744	0.10	0.03	0.30	0.37	0.33	0.33	0.37	0.33	0.20	0.13	1.12	0.62	1.82	2.17	3.58	2.13	0.33	0.33	0.37	0.17
LJ35	0.12	0.07	0.58	2.12	0.50	0.53	0.52	0.52	0.32	0.22	3.05	5.03	3.60	1.67	1.13	2.55	1.52	0.82	1.83	0.00
BE1	1.95	1.23	13.52	13.40	20.40	11.82	9.75	8.23	5.23	3.28	40.83	34.63	34.32	26.10	32.33	27.47	23.68	25.07	24.50	0.00
733	1.82	5.08	17.32	21.13	17.77	17.95	12.32	10.77	6.68	3.60	46.37	36.90	28.85	29.88	27.70	26.77	22.87	26.95	20.55	0.68
735	0.33	0.22	1.40	1.53	1.52	1.63	1.50	1.58	0.97	0.60	7.42	5.87	2.87	4.05	3.32	4.50	2.68	1.60	1.52	0.50
73G	0.10	0.05	0.72	1.65	0.37	0.33	0.37	0.33	0.20	0.13	1.37	3.10	2.63	2.63	0.95	1.50	2.60	4.73	1.07	0.00
332	0.10	0.03	1.55	0.97	2.40	1.52	0.37	0.33	0.22	0.13	0.60	0.73	0.82	1.88	1.77	1.15	2.47	1.02	0.90	0.00
B722	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
732	0.10	0.03	0.30	0.33	0.37	0.33	0.37	0.33	0.20	0.13	1.87	1.83	2.48	0.88	0.58	0.35	0.35	0.33	0.37	0.00
ERJ	0.93	2.43	13.85	13.52	7.82	5.22	6.30	4.30	2.33	1.47	20.82	16.40	11.13	16.77	19.85	12.53	13.07	19.15	13.13	0.00
B72Q	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H25B	0.18	0.07	0.60	0.68	0.72	0.68	0.72	0.67	0.42	0.27	7.98	2.38	3.43	4.58	0.68	4.70	1.65	1.27	1.62	0.00
330	0.32	0.02	0.15	0.17	0.18	0.17	0.18	0.17	0.10	0.07	0.28	1.42	0.53	1.03	4.35	0.18	0.17	0.17	0.18	0.17
C56X	0.22	0.12	1.27	1.12	0.87	0.88	0.85	0.87	0.53	0.33	3.15	1.28	2.13	1.13	2.57	1.40	2.38	1.33	3.18	0.00
F2TH	0.07	0.07	0.30	0.33	0.33	0.37	0.33	0.37	0.20	0.13	2.65	1.35	2.35	1.15	1.78	1.58	0.37	0.33	0.33	0.00
A306	0.05	0.02	1.25	0.20	0.17	0.17	0.18	0.17	0.10	0.07	0.68	0.15	0.65	2.98	0.83	1.12	0.60	1.83	0.63	0.00
A310	0.05	0.02	0.15	0.18	0.17	0.17	0.18	0.17	0.10	0.07	0.17	0.15	0.13	0.18	0.17	0.18	0.17	0.17	0.18	0.00
DC10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C525	0.07	0.03	0.33	0.33	0.33	0.37	0.33	0.33	0.23	0.13	1.88	1.12	2.07	2.35	0.77	0.33	0.33	0.37	0.33	0.00
C550	0.22	0.17	0.92	1.02	1.05	1.05	1.00	1.07	0.63	0.40	4.12	2.08	1.67	2.83	1.32	1.00	1.05	1.05	1.00	0.00
C750	0.07	0.05	0.30	0.33	0.37	0.33	0.33	0.37	0.20	0.13	1.88	0.82	1.48	0.88	0.35	0.33	0.37	0.33	0.35	0.00
CL60	0.20	0.10	2.62	0.68	2.22	0.98	0.68	0.70	0.42	0.27	1.43	0.75	1.70	2.35	2.43	1.63	0.70	2.37	1.37	0.00
FA50	0.08	0.05	0.30	0.35	0.35	0.35	0.33	0.35	0.22	0.13	1.12	0.35	0.28	0.33	0.37	0.33	0.35	0.35	0.33	0.17
GLF4	0.37	0.18	6.30	1.73	1.70	1.77	1.70	1.77	1.03	0.70	9.32	9.47	6.63	9.58	6.18	3.00	4.45	3.42	3.12	0.00
LJ60	0.38	0.25	3.92	4.77	3.93	3.00	2.97	4.52	1.38	0.75	8.03	6.28	4.68	9.40	5.38	6.80	7.17	4.10	2.82	0.00
BE30	0.18	0.15	0.97	0.92	0.93	0.98	0.93	0.92	0.50	0.33	5.20	2.52	1.35	1.15	2.05	2.67	1.47	2.17	0.93	0.00
BE40	0.30	0.18	2.35	1.33	1.43	1.37	1.40	1.40	0.80	0.53	7.52	5.48	3.20	5.00	5.17	3.57	2.68	2.80	1.72	0.00
P28A	0.27	0.13	0.92	1.02	1.05	1.07	1.02	1.05	0.62	0.40	4.37	3.77	4.10	1.53	3.35	1.80	1.82	1.05	1.02	0.00
PAY1	0.07	0.07	1.67	0.45	0.63	0.35	0.33	0.37	0.20	0.13	0.88	1.83	2.75	1.48	1.52	2.17	3.03	1.78	2.20	0.00
PC12	0.10	0.03	0.30	0.37	0.33	0.37	0.33	0.33	0.23	0.13	3.37	1.88	1.47	1.12	1.98	0.37	0.33	0.37	0.33	0.00
CRJ2	0.05	0.02	0.17	0.18	0.17	0.18	0.17	0.17	0.12	0.07	0.68	0.67	0.60	0.82	0.18	0.17	0.17	0.18	0.17	0.00
CNA	1.85	1.17	16.02	16.52	16.53	11.42	9.43	8.43	4.47	2.87	40.00	30.88	25.20	26.42	18.25	24.10	24.10	21.50	23.65	0.00
LJ25	0.03	0.02	0.17	0.17	0.17	0.18	0.17	0.18	0.10	0.07	0.68	0.52	0.15	0.17	0.18	0.17	0.17	0.18	0.17	0.00
LJ45	0.03	0.02	0.17	0.17	0.17	0.18	0.17	0.18	0.10	0.07	0.68	1.42	0.83	0.98	0.92	0.17	0.17	0.18	0.17	0.00
717	0.98	2.78	9.47	8.10	5.87	6.98	9.02	5.20	3.27	5.27	20.52	20.60	12.70	11.68	14.22	14.95	11.18	12.82	8.82	0.88
AA5	0.07	0.03	0.23	0.25	0.27	0.27	0.25	0.27	0.15	0.10	0.27	0.22	0.22	0.25	0.27	0.27	0.25	0.27	0.25	0.00
AC11	0.03	0.02	0.17	0.17	0.17	0.18	0.17	0.17	0.12	0.07	0.43	0.15	0.15	0.17	0.18	0.17	0.17	0.18	0.17	0.00
753	0.05	0.48	0.22	2.90	0.87	0.83	1.10	0.63	0.10	0.07	0.93	0.15	0.87	2.43	0.63	0.25	4.48	2.03	0.30	0.00
D10	0.05	0.02	0.15	0.18	0.17	0.18	0.17	0.17	0.12	0.07	0.93	0.20	0.90	0.72	0.18	0.17	0.17	0.18	0.17	0.00
D95	0.10	0.10	0.45	0.50	0.50	0.55	0.50	0.55	0.30	0.20	2.57	2.62	1.08	1.13	1.15	1.43	0.53	0.52	0.50	0.00
BE20	0.05	0.02	0.15	0.17	0.18	0.17	0.18	0.17	0.10	0.07	1.68	0.83	0.13	0.77	1.48	1.57	1.22	1.30	2.07	0.00
BE02	0.03	0.03	0.15	0.17	0.18	0.17	0.17	0.18	0.10	0.07	1.23	0.15	1.98	0.45	0.87	0.17	0.18	0.17	0.17	0.00
752	0.63	1.00	3.17	8.48	5.52	2.73	6.67	2.75	2.88	1.05	11.72	8.35	13.82	9.07	14.27	8.02	8.52	6.83	10.73	0.18
321	0.05	0.02	0.15	0.18	0.17	0.17	0.18	0.17	0.10	0.07	1.18	0.67	0.13	2.63	0.48	0.18	0.17	0.17	0.18	0.00
734	0.22	0.18	2.65	4.43	0.92	1.35	4.02	0.97	0.52	0.38	4.43	3.80	2.53	1.45	1.85	4.63	2.67	1.97	3.77	0.18
SF3	0.18	0.07	0.60	0.72	0.68	0.67	0.72	0.68	0.42	0.27	4.23	2.15	3.40	2.10	2.47	3.10	1.10	0.80	2.68	0.00
DH8	0.23	0.67	4.12	3.53	2.38	1.75	1.20	2.75	0.63	0.40	7.18	4.62	4.42	5.10	4.57	3.72	6.13	3.90	7.70	0.00
BE58	0.05	0.02	1.90	0.18	0.17	0.17	0.18	0.17	0.10	0.07	0.68	1.70	0.53	0.75	1.30	1.00	0.58	2.98	0.18	0.00
PA31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A320	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18
MD10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17

