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## **APPENDIX F**

# **1996 BASELINE AIRSIDE SIMULATION ASSUMPTIONS AND RESULTS**

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# Appendix F

## 1996 BASELINE AIRSIDE SIMULATION ASSUMPTIONS AND RESULTS

The airside performance of existing conditions (baseline) at Los Angeles International Airport (LAX) was defined by the Master Plan based on 1994 aircraft activity. Due to changes in the volume and characteristics of aircraft operations at LAX between 1994 and 1996, the airside performance baseline was updated to reflect 1996 activity. The assumptions and results of the 1994 airside performance analysis are documented in Chapter II of the LAX Master Plan - Existing Conditions Working Paper. This appendix presents the assumptions and results of the 1996 baseline airside performance analysis for LAX.

### 1 Operating Assumptions

Airside performance was defined in terms of aircraft taxi time, including delay and throughput, using simulation modeling. The FAA's SIMMOD model was used to conduct the simulations. The assumptions about the LAX operating environment are the same as those used in the 1994 airside simulations including the following:

- ◆ Primary Runway Operating Configurations
- ◆ Noise Abatement Procedures
- ◆ Airspace Operating Assumptions
- ◆ Airfield Operating Assumptions

These assumptions are described in Chapter II of the LAX Master Plan.

The design day schedule used for the 1996 baseline simulations was developed based on actual operations from August 18, 1996. This day was selected as representative of the Peak Month Average Weekday (PMAWD) in 1996. On this day, there were 2,239 arrivals and departures at LAX, 211 more than in the 1994 design day. **Tables V-F.1** through **V-F.3** provide a detailed breakdown of operations by hour, user, aircraft type and airspace fix.

**Table V-F.1 (1 of 3)**

**1996 HOURLY ARRIVAL OPERATIONS BY USER**

Time	Domestic Commercial Operations										GA & Military	Total
	Air Carrier				Commuter	Hawaii	Total	International	Cargo			
	Pacific/ Mountain	Central	Eastern	Total								
00:00 - 01:00	2	1	2	5	0	1	6	0	0	0	6	
01:00 - 02:00	1	0	1	2	0	0	2	0	1	0	3	
02:00 - 03:00	1	0	0	1	0	0	1	0	3	0	4	
03:00 - 04:00	0	0	0	0	0	0	0	0	4	1	5	
04:00 - 05:00	0	0	0	0	0	0	0	0	1	0	1	
05:00 - 06:00	0	0	0	0	0	6	6	0	3	0	9	
06:00 - 07:00	2	0	0	2	27	4	33	0	6	1	40	
07:00 - 08:00	23	1	0	24	22	0	46	0	1	2	49	
08:00 - 09:00	21	3	1	25	8	1	34	4	0	2	40	
09:00 - 10:00	27	5	4	36	25	0	61	5	0	2	68	
10:00 - 11:00	22	12	14	48	20	0	68	13	1	6	88	
11:00 - 12:00	25	9	12	46	26	0	72	12	1	2	87	
12:00 - 13:00	19	5	3	27	13	0	40	7	0	2	49	
13:00 - 14:00	16	8	5	29	14	0	43	5	0	5	53	
14:00 - 15:00	22	3	10	35	32	0	67	6	1	6	80	
15:00 - 16:00	22	6	1	29	11	1	41	9	1	3	54	
16:00 - 17:00	17	6	5	28	13	2	43	6	1	5	55	
17:00 - 18:00	27	4	7	38	26	1	65	7	4	5	81	
18:00 - 19:00	20	10	6	36	17	0	53	6	2	4	65	
19:00 - 20:00	23	6	10	39	21	0	60	6	6	2	74	
20:00 - 21:00	22	8	16	46	17	3	66	7	0	2	75	
21:00 - 22:00	22	7	5	34	25	3	62	10	0	3	75	
22:00 - 23:00	19	6	7	32	5	2	39	1	2	1	43	
23:00 - 24:00	6	6	1	13	0	1	14	3	0	0	17	
<b>TOTALS</b>	<b>359</b>	<b>106</b>	<b>110</b>	<b>575</b>	<b>322</b>	<b>25</b>	<b>922</b>	<b>107</b>	<b>38</b>	<b>54</b>	<b>1,121</b>	

