Runway 25L Closure Analysis

Los Angeles World Airports

Noise Management Division
Background

- Runway 25L closed on 7/29/06
- “Pre-Closure” Data:
  - March through July 2006
- “Post-Closure” Data:
  - August through November 2006
- Similar number of operations before and after runway closure
Introduction

• Runway Utilization Analysis
• Operations Analysis
• Noise Analysis
• Complaints Analysis
Runway Utilization Analysis

• Total operations
• Westerly operations
• Preferential runway usage of 24L/R
• Widebody aircraft operations
Total Operations by Runway Complex

Pre-Closure
- 24L/R & 6L/R: 46.9%
- 25L/R & 7L/R: 53.1%

Post-Closure
- 24L/R & 6L/R: 41.0%
- 25L/R & 7L/R: 59.0%

Percentage of All Operations
Westerly Departures – 24L/R & 25L/R

Pre-Closure

Post-Closure

Percentage of All Departures

0% 20% 40% 60%

39.9% 48.0% 50.2% 44.0%
Westerly Arrivals – 24L/R & 25L/R

Pre-Closure

24L/R: 46.3%
25L/R: 49.2%

Post-Closure

24L/R: 33.4%
25L/R: 63.7%

Percentage of All Arrivals
Westerly Arrivals 24L/R & 25L/R

Percentage of All Arrivals

We fly as

(25L Closure)
Preferential Runway Usage – 24 L/R Departures

Pre-Closure

Post-Closure

Percentage of All Departures on 24L/R
Preferential Runway Usage – 24 L/R Arrivals

Percentage of All Arrivals on 24L/R

- Pre-Closure:
  - 24R: 95.5%
  - 24L: 4.5%

- Post-Closure:
  - 24R: 91.9%
  - 24L: 8.1%
Widebody AC - Total Operations by Runway Complex

- Pre-Closure:
  - 24L/R & 6L/R: 41.3%
  - 25L/R & 7L/R: 58.7%

- Post-Closure:
  - 24L/R & 6L/R: 55.2%
  - 25L/R & 7L/R: 44.8%

Percentage of All Widebody Operations
Westerly Departures by Widebody AC – 24L/R & 25L/R

Pre-Closure
- 24L/R: 32.6%
- 25L/R: 65.4%

Post-Closure
- 24L/R: 41.1%
- 25L/R: 57.7%
Westerly Arrivals by Widebody AC – 24L/R & 25L/R

Pre-Closure
- 24L/R: 46.1%
- 25L/R: 47.0%

Post-Closure
- 24L/R: 29.3%
- 25L/R: 64.9%

Percentage of All Widebody Arrivals
Operations Analysis

- Over-ocean operations
- Easterly departures between 00:00 - 06:30
- Early turns – South
- Early turns – North
- Short turn arrivals
- Monterey Park overflights
- Go-arounds
- Loop departures
- Palos Verdes overflights
Over-ocean Arrivals Between 00:00 - 06:30

Over-ocean arrivals between 00:00-06:30 - deviations for weather and maintenance only

2005

Pre-Closure

Post-Closure

Average Daily Operations

We fly as
Summary of Deviations from Over-ocean Operations

<table>
<thead>
<tr>
<th>Date</th>
<th>Start</th>
<th>End</th>
<th>Duration (hrs.)</th>
<th>Reason</th>
<th>Arrivals</th>
</tr>
</thead>
<tbody>
<tr>
<td>08/10/06</td>
<td>2:50</td>
<td>3:47</td>
<td>0.9</td>
<td>South Runways Closed</td>
<td>4</td>
</tr>
<tr>
<td>08/21/06</td>
<td>2:00</td>
<td>6:30</td>
<td>4.5</td>
<td>Anticipated runway 25R closure</td>
<td>32</td>
</tr>
<tr>
<td>08/22/06</td>
<td>2:24</td>
<td>6:30</td>
<td>4.1</td>
<td>Runway Closure for Contractor Work</td>
<td>30</td>
</tr>
<tr>
<td>09/01/06</td>
<td>0:00</td>
<td>6:30</td>
<td>6.5</td>
<td>Runway and Taxiway closures</td>
<td>55</td>
</tr>
<tr>
<td>09/03/06</td>
<td>2:10</td>
<td>6:30</td>
<td>4.3</td>
<td>Runway 25R Electrical Maintenance</td>
<td>26</td>
</tr>
<tr>
<td>09/07/06</td>
<td>0:00</td>
<td>6:30</td>
<td>6.5</td>
<td>Runway 25R Rubber Removal Closure</td>
<td>44</td>
</tr>
<tr>
<td>09/13/06</td>
<td>2:00</td>
<td>6:30</td>
<td>4.5</td>
<td>Runway 25R Closed/Field Paint</td>
<td>32</td>
</tr>
<tr>
<td>09/21/06</td>
<td>2:55</td>
<td>6:30</td>
<td>3.6</td>
<td>Runway 25R closed for contract work</td>
<td>36</td>
</tr>
<tr>
<td>10/01/06</td>
<td>0:00</td>
<td>6:30</td>
<td>6.5</td>
<td>Runway 25R closed for contract work</td>
<td>31</td>
</tr>
<tr>
<td>10/02/06</td>
<td>2:18</td>
<td>6:30</td>
<td>4.2</td>
<td>Runway 25R closed for contract work</td>
<td>21</td>
</tr>
<tr>
<td>10/05/06</td>
<td>2:37</td>
<td>6:30</td>
<td>3.9</td>
<td>Runway 25R closed for LAWA painters and contractor</td>
<td>26</td>
</tr>
<tr>
<td>10/06/06</td>
<td>2:48</td>
<td>6:30</td>
<td>3.7</td>
<td>Runway 25R closed for fiber optic work</td>
<td>41</td>
</tr>
<tr>
<td>10/13/06</td>
<td>5:05</td>
<td>6:30</td>
<td>1.4</td>
<td>Runway 25R closed for LAWA electrician</td>
<td>19</td>
</tr>
<tr>
<td>10/23/06</td>
<td>3:21</td>
<td>6:30</td>
<td>3.2</td>
<td>Runway 25R closed for contractor</td>
<td>17</td>
</tr>
<tr>
<td>10/24/06</td>
<td>2:00</td>
<td>6:30</td>
<td>4.5</td>
<td>Runway 25R rubber removal</td>
<td>37</td>
</tr>
<tr>
<td>12/03/06</td>
<td>1:55</td>
<td>6:30</td>
<td>4.6</td>
<td>Runway closure 25R</td>
<td>22</td>
</tr>
<tr>
<td>12/04/06</td>
<td>2:00</td>
<td>6:30</td>
<td>4.5</td>
<td>Runway closure 25R</td>
<td>21</td>
</tr>
<tr>
<td>12/08/06</td>
<td>3:55</td>
<td>6:30</td>
<td>2.6</td>
<td>Runway closure 25R</td>
<td>33</td>
</tr>
</tbody>
</table>
Easterly Departures Between 00:00 and 06:30