Source: Harris Miller Miller & Hanson Inc. and Leigh Fisher Associates, 2005.

Aircraft Taxi/Queue Operational Data Used in Support of the Air Quality Analysis, Alternative 1 Daytime Minutes by Position 2 of 2

A/C	X11	X12a	X12b	X13	X14	X15	X16	X17	X18a	X18b	X3	X4	X5	X6	X7	X8	X9	Z1	Z2	Z3	Z4
ER3	0.33	0.13	0.20	0.37	0.33	0.33	0.37	0.33	0.23	0.13	0.33	0.33	0.37	0.33	0.33	0.37	0.33	0.37	5.45	0.33	0.33
ER4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ERD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
738	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
757	0.87	0.33	0.50	0.92	0.83	0.83	0.92	0.83	0.58	0.30	0.83	0.83	0.92	0.83	0.83	0.92	0.83	0.87	10.78	0.83	0.83
763	0.35	0.12	0.22	0.35	0.35	0.33	0.37	0.33	0.23	0.12	0.33	0.33	0.35	0.35	0.33	0.37	0.33	0.33	31.98	0.93	0.33
777	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AB6	0.17	0.07	0.10	0.18	0.17	0.17	0.18	0.17	0.12	0.07	0.17	0.17	0.18	0.17	0.17	0.18	0.17	0.18	0.85	0.17	0.17
M80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
M83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B762	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DC93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
319	0.18	0.05	0.12	0.17	0.18	0.17	0.17	0.18	0.12	0.05	0.17	0.17	0.17	0.18	0.17	0.17	0.18	0.17	1.63	0.17	0.17
CRJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CR7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DH1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
343	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
320	0.37	0.12	0.22	0.35	0.35	0.33	0.35	0.35	0.23	0.10	0.33	0.33	0.35	0.35	0.33	0.35	0.35	0.33	9.73	0.33	0.33
73H	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
737	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
739	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
767	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
744	0.18	0.07	0.10	0.18	0.17	0.17	0.18	0.17	0.12	0.05	0.17	0.17	0.18	0.17	0.17	0.18	0.17	0.18	1.47	1.22	0.17
LJ35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BE1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
733	0.72	0.25	0.42	0.70	0.70	0.67	0.72	0.68	0.47	0.22	0.67	0.67	0.72	0.68	0.67	0.72	0.68	0.67	14.25	0.68	0.67
735	0.55	0.15	0.35	0.50	0.55	0.50	0.52	0.53	0.35	0.15	0.50	0.50	0.50	0.55	0.50	0.52	0.53	0.50	15.95	0.50	0.50
73G	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
332	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B722	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
732	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ERJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B72Q	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H25B	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
330	0.18	0.07	0.10	0.17	0.18	0.17	0.18	0.17	0.12	0.05	0.17	0.17	0.17	0.18	0.17	0.18	0.17	0.17	5.02	0.17	0.17
C56X	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F2TH	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A306	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A310	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DC10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C525	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C550	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C750	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CL60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FA50	0.18	0.05	0.12	0.17	0.18	0.17	0.17	0.18	0.12	0.05	0.17	0.17	0.17	0.18	0.17	0.17	0.18	0.17	3.65	0.17	0.17
GLF4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LJ60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BE30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BE40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P28A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PAY1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PC12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CRJ2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CNA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LJ25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LJ45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
717	0.87	0.30	0.53	0.88	0.87	0.83	0.90	0.85	0.58	0.30	0.83	0.83	0.88	0.87	0.83	0.90	0.85	0.85	18.95	0.83	0.83
AA5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
753	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BE20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BE02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
752	0.17	0.07	0.10	0.18	0.17	0.17	0.18	0.17	0.12	0.07	0.17	0.17	0.18	0.17	0.17	0.18	0.17	0.17	2.12	0.17	0.17
321	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
734	0.17	0.07	0.10	0.18	0.17	0.18	0.17	0.17	0.13	0.05	0.17	0.18	0.17	0.17	0.18	0.17	0.17	0.18	1.53	0.17	0.17
SF3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DH8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BE58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PA31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A320	0.17	0.07	0.10	0.18	0.17	0.17	0.18	0.17	0.12	0.07	0.17	0.17	0.18	0.17	0.17	0.18	0.17	0.17	0.62	0.17	0.17
MD10	0.18	0.07	0.10	0.18	0.17	0.17	0.18	0.17	0.12	0.05	0.17	0.17	0.18	0.17	0.17	0.18	0.17	0.17	5.18	0.17	0.17

Source: Harris Miller Miller & Hanson Inc. and Leigh Fisher Associates, 2005.