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**Table V-F.1 (2 of 3)**

**1996 HOURLY DEPARTURE OPERATIONS BY USER**

Time	Domestic Commercial Operations										
	Air Carrier				Commuter	Hawaii	Total	International	Cargo	GA & Military	Total
	Pacific/ Mountain	Central	Eastern	Total							
00:00 - 01:00	0	3	1	<b>4</b>	0	0	<b>4</b>	1	0	0	<b>5</b>
01:00 - 02:00	0	5	0	<b>5</b>	0	0	<b>5</b>	5	0	0	<b>10</b>
02:00 - 03:00	0	1	1	<b>2</b>	0	0	<b>2</b>	1	3	0	<b>6</b>
03:00 - 04:00	0	0	0	<b>0</b>	0	0	<b>0</b>	0	4	0	<b>4</b>
04:00 - 05:00	0	0	0	<b>0</b>	0	0	<b>0</b>	0	1	0	<b>1</b>
05:00 - 06:00	2	0	0	<b>2</b>	0	0	<b>2</b>	0	3	0	<b>5</b>
06:00 - 07:00	25	4	2	<b>31</b>	7	0	<b>38</b>	0	6	0	<b>44</b>
07:00 - 08:00	26	8	8	<b>42</b>	25	0	<b>67</b>	3	4	5	<b>79</b>
08:00 - 09:00	24	8	17	<b>49</b>	16	2	<b>67</b>	5	1	2	<b>75</b>
09:00 - 10:00	16	8	6	<b>30</b>	15	3	<b>48</b>	7	0	5	<b>60</b>
10:00 - 11:00	25	7	6	<b>38</b>	22	3	<b>63</b>	4	0	5	<b>72</b>
11:00 - 12:00	25	7	5	<b>37</b>	15	3	<b>55</b>	9	0	3	<b>67</b>
12:00 - 13:00	20	9	14	<b>43</b>	35	5	<b>83</b>	9	1	3	<b>96</b>
13:00 - 14:00	18	8	9	<b>35</b>	12	0	<b>47</b>	12	0	3	<b>62</b>
14:00 - 15:00	18	7	5	<b>30</b>	14	1	<b>45</b>	5	0	6	<b>56</b>
15:00 - 16:00	18	5	9	<b>32</b>	30	3	<b>65</b>	6	1	3	<b>75</b>
16:00 - 17:00	22	5	1	<b>28</b>	9	0	<b>37</b>	4	0	3	<b>44</b>
17:00 - 18:00	25	8	0	<b>33</b>	18	1	<b>52</b>	6	1	3	<b>62</b>
18:00 - 19:00	23	4	0	<b>27</b>	22	2	<b>51</b>	3	0	3	<b>57</b>
19:00 - 20:00	28	1	0	<b>29</b>	26	0	<b>55</b>	4	10	3	<b>72</b>
20:00 - 21:00	17	0	0	<b>17</b>	12	0	<b>29</b>	4	2	3	<b>38</b>
21:00 - 22:00	20	0	2	<b>22</b>	15	1	<b>38</b>	1	1	1	<b>41</b>
22:00 - 23:00	6	0	17	<b>23</b>	23	0	<b>46</b>	7	0	3	<b>56</b>
23:00 - 24:00	1	6	9	<b>16</b>	6	0	<b>22</b>	9	0	0	<b>31</b>
<b>TOTALS</b>	<b>359</b>	<b>104</b>	<b>112</b>	<b>575</b>	<b>322</b>	<b>24</b>	<b>921</b>	<b>105</b>	<b>38</b>	<b>54</b>	<b>1,118</b>