Easterly departures between 00:00 and 06:30 during over-ocean operations or westerly operations.

<table>
<thead>
<tr>
<th></th>
<th>2005 Avg.</th>
<th>Pre-Closure</th>
<th>Post-Closure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Monthly Arrivals</td>
<td>6.7</td>
<td>5.8</td>
<td>2.8</td>
</tr>
</tbody>
</table>

We fly as ONE
Easterly Departures During Over-ocean Operations

Total Monthly Arrivals

- 2005 (Jets)
- 2006 (Jets)

(25L Closure)
Early Turns—South

Aircraft departing to west to maintain runway heading past shoreline before turning south.

Average Daily Operations

- Pre-Closure:
  - Jets: 3.9
  - Props: 5.7

- Post-Closure:
  - Jets: 5.0
  - Props: 6.8

We fly as...
Early Turns – North

Aircraft departing to west to maintain runway heading past shoreline before turning south

Early turn over Playa Del Rey

Average Daily Operations

Post-Closure

Pre-Closure
Short Turn Arrivals

Arriving jet aircraft to fly base leg of arrival over or east of the Harbor Freeway.
Monterey Park

Monitoring north arrivals extending downwind over Monterey Park boundary.
Go-Arounds

Monitoring pilot or ATC initiated go-arounds or missed approaches

Pre-Closure

Post-Closure

Average Daily Operations

North

South

0.0 0.5 1.0 1.5 2.0 2.5

We fly as
Go-Arounds

Average Daily Operations

(28L Closure)

Total
North
South

We fly as
LAX Loop Departure – Community Overflight

Monitoring loop departures overflying Manhattan Beach, Hermosa Beach, Redondo Beach

- **2005 Avg.**: 23.2
- **Pre-Closure**: 17.7
- **Post-Closure**: 9.6

Average Daily Operations

We fly as
Palos Verdes - Turboprops

Monitoring southbound turboprops departing LAX that overfly Peninsula

2005 Avg. 21.7
Pre-Closure 21.3
Post-Closure 19.4

Average Daily Operations

We fly as
Noise Analysis

• Data Analyzed:
  – Monthly dB CNEL at each noise monitor

• “Pre-Closure” Data:
  – March-July 2006

• “Post-Closure” Data:
  – September-November 2006
January 10, 2007

Noise Analysis

Post-Closure increase dB CNEL
× Post-Closure decrease dB CNEL
△ 3Q06 65 dB CNEL Contour

Noise Management Division
Complaints Analysis

• Data Analyzed:
  – Monthly Totals of Households Submitting Complaints

• “Pre-Closure” Data:
  – March-July 2006

• “Post-Closure” Data:
  – August-November 2006
Complaints – Total Households Submitting Complaints

All Cities

<table>
<thead>
<tr>
<th></th>
<th>Average Monthly Households</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004 Avg.</td>
<td>64.4</td>
</tr>
<tr>
<td>2005 Avg.</td>
<td>49.8</td>
</tr>
<tr>
<td>Pre-Closure</td>
<td>43.6</td>
</tr>
<tr>
<td>Post-Closure</td>
<td>67.0</td>
</tr>
</tbody>
</table>
Complaints – Total Households Submitting Complaints

Inglewood

Average Monthly Households

Pre-Closure: 9.0
Post-Closure: 17.8
Complaints – Total Households Submitting Complaints

Los Angeles

Average Monthly Households

- Pre-Closure: 4.6
- Post-Closure: 5.5

Noise Management Division
January 10, 2007
Complaints – Total Households Submitting Complaints

Monterey Park

Pre-Closure

Post-Closure

Average Monthly Households

Households

2.6

5.0

0.0  2.0  4.0  6.0

Noise Management Division
Complaints – Total Households Submitting Complaints

Westchester

Pre-Closure: 1.6
Post-Closure: 9.0

Average Monthly Households

0.0 2.0 4.0 6.0 8.0 10.0
Complaints – Total Households Submitting Complaints

Playa Del Rey

Pre-Closure: 2.0
Post-Closure: 6.3

Average Monthly Households

We fly as ONE
Complaints – Total Households Submitting Complaints

El Segundo

Pre-Closure

Post-Closure

Average Monthly Households

0.0  5.0  10.0  15.0
0.0  5.0  10.0  15.0

Households