Aircraft Taxi/Queue Operational Data Used in Support of the Air Quality Analysis, Alternative 1 Nighttime Minutes by Position 1 of 2

A/C	N1	N10a	N10b	N11	N12	N13	N14	N15	N16a	N16b	N2a	N2b	N3	N4	N5	N6	N7	N8	N9	X10
ER3	0.10	0.05	0.47	0.50	0.53	0.52	0.50	0.53	0.32	0.20	0.80	0.45	0.42	0.53	0.52	0.50	0.53	0.52	0.53	0.00
ER4	0.05	0.02	0.15	0.18	0.17	0.18	0.17	0.17	0.12	0.07	0.93	0.15	0.15	0.17	0.18	0.17	0.17	0.18	0.17	0.00
ERD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
738	0.08	0.05	0.30	0.35	0.35	0.35	0.33	0.35	0.22	0.13	1.12	0.30	0.28	0.33	0.35	0.35	0.35	0.35	0.33	0.00
757	0.12	0.08	0.45	0.50	0.52	0.53	0.52	0.53	0.30	0.20	1.80	0.45	2.02	0.52	0.53	0.52	0.52	0.52	0.52	0.17
763	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
777	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AB6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
M80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17
M83	0.03	0.02	0.17	0.17	0.17	0.18	0.17	0.17	0.12	0.07	0.93	0.15	0.15	0.17	0.18	0.17	0.17	0.18	0.17	0.00
B762	0.08	0.03	0.30	0.33	0.37	0.33	0.35	0.35	0.20	0.13	0.35	0.30	0.27	0.37	0.33	0.35	0.35	0.33	0.37	0.00
DC93	0.03	0.03	0.15	0.17	0.17	0.18	0.17	0.18	0.10	0.07	0.18	0.15	0.13	0.17	0.18	0.17	0.18	0.17	0.17	0.00
319	0.35	0.17	1.20	1.42	1.37	1.38	1.40	1.37	0.83	0.55	3.42	1.88	1.57	1.93	1.38	1.38	1.37	1.38	1.40	0.00
CRJ	0.15	0.08	0.45	0.52	0.50	0.53	0.52	0.53	0.32	0.20	2.37	1.23	1.47	0.50	0.53	0.52	0.52	0.53	0.50	0.00
CR7	0.03	0.03	0.15	0.17	0.18	0.17	0.17	0.18	0.10	0.07	0.18	0.15	0.13	0.17	0.18	0.17	0.18	0.17	0.17	0.00
DH1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
343	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
320	0.13	0.10	0.63	0.67	0.68	0.72	0.67	0.72	0.42	0.27	1.98	2.00	1.27	0.93	0.72	0.67	0.70	0.70	0.67	0.00
73H	0.03	0.03	0.15	0.17	0.17	0.18	0.17	0.18	0.10	0.07	0.18	0.15	0.13	0.17	0.18	0.17	0.18	0.17	0.17	0.00
737	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
739	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
767	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
744	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LJ35	0.17	0.07	0.62	0.70	0.68	0.68	0.70	0.68	0.42	0.30	0.68	0.60	0.58	0.68	0.68	0.70	0.68	0.68	0.72	0.00
BE1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
733	0.17	0.10	0.60	0.70	0.70	0.67	0.70	0.70	0.42	0.28	3.75	2.10	1.27	1.52	0.70	0.70	0.70	0.67	0.70	0.17
735	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73G	0.08	0.05	0.30	0.35	0.33	0.37	0.33	0.35	0.22	0.13	1.10	1.07	0.30	1.22	0.35	0.35	0.33	0.37	0.33	0.00
332	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B722	0.10	0.03	0.30	0.33	0.37	0.33	0.37	0.33	0.20	0.13	0.33	0.30	0.27	0.37	0.33	0.37	0.33	0.33	0.37	0.00
732	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17
ERJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B72Q	0.13	0.07	0.45	0.50	0.55	0.50	0.53	0.52	0.30	0.20	0.52	0.45	0.40	0.53	0.52	0.52	0.53	0.50	0.53	0.00
H25B	0.05	0.02	0.15	0.17	0.18	0.17	0.18	0.17	0.10	0.07	0.17	0.15	0.13	0.18	0.17	0.18	0.17	0.17	0.18	0.00
330	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C56X	0.03	0.03	0.15	0.17	0.17	0.18	0.17	0.18	0.10	0.07	0.17	0.15	0.15	0.17	0.18	0.17	0.17	0.18	0.17	0.00
F2TH	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A306	0.05	0.02	0.15	0.17	0.18	0.17	0.18	0.17	0.10	0.07	0.17	0.15	0.13	0.18	0.17	0.17	0.18	0.17	0.18	0.00
A310	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17
DC10	0.05	0.02	0.15	0.17	0.18	0.17	0.18	0.17	0.10	0.07	0.17	0.15	0.13	0.18	0.17	0.17	0.18	0.17	0.18	0.00
C525	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C550	0.13	0.05	0.47	0.53	0.50	0.53	0.52	0.50	0.35	0.20	1.02	0.45	0.45	0.50	0.53	0.52	0.50	0.53	0.52	0.00
C750	0.05	0.02	0.15	0.18	0.17	0.17	0.18	0.17	0.12	0.07	0.17	0.15	0.15	0.17	0.17	0.18	0.17	0.18	0.17	0.00
CL60	0.00	0.03	0.15	0.17	0.18	0.17	0.17	0.18	0.10	0.07	0.00	0.00	0.00	0.00	0.00	0.08	0.18	0.17	0.17	0.00
FA50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GLF4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LJ60	0.03	0.03	0.15	0.17	0.17	0.18	0.17	0.18	0.10	0.07	0.18	0.15	0.13	0.17	0.18	0.17	0.18	0.17	0.17	0.00
BE30	0.03	0.03	0.15	0.17	0.17	0.18	0.17	0.18	0.10	0.07	0.45	0.15	0.13	0.17	0.18	0.17	0.18	0.17	0.17	0.00
BE40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P28A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PAY1	0.05	0.02	0.15	0.17	0.18	0.17	0.18	0.17	0.10	0.07	0.17	0.15	0.13	0.18	0.17	0.18	0.17	0.17	0.18	0.00
PC12	0.05	0.02	0.15	0.17	0.18	0.17	0.18	0.17	0.10	0.07	0.17	0.15	0.13	0.18	0.17	0.18	0.17	0.17	0.18	0.00
CRJ2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CNA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LJ25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LJ45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
717	0.03	0.02	0.18	0.17	0.17	0.18	0.17	0.17	0.12	0.07	1.68	0.15	0.15	0.17	0.18	0.17	0.17	0.18	0.17	0.17
AA5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
753	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BE20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BE02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
752	0.05	0.02	0.15	0.18	0.17	0.17	0.18	0.17	0.10	0.08	0.93	0.17	0.92	0.93	0.92	0.18	0.17	0.17	0.18	0.00
321	0.03	0.02	0.15	0.17	0.18	0.17	0.18	0.17	0.10	0.07	1.70	0.60	0.13	0.28	0.17	0.17	0.18	0.17	0.18	0.00
734	0.10	0.03	0.30	0.37	0.33	0.33	0.37	0.33	0.20	0.17	0.33	0.30	0.27	0.37	0.33	0.37	0.33	0.33	0.37	0.00
SF3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DH8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BE58	0.05	0.02	0.15	0.18	0.17	0.17	0.18	0.17	0.10	0.07	0.17	0.15	0.13	0.18	0.17	0.18	0.17	0.17	0.18	0.00
PA31	0.03	0.03	0.15	0.17	0.17	0.18	0.17	0.18	0.10	0.07	0.18	0.15	0.13	0.17	0.18	0.17	0.18	0.17	0.17	0.00
A320	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MD10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17

Source: Harris Miller Miller & Hanson Inc. and Leigh Fisher Associates, 2005.

Aircraft Taxi/Queue Operational Data Used in Support of the Air Quality Analysis, Alternative 1 Nighttime Minutes by Position 2 of 2

A/C	X11	X12a	X12b	X13	X14	X15	X16	X17	X18a	X18b	X3	X4	X5	X6	X7	X8	X9	Z1	Z2	Z3	Z4
ER3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ER4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ERD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
738	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
757	0.18	0.05	0.12	0.17	0.18	0.17	0.18	0.17	0.12	0.05	0.17	0.17	0.17	0.18	0.17	0.18	0.17	0.17	0.18	0.17	0.17
763	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
777	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AB6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
M80	0.18	0.05	0.12	0.17	0.18	0.17	0.17	0.18	0.12	0.05	0.17	0.17	0.17	0.18	0.17	0.17	0.18	0.17	0.18	0.17	0.17
M83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B762	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DC93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
319	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CRJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CR7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DH1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
343	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
320	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73H	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
737	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
739	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
767	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
744	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LJ35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BE1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
733	0.18	0.05	0.12	0.17	0.18	0.17	0.18	0.17	0.12	0.05	0.17	0.17	0.17	0.18	0.17	0.18	0.17	0.17	0.18	0.17	0.17
735	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73G	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
332	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B722	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
732	0.18	0.05	0.12	0.17	0.18	0.17	0.17	0.18	0.12	0.05	0.17	0.17	0.17	0.18	0.17	0.17	0.18	0.17	0.17	0.18	0.17
ERJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B72Q	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H25B	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
330	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C56X	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F2TH	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A306	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A310	0.18	0.07	0.10	0.17	0.18	0.17	0.18	0.17	0.12	0.05	0.17	0.17	0.18	0.17	0.17	0.18	0.17	0.17	1.30	0.17	0.17
DC10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C525	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C550	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C750	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CL60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FA50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GLF4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LJ60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BE30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BE40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P28A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PAY1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PC12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CRJ2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CNA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LJ25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LJ45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
717	0.18	0.05	0.12	0.17	0.18	0.17	0.18	0.17	0.12	0.05	0.17	0.17	0.17	0.18	0.17	0.18	0.17	0.17	0.62	0.17	0.17
AA5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
753	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BE20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BE02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
752	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
321	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
734	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SF3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DH8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BE58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PA31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A320	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MD10	0.18	0.07	0.10	0.18	0.17	0.17	0.18	0.17	0.12	0.05	0.17	0.17	0.18	0.17	0.17	0.18	0.17	0.17	0.18	0.17	0.17

Source: Harris Miller Miller & Hanson Inc. and Leigh Fisher Associates, 2005.

Aircraft Taxi/Queue Operational Data Used in Support of the Air Quality Analysis, Alternative 2 Daytime Minutes by Position
1 of 2

A/C Type	N1	N10a	N10b	N11	N12	N13	N14	N15	N16a	N16b	N2a	N2b	N3	N4	N5	N6	N7	N8	N9	X1	X10	X11
ER3	1.97	0.60	5.67	6.05	5.75	5.68	5.75	5.67	3.50	2.20	32.60	23.75	12.77	26.38	24.27	21.77	12.68	10.85	10.12	0.68	1.05	1.05
ER4	0.50	0.30	3.47	2.07	2.17	2.35	2.05	2.07	1.28	0.80	10.28	8.72	10.95	12.15	10.53	13.73	7.63	6.27	2.70	0.03	0.18	0.17
ERD	0.15	2.07	1.22	1.18	0.68	0.72	0.68	0.68	0.43	0.27	3.98	2.18	1.15	1.78	2.47	1.93	1.87	1.38	0.88	0.03	0.18	0.17
738	0.50	0.27	5.18	4.20	3.83	3.27	2.42	2.08	1.23	0.82	15.60	18.98	8.82	8.77	10.95	9.52	8.73	7.30	6.45	0.00	0.00	0.00
757	3.65	1.07	5.38	5.75	5.65	5.60	5.63	5.52	3.32	2.17	34.45	13.77	32.58	42.25	31.00	29.65	13.62	19.10	12.40	0.40	1.58	1.57
763	0.20	0.07	0.60	1.62	0.68	0.70	0.70	0.67	0.43	0.28	3.75	2.53	1.60	5.03	2.15	5.45	1.88	1.90	1.97	0.00	0.35	0.35
777	0.10	0.03	1.17	0.37	0.33	0.35	0.35	0.33	0.22	0.13	1.12	0.65	3.08	3.17	3.33	2.80	0.82	4.03	0.90	0.08	0.33	0.37
AB6	0.13	0.07	0.45	0.52	0.52	0.52	0.53	0.52	0.32	0.20	2.55	0.80	4.43	1.57	2.87	1.63	0.62	0.82	0.53	0.00	0.17	0.18
M80	1.02	1.02	3.53	3.98	3.97	3.95	4.10	3.85	2.45	1.53	23.58	12.83	32.40	16.38	17.98	16.02	13.77	7.75	6.52	0.13	0.72	0.68
M83	0.18	0.08	0.60	0.68	0.70	0.68	0.72	0.68	0.40	0.27	4.73	0.60	1.00	2.20	0.68	0.72	0.68	0.67	0.72	0.00	0.00	0.00
B762	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DC93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
319	2.48	1.15	8.90	10.02	10.72	9.65	9.78	9.55	5.95	3.73	55.13	37.83	43.03	53.87	44.90	35.27	37.30	24.48	12.65	2.82	1.35	1.45
CRJ	3.77	1.50	10.73	11.27	11.25	11.08	11.40	11.27	6.78	4.33	74.88	67.93	49.58	52.55	48.98	44.30	40.68	25.45	16.05	0.78	5.60	1.07
CR7	0.17	0.07	0.65	0.67	0.70	0.70	0.70	0.67	0.43	0.27	4.00	2.12	1.83	3.97	1.40	1.43	1.30	0.70	0.70	0.00	0.00	0.00
DH1	0.15	0.05	0.45	0.55	0.50	0.55	0.50	0.50	0.35	0.20	5.33	3.82	2.42	3.78	2.60	3.72	1.75	1.73	0.77	0.00	0.00	0.00
343	0.28	0.12	0.90	1.07	1.02	1.05	1.05	1.02	0.63	0.40	7.32	3.73	5.15	6.47	5.17	6.75	7.10	1.05	1.05	0.00	0.00	0.00
320	1.57	1.10	4.70	5.42	5.30	5.42	5.33	5.38	3.25	2.08	38.23	20.17	30.98	37.57	28.07	27.25	21.05	20.57	7.57	0.00	0.33	0.37
73H	0.25	0.08	0.75	0.87	0.88	0.85	0.90	0.83	0.52	0.33	4.63	4.35	1.37	3.23	5.48	4.22	1.27	0.85	0.90	0.00	0.00	0.00
739	0.08	0.05	0.30	0.33	0.35	0.35	0.35	0.35	0.20	0.13	3.37	2.62	1.17	2.50	3.13	0.47	0.73	0.53	0.35	0.00	0.00	0.00
767	0.83	0.05	0.30	0.33	0.35	0.35	0.33	0.37	0.20	0.13	1.57	2.68	2.87	1.98	1.80	0.52	0.35	0.35	0.35	0.00	0.00	0.00
744	0.10	0.03	0.30	0.33	0.37	0.33	0.37	0.33	0.20	0.13	1.87	2.35	2.90	1.90	3.50	2.08	0.77	0.33	0.37	0.00	0.17	0.18
LJ35	0.13	0.05	0.58	1.95	0.50	0.53	0.52	0.52	0.32	0.20	3.80	3.80	5.17	2.27	1.02	3.25	2.55	0.97	1.87	0.00	0.00	0.00
BE1	2.27	0.93	6.87	7.97	7.68	7.73	7.88	7.73	4.78	3.05	51.68	38.55	37.62	33.23	32.22	35.92	26.28	24.43	9.83	0.37	0.52	0.53
733	1.53	2.65	6.82	5.90	7.50	5.80	5.98	5.82	3.58	2.30	44.27	35.70	26.43	20.62	33.08	21.18	22.05	18.08	14.92	2.38	2.25	2.30
735	0.40	0.18	1.37	1.58	1.55	1.52	1.60	1.55	0.90	0.63	10.92	7.68	4.03	6.38	3.43	7.63	2.12	1.52	1.62	0.00	0.50	0.55
73G	0.37	0.03	0.30	0.33	0.37	0.33	0.37	0.33	0.20	0.13	3.92	1.93	1.90	4.47	1.23	3.18	2.95	1.88	0.37	0.00	0.00	0.00
B722	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
732	0.10	0.03	0.30	0.33	0.37	0.33	0.37	0.33	0.20	0.13	2.37	1.83	0.32	2.08	0.68	0.35	0.35	0.33	0.37	0.00	0.00	0.00
ERJ	1.07	1.18	3.00	3.43	3.45	3.48	3.43	3.53	2.08	1.33	21.30	21.97	13.57	21.12	13.62	11.10	19.62	9.97	4.00	0.07	0.35	0.35
B72Q	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H25B	0.13	0.05	0.47	0.50	0.53	0.52	0.53	0.50	0.32	0.20	6.55	3.65	1.63	5.80	2.13	0.65	0.55	0.52	0.53	0.30	0.17	0.18
330	0.32	0.02	0.15	0.17	0.18	0.17	0.18	0.17	0.10	0.07	0.28	1.17	0.78	2.53	2.18	0.67	0.17	0.17	0.18	0.00	0.17	0.18
332	0.03	0.03	0.15	0.17	0.17	0.18	0.17	0.18	0.10	0.07	0.18	0.15	0.13	0.17	0.18	0.17	0.18	0.17	0.17	0.32	0.17	0.18
C56X	0.20	2.75	0.77	0.85	0.87	0.87	0.87	0.87	0.53	0.33	4.18	1.78	0.90	3.13	2.83	5.87	1.40	1.38	0.95	0.00	0.00	0.00
F2TH	0.08	0.05	0.32	0.35	0.33	0.37	0.33	0.35	0.22	0.13	1.63	3.10	1.13	2.43	2.87	1.40	1.15	1.12	0.47	0.00	0.00	0.00
A306	0.03	0.03	1.25	0.72	0.17	0.18	0.17	0.18	0.10	0.07	1.18	0.15	0.62	1.75	1.08	0.25	2.38	2.22	3.82	0.00	0.00	0.00
A310	0.05	0.02	0.15	0.18	0.17	0.17	0.18	0.17	0.10	0.07	0.17	0.15	0.13	0.18	0.17	0.18	0.17	0.17	0.18	0.00	0.00	0.00
DC10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C525	0.07	0.03	0.32	0.33	0.35	0.35	0.35	0.35	0.20	0.13	1.65	0.72	0.78	0.92	0.82	1.45	0.35	0.35	0.35	0.00	0.00	0.00
C550	0.22	0.15	0.93	1.02	1.02	1.08	1.00	1.07	0.63	0.40	4.40	2.82	3.20	1.92	2.23	1.28	1.07	1.03	1.02	0.00	0.00	0.00
C750	0.07	0.05	0.32	0.33	0.35	0.35	0.33	0.35	0.22	0.13	0.87	0.83	1.75	0.78	0.35	0.33	0.35	0.35	0.33	0.00	0.00	0.00
CL60	0.17	0.07	0.45	0.52	0.53	0.50	0.53	0.52	0.32	0.20	2.47	0.60	0.55	0.68	0.70	0.60	0.53	0.52	0.52	0.30	0.17	0.18
FA,50	0.08	0.05	0.30	0.35	0.33	0.37	0.33	0.35	0.22	0.13	0.85	0.30	0.30	0.33	0.37	0.33	0.33	0.37	0.33	0.00	0.17	0.18
GLF4	0.35	0.22	2.40	1.55	1.55	1.58	1.52	1.57	0.97	0.60	7.92	7.78	4.42	7.63	3.62	1.72	2.82	2.13	3.97	1.57	0.17	0.18
LJ60	0.37	0.28	1.52	1.70	1.72	1.77	1.68	1.78	1.03	0.67	9.60	7.70	4.35	9.17	5.97	6.27	4.60	3.08	1.68	0.03	0.18	0.17
BE30	0.20	0.13	0.97	0.93	0.93	0.98	0.93	0.90	0.52	0.33	4.68	3.40	2.55	1.62	3.50	1.20	5.10	0.92	0.85	0.00	0.00	0.00
BE40	0.55	0.18	1.22	1.33	1.43	1.37	1.35	1.43	0.82	0.53	8.42	6.10	3.83	6.38	9.02	4.75	4.60	3.82	1.53	0.00	0.00	0.00
P28A	0.27	0.13	0.92	1.02	1.05	1.07	1.02	1.05	0.62	0.40	6.12	4.80	3.38	6.55	2.63	2.28	3.72	1.07	1.02	0.00	0.00	0.00
PAY1	0.07	0.07	0.30	0.33	0.33	0.37	0.33	0.37	0.20	0.13	2.15	3.12	0.93	3.63	0.92	4.93	2.27	0.95	0.63	0.00	0.00	0.00
PC12	0.10	0.03	0.30	0.37	0.33	0.37	0.33	0.33	0.23	0.13	5.37	1.87	1.90	1.47	2.05	0.37	0.33	0.37	0.33	0.00	0.00	0.00
CRJ2	0.05	0.02	0.17	0.18	0.17	0.18	0.17	0.17	0.12	0.07	0.68	0.92	1.35	0.25	0.18	0.17	0.17	0.18	0.17	0.00	0.00	0.00
CNA	2.23	0.85	6.82	6.68	6.95	6.67	6.75	6.73	4.10	2.60	32.58	26.58	21.57	26.65	36.62	25.37	20.00	15.65	8.88	3.00	2.68	0.72
LJ25	0.03	0.02	0.17	0.17	0.17	0.18	0.17	0.17	0.12	0.07	0.43	0.30	0.15	0.17	0.18	0.17	0.17	0.18	0.17	0.00	0.00	0.00
LJ45	0.03	0.03	0.15	0.17	0.18	0.17	0.17	0.18	0.10	0.07	1.20	2.68	0.60	2.33	4.35	0.30	1.78	0.17	0.17	0.00	0.00	0.00
717	1.13	0.40	7.02	7.85	4.95	4.45	3.93	3.85	2.57	1.53	18.25	15.67	12.00	14.55	17.62	13.50	11.72	10.22	7.38	0.35	1.20	1.25
AA5	0.07	0.03	0.23	0.25	0.27	0.27	0.25	0.27	0.15	0.10	0.27	0.22	0.22	0.25	0.27	0.27	0.25	0.27	0.25	0.00	0.00	0.00
AC11	0.05	0.02	0.15	0.18	0.17	0.17	0.18	0.17	0.10	0.08	0.17	0.15	0.15	0.17	0.17	0.18	0.17	0.17	0.18	0.00	0.00	0.00
D10	0.05	0.02	0.15	0.18	0.17	0.18	0.17	0.17	0.12	0.07	1.68	0.15	0.92	0.62	1.27	1.70	0.17	0.18	0.17	0.00	0.00	0.00
D95	0.07	0.07	0.30	0.33	0.33	0.37	0.33	0.37	0.20	0.13	1.62	1.32	0.78	0.58	1.60	0.58	0.33	0.37	0.33	0.03	0.18	0.17
BB02	0.03	0.03	0.15	0.17	0.18	0.17	0.17	0.18	0.10	0.07	1.22	0.15	1.92	0.45	1.90	0.18	0.18	0.17	0.17	0.00	0.00	0.00
752	0.47	0.20	1.50	1.78	1.72	1.67	1.80	1.70	1.00	0.67	11.40	10.10	10.78	6.58	11.10	5.58	13.12	3.18	4.47	1.43	2.67	0.73
321	0.05	0.02	0.15	0.18	0.17	0.18	0.17	0.17	0.12	0.07	0.68	0.68	1.33	0.62	0.18	0.17	0.17	0.18	0.17	0.00	0.00	0.00
734	2.45	0.08	1.15	0.88	0.85	0.90	0.85	0.83	0.57	0.33	4.28	3.25	5.62	3.07	5.15	5.82	2.48	0.90	3.17	0.00	0.17	0.18
SF3	0.20	0.07	0.60	0.72	0.68	0.68	0.72	0.67	0.43	0.28	3.98	5.15	0.82	3.62	5.02	1.50	4.45	1.98	0.72	0.00	0.00	0.00
DH8	0.20	0.10	0.75	0.85	0.88	0.87	0.85	0.88	0.52	0.33	2.67	4.55	4.75	3.12	6.35	6.97	6.68	3.42	5.87	0.30	0.18	0.17
BE58	0.03	0.03	0.57	0.17	0.18	0.17	0.17	0.18	0.10	0.07	1.45	1.43	1.23	0.30	0.87	2.18	0.73	2.82	0.17	0.00	0.00	0.00
PA31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
737	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.17	0.18
753	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.17	0.18
BE20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.17	0.18
A320	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.18
MD10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.18

Source: Harris Miller Miller & Hanson and Leigh Fisher Associates, 2005.

Aircraft Taxi/Queue Operational Data Used in Support of the Air Quality Analysis, Alternative 2 Daytime Minutes by Position
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A/C Type	X12a	X12b	X13	X14	X15	X16	X17	X18a	X18b	X2a	X2b	X3	X4	X5	X6	X7	X8	X9	Z1	Z2	Z3	Z4
ER3	0.38	0.62	1.08	1.02	1.02	1.07	1.02	0.70	0.35	18.93	2.77	12.87	27.97	12.23	14.27	4.47	6.17	1.02	0.35	4.22	0.33	0.33
ER4	0.07	0.10	0.18	0.17	0.17	0.18	0.17	0.12	0.07	4.20	0.57	0.25	2.35	4.63	2.58	1.45	0.18	0.17	0.00	0.00	0.00	0.00
ERD	0.07	0.10	0.18	0.17	0.17	0.18	0.17	0.12	0.07	2.45	0.10	11.42	2.30	0.20	0.17	0.83	7.48	0.17	0.00	0.00	0.00	0.00
738	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
757	0.57	0.93	1.60	1.55	1.52	1.63	1.50	1.07	0.52	18.40	4.98	15.75	8.35	35.85	10.87	17.45	5.78	1.50	0.87	13.63	4.07	0.87
763	0.12	0.22	0.35	0.35	0.33	0.37	0.33	0.23	0.12	0.00	0.00	0.33	0.33	0.35	0.35	0.33	0.37	0.33	0.35	8.97	0.33	0.33
777	0.10	0.23	0.33	0.37	0.33	0.35	0.35	0.23	0.10	3.50	3.87	6.88	10.90	5.50	2.48	14.37	3.13	1.95	0.00	0.00	0.00	0.00
AB6	0.05	0.12	0.17	0.18	0.17	0.17	0.18	0.12	0.05	0.00	0.00	0.17	0.17	0.17	0.18	0.17	0.17	0.18	0.17	1.78	0.18	0.17
M80	0.27	0.40	0.73	0.67	0.67	0.73	0.67	0.47	0.25	14.30	7.28	11.27	6.88	12.88	9.38	15.73	0.82	5.13	0.00	0.00	0.00	0.00
M83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B762	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DC93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
319	0.45	0.88	1.37	1.43	1.35	1.40	1.38	0.93	0.42	27.45	10.72	35.45	27.40	23.45	12.12	4.83	3.10	1.37	0.17	13.47	0.17	0.17
CRJ	0.35	0.65	1.05	1.05	1.00	1.07	1.03	0.70	0.33	31.42	5.92	20.53	8.93	17.50	18.57	7.25	3.25	5.87	0.00	0.00	0.00	0.00
CR7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DH1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
343	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
320	0.10	0.23	0.33	0.37	0.33	0.33	0.37	0.23	0.10	0.00	0.00	6.80	2.88	3.00	4.48	2.85	14.15	0.37	0.33	2.82	0.33	0.33
73H	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
739	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
767	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
744	0.05	0.12	0.17	0.18	0.17	0.17	0.18	0.12	0.05	0.00	0.00	0.17	0.17	0.17	0.18	0.17	0.17	0.18	0.18	1.47	0.45	0.17
LJ35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BE1	0.20	0.30	0.55	0.50	0.52	0.53	0.50	0.35	0.17	9.92	2.20	9.33	8.88	4.83	0.60	0.57	13.08	0.50	0.00	0.00	0.00	0.00
733	0.77	1.40	2.27	2.28	2.17	2.33	2.22	1.52	0.73	51.85	5.88	62.15	48.55	18.67	15.82	15.13	4.25	9.32	0.67	12.25	2.08	0.67
735	0.15	0.35	0.50	0.55	0.50	0.52	0.53	0.35	0.15	0.00	0.00	0.57	0.55	1.75	5.08	1.43	0.53	0.52	0.50	8.67	13.70	0.53
73G	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B722	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
732	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ERJ	0.12	0.22	0.35	0.35	0.33	0.37	0.33	0.23	0.12	7.52	0.20	7.52	5.28	7.50	2.37	5.45	8.25	1.23	0.00	0.00	0.00	0.00
B72Q	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H25B	0.05	0.12	0.17	0.18	0.17	0.18	0.17	0.12	0.05	2.67	5.28	4.35	0.17	0.17	0.18	0.17	0.18	0.17	0.00	0.00	0.00	0.00
330	0.05	0.12	0.17	0.18	0.17	0.17	0.18	0.12	0.05	0.00	0.00	0.83	0.17	10.18	0.18	0.17	0.17	0.18	0.17	8.42	0.17	0.17
332	0.05	0.12	0.17	0.18	0.17	0.17	0.18	0.12	0.05	5.43	7.77	0.17	0.17	0.17	0.18	0.17	0.17	0.18	0.00	0.00	0.00	0.00
C56X	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F2TH	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A306	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A310	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DC10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C525	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C550	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C750	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CL60	0.07	0.10	0.17	0.18	0.17	0.18	0.17	0.12	0.05	10.07	0.87	6.03	1.65	5.77	6.23	4.23	0.37	2.83	0.00	0.00	0.00	0.00
FA50	0.05	0.12	0.17	0.18	0.17	0.17	0.18	0.12	0.05	0.00	0.00	0.27	18.67	3.60	4.52	0.17	0.17	0.18	0.17	1.98	0.17	0.17
GLF4	0.05	0.12	0.17	0.18	0.17	0.17	0.18	0.12	0.05	1.18	3.77	3.92	0.85	0.25	2.37	4.57	1.70	0.18	0.00	0.00	0.00	0.00
LJ60	0.07	0.10	0.18	0.17	0.17	0.18	0.17	0.12	0.07	3.95	2.77	6.93	2.45	1.68	11.97	0.23	0.18	0.17	0.00	0.00	0.00	0.00
BE30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BE40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P28A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PAY1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PC12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CRJ2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CNA	0.22	0.45	0.68	0.72	0.68	0.72	0.67	0.48	0.20	23.40	6.73	5.77	5.02	2.42	22.27	12.12	8.90	4.40	0.00	0.00	0.00	0.00
LJ25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LJ45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
717	0.38	0.78	1.20	1.25	1.17	1.22	1.23	0.82	0.38	5.45	4.00	10.80	14.27	16.72	8.40	1.72	3.22	1.53	0.83	8.58	0.83	0.83
AA5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D95	0.07	0.10	0.18	0.17	0.17	0.18	0.17	0.12	0.07	6.20	0.10	4.65	1.37	0.18	0.17	0.17	0.18	0.17	0.00	0.00	0.00	0.00
BB02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
752	0.20	0.47	0.67	0.73	0.67	0.67	0.73	0.47	0.20	7.03	1.97	12.22	7.52	14.98	5.57	7.43	3.10	2.18	0.17	0.18	0.17	0.17
321	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
734	0.07	0.10	0.18	0.17	0.17	0.18	0.17	0.12	0.05	0.00	0.00	0.23	0.47	0.18	0.17	0.17	0.18	0.17	0.17	3.35	0.17	0.17
SF3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DH8	0.07	0.10	0.18	0.17	0.17	0.18	0.17	0.12	0.07	2.53	9.25	0.20	0.17	6.95	1.65	2.50	0.18	0.17	0.00	0.00	0.00	0.00
BE58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PA31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
737	0.05	0.12	0.17	0.18	0.17	0.18	0.17	0.12	0.05	10.68	0.12	11.55	7.43	0.28	6.10	2.32	0.18	0.17	0.00	0.00	0.00	0.00
753	0.05	0.12	0.17	0.18	0.17	0.17	0.18	0.12	0.05	9.43	1.07	0.75	0.22	4.30	0.18	0.17	0.17	0.18	0.00	0.00	0.00	0.00
BE20	0.05	0.12	0.17	0.18	0.17	0.18	0.17	0.12	0.05	3.22	5.02	7.25	0.80	2.82	0.18	0.17	0.18	0.17	0.00	0.00	0.00	0.00
A320	0.07	0.10	0.18	0.17	0.17	0.18	0.17	0.12	0.05	0.00	0.00	0.25	15.23	0.27	7.42	0.17	0.18	0.17	0.17	3.50	0.17	0.17
MD10	0.07	0.10	0.18	0.17	0.17	0.18	0.17	0.12	0.05	0.00	0.00	1.13	6.00	7.18	2.97	3.47	1.48	0.17	0.17	6.37	0.17	0.17

Source: Harris Miller Miller & Hanson and Leigh Fisher Associates, 2005.

Aircraft Taxi/Queue Operational Data Used in Support of the Air Quality Analysis, Alternative 2 Nighttime Minutes by Position
1 of 2

A/C Type	N1	N10a	N10b	N11	N12	N13	N14	N15	N16a	N16b	N2a	N2b	N3	N4	N5	N6	N7	N8	N9	X1	X10	X11
ER3	0.12	0.05	0.45	0.50	0.55	0.50	0.52	0.53	0.30	0.20	0.80	0.45	0.40	0.55	0.50	0.52	0.53	0.50	0.55	0.00	0.00	0.00
ER4	0.05	0.02	0.15	0.18	0.17	0.18	0.17	0.17	0.12	0.07	0.93	0.15	0.15	0.17	0.18	0.17	0.17	0.18	0.17	0.00	0.00	0.00
ERD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
738	0.08	0.05	0.30	0.33	0.37	0.33	0.35	0.35	0.20	0.13	1.12	0.30	0.27	0.35	0.35	0.35	0.35	0.33	0.35	0.00	0.00	0.00
757	0.12	0.08	0.45	0.50	0.52	0.53	0.52	0.53	0.30	0.20	1.80	0.45	2.03	0.53	0.53	0.52	0.52	0.52	0.52	0.00	0.17	0.18
763	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
777	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AB6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
M80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.18
M83	0.03	0.02	0.17	0.17	0.17	0.18	0.17	0.17	0.12	0.07	0.93	0.15	0.15	0.17	0.18	0.17	0.17	0.18	0.17	0.00	0.00	0.00
B762	0.08	0.05	0.30	0.33	0.37	0.33	0.35	0.35	0.20	0.13	0.35	0.30	0.27	0.37	0.33	0.35	0.35	0.33	0.35	0.00	0.00	0.00
DC93	0.03	0.03	0.15	0.17	0.17	0.18	0.17	0.18	0.10	0.07	0.17	0.17	0.13	0.17	0.18	0.17	0.18	0.17	0.17	0.00	0.00	0.00
319	0.35	0.17	1.20	1.42	1.37	1.38	1.40	1.37	0.83	0.53	4.43	2.48	1.55	1.97	1.40	1.38	1.37	1.38	1.40	0.00	0.00	0.00
CRJ	0.15	0.08	0.45	0.52	0.50	0.53	0.52	0.53	0.32	0.20	2.12	1.47	1.23	0.50	0.53	0.52	0.50	0.53	0.52	0.00	0.00	0.00
CR7	0.03	0.02	0.17	0.17	0.17	0.18	0.17	0.17	0.12	0.07	0.17	0.15	0.15	0.17	0.18	0.17	0.17	0.18	0.17	0.00	0.00	0.00
DH1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
343	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
320	0.17	0.08	0.62	0.70	0.67	0.72	0.68	0.68	0.43	0.28	2.22	2.15	1.30	0.67	0.70	0.70	0.67	0.72	0.68	0.00	0.00	0.00
73H	0.05	0.02	0.15	0.18	0.17	0.18	0.17	0.17	0.12	0.07	0.17	0.15	0.15	0.17	0.17	0.18	0.17	0.18	0.17	0.00	0.00	0.00
739	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
767	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
744	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LJ35	0.18	0.08	0.60	0.72	0.68	0.68	0.70	0.68	0.42	0.27	0.68	0.60	0.55	0.72	0.68	0.70	0.68	0.68	0.70	0.00	0.00	0.00
BE1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
733	0.17	0.10	0.60	0.70	0.70	0.67	0.70	0.70	0.42	0.27	4.00	1.87	1.25	1.55	0.70	0.70	0.70	0.67	0.70	0.00	0.17	0.18
735	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73G	0.08	0.05	0.30	0.33	0.35	0.35	0.35	0.35	0.20	0.13	1.10	0.82	0.28	1.23	0.35	0.35	0.33	0.35	0.35	0.00	0.00	0.00
B722	0.10	0.03	0.30	0.33	0.37	0.33	0.37	0.33	0.20	0.13	0.33	0.30	0.27	0.37	0.33	0.33	0.37	0.33	0.37	0.00	0.00	0.00
732	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.18
ERJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B72Q	0.13	0.07	0.45	0.50	0.55	0.50	0.53	0.52	0.30	0.20	0.52	0.45	0.40	0.53	0.52	0.50	0.55	0.50	0.53	0.00	0.00	0.00
H25B	0.05	0.02	0.15	0.17	0.18	0.17	0.18	0.17	0.10	0.07	0.17	0.15	0.13	0.18	0.17	0.17	0.18	0.17	0.18	0.00	0.00	0.00
330	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
332	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C56X	0.03	0.03	0.15	0.17	0.17	0.18	0.17	0.18	0.10	0.07	0.17	0.15	0.15	0.17	0.18	0.17	0.17	0.18	0.17	0.00	0.00	0.00
F2TH	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A306	0.05	0.02	0.15	0.17	0.18	0.17	0.18	0.17	0.10	0.07	0.17	0.15	0.13	0.18	0.17	0.17	0.18	0.17	0.18	0.00	0.00	0.00
A310	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.18
DC10	0.05	0.02	0.15	0.17	0.18	0.17	0.18	0.17	0.10	0.07	0.17	0.15	0.13	0.18	0.17	0.17	0.18	0.17	0.18	0.00	0.00	0.00
C525	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C550	0.13	0.05	0.47	0.53	0.50	0.53	0.52	0.50	0.33	0.22	1.02	0.45	0.45	0.50	0.53	0.52	0.50	0.53	0.52	0.00	0.00	0.00
C750	0.05	0.02	0.15	0.18	0.17	0.17	0.18	0.17	0.12	0.07	0.17	0.15	0.15	0.17	0.17	0.18	0.17	0.17	0.18	0.00	0.00	0.00
CL60	0.00	0.03	0.15	0.17	0.18	0.17	0.17	0.18	0.10	0.07	0.00	0.00	0.00	0.00	0.00	0.08	0.18	0.17	0.17	0.00	0.00	0.00
FA50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GLF4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LJ60	0.03	0.03	0.15	0.17	0.17	0.18	0.17	0.18	0.10	0.07	0.17	0.15	0.15	0.17	0.18	0.17	0.17	0.18	0.17	0.00	0.00	0.00
BE30	0.03	0.03	0.15	0.17	0.17	0.18	0.17	0.18	0.10	0.07	0.18	0.15	0.13	0.17	0.18	0.17	0.18	0.17	0.17	0.00	0.00	0.00
BE40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P28A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PAY1	0.05	0.02	0.15	0.17	0.18	0.17	0.18	0.17	0.10	0.07	0.17	0.15	0.13	0.18	0.17	0.17	0.18	0.17	0.18	0.00	0.00	0.00
PC12	0.05	0.02	0.15	0.17	0.18	0.17	0.18	0.17	0.10	0.07	0.17	0.15	0.13	0.18	0.17	0.17	0.18	0.17	0.18	0.00	0.00	0.00
CRJ2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CNA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LJ25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LJ45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
717	0.05	0.02	0.15	0.18	0.17	0.18	0.17	0.17	0.12	0.07	1.68	0.15	0.15	0.17	0.18	0.17	0.17	0.18	0.17	0.00	0.17	0.18
AA5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BE02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
752	0.05	0.02	0.15	0.18	0.17	0.17	0.18	0.17	0.10	0.07	0.93	0.17	0.90	0.70	0.92	0.18	0.17	0.17	0.18	0.00	0.00	0.00
321	0.03	0.02	0.15	0.17	0.18	0.17	0.18	0.17	0.10	0.07	1.70	0.45	0.13	0.18	0.17	0.17	0.18	0.17	0.18	0.00	0.00	0.00
734	0.10	0.03	0.30	0.37	0.33	0.33	0.37	0.33	0.20	0.13	0.33	0.30	0.27	0.37	0.33	0.37	0.33	0.33	0.37	0.00	0.00	0.00
SF3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DH8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BE58	0.05	0.02	0.15	0.18	0.17	0.17	0.18	0.17	0.10	0.07	0.17	0.15	0.13	0.18	0.17	0.18	0.17	0.17	0.18	0.00	0.00	0.00
PA31	0.03	0.03	0.15	0.17	0.17	0.18	0.17	0.18	0.10	0.07	0.18	0.15	0.13	0.17	0.18	0.17	0.18	0.17	0.17	0.00	0.00	0.00
737	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
753	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BE20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A320	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MD10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.18

Source: Harris Miller Miller & Hanson and Leigh Fisher Associates, 2005.

Aircraft Taxi/Queue Operational Data Used in Support of the Air Quality Analysis, Alternative 2 Nighttime Minutes by Position 2 of 2

A/C Type	X12a	X12b	X13	X14	X15	X16	X17	X18a	X18b	X2a	X2b	X3	X4	X5	X6	X7	X8	X9	Z1	Z2	Z3	Z4
ER3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ER4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ERD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
738	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
757	0.05	0.12	0.17	0.18	0.17	0.17	0.18	0.12	0.05	0.00	0.00	0.17	0.17	0.17	0.18	0.17	0.17	0.18	0.17	0.18	0.17	0.17
763	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
777	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AB6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
M80	0.05	0.12	0.17	0.18	0.17	0.17	0.18	0.12	0.05	0.00	0.00	0.17	0.17	0.17	0.18	0.17	0.17	0.18	0.17	0.18	0.17	0.17
M83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B762	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DC93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
319	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CRJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CR7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DH1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
343	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
320	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73H	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
739	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
767	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
744	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LJ35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BE1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
733	0.05	0.12	0.17	0.18	0.17	0.18	0.17	0.12	0.05	0.00	0.00	0.17	0.17	0.17	0.18	0.17	0.18	0.17	0.17	0.18	0.17	0.17
735	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73G	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B722	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
732	0.05	0.12	0.17	0.18	0.17	0.17	0.18	0.12	0.05	0.00	0.00	0.17	0.17	0.17	0.18	0.17	0.17	0.18	0.17	0.17	0.18	0.17
ERJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B72Q	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
H25B	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
330	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
332	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C56X	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F2TH	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A306	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A310	0.07	0.10	0.17	0.18	0.17	0.18	0.17	0.12	0.05	0.00	0.00	0.17	0.17	0.18	0.17	0.17	0.18	0.17	0.17	1.30	0.17	0.17
DC10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C525	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C550	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C750	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CL60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FA50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GLF4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LJ60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BE30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BE40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
P28A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PAY1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PC12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CRJ2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CNA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LJ25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LJ45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
717	0.05	0.12	0.17	0.18	0.17	0.18	0.17	0.12	0.05	0.00	0.00	0.17	0.17	0.17	0.18	0.17	0.18	0.17	0.17	0.62	0.17	0.17
AA5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BE02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
752	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
321	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
734	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SF3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DH8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BE58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PA31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
737	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
753	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BE20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A320	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MD10	0.07	0.10	0.18	0.17	0.17	0.18	0.17	0.12	0.05	0.00	0.00	0.17	0.17	0.18	0.17	0.17	0.18	0.17	0.17	0.18	0.17	0.17

Source: Harris Miller Miller & Hanson and Leigh Fisher Associates, 2005.