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**Table V-F.1 (3 of 3)**

**1996 HOURLY TOTAL OPERATIONS BY USER**

Time	Domestic Commercial Operations							International	Cargo	GA & Military	Total
	Air Carrier				Commuter	Hawaii	Total				
	Pacific/ Mountain	Central	Eastern	Total							
00:00 - 01:00	2	4	3	<b>9</b>	0	1	<b>10</b>	1	0	0	<b>11</b>
01:00 - 02:00	1	5	1	<b>7</b>	0	0	<b>7</b>	5	1	0	<b>13</b>
02:00 - 03:00	1	1	1	<b>3</b>	0	0	<b>3</b>	1	6	0	<b>10</b>
03:00 - 04:00	0	0	0	<b>0</b>	0	0	<b>0</b>	0	8	1	<b>9</b>
04:00 - 05:00	0	0	0	<b>0</b>	0	0	<b>0</b>	0	2	0	<b>2</b>
05:00 - 06:00	2	0	0	<b>2</b>	0	6	<b>8</b>	0	6	0	<b>14</b>
06:00 - 07:00	27	4	2	<b>33</b>	34	4	<b>71</b>	0	12	1	<b>84</b>
07:00 - 08:00	49	9	8	<b>66</b>	47	0	<b>113</b>	3	5	7	<b>128</b>
08:00 - 09:00	45	11	18	<b>74</b>	24	3	<b>101</b>	9	1	4	<b>115</b>
09:00 - 10:00	43	13	10	<b>66</b>	40	3	<b>109</b>	12	0	7	<b>128</b>
10:00 - 11:00	47	19	20	<b>86</b>	42	3	<b>131</b>	17	1	11	<b>160</b>
11:00 - 12:00	50	16	17	<b>83</b>	41	3	<b>127</b>	21	1	5	<b>154</b>
12:00 - 13:00	39	14	17	<b>70</b>	48	5	<b>123</b>	16	1	5	<b>145</b>
13:00 - 14:00	34	16	14	<b>64</b>	26	0	<b>90</b>	17	0	8	<b>115</b>
14:00 - 15:00	40	10	15	<b>65</b>	46	1	<b>112</b>	11	1	12	<b>136</b>
15:00 - 16:00	40	11	10	<b>61</b>	41	4	<b>106</b>	15	2	6	<b>129</b>
16:00 - 17:00	39	11	6	<b>56</b>	22	2	<b>80</b>	10	1	8	<b>99</b>
17:00 - 18:00	52	12	7	<b>71</b>	44	2	<b>117</b>	13	5	8	<b>143</b>
18:00 - 19:00	43	14	6	<b>63</b>	39	2	<b>104</b>	9	2	7	<b>122</b>
19:00 - 20:00	51	7	10	<b>68</b>	47	0	<b>115</b>	10	16	5	<b>146</b>
20:00 - 21:00	39	8	16	<b>63</b>	29	3	<b>95</b>	11	2	5	<b>113</b>
21:00 - 22:00	42	7	7	<b>56</b>	40	4	<b>100</b>	11	1	4	<b>116</b>
22:00 - 23:00	25	6	24	<b>55</b>	28	2	<b>85</b>	8	2	4	<b>99</b>
23:00 - 24:00	7	12	10	<b>29</b>	6	1	<b>36</b>	12	0	0	<b>48</b>
<b>TOTALS</b>	<b>718</b>	<b>210</b>	<b>222</b>	<b>1,150</b>	<b>644</b>	<b>49</b>	<b>1,843</b>	<b>212</b>	<b>76</b>	<b>108</b>	<b>2,239</b>

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**Table V-F.2 (1 of 6)**

**1996 ARRIVAL OPERATIONS BY AIRCRAFT TYPE**

Air Carrier Operations																												
Hour	146	32S	72S	733	734	735	737	73S	743	744	747	74E	757	763	767	777	AB3	D10	D9S	DC8	DC9	L10	L15	M11	M1M	M80	M87	Subtotal
0	0	1	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	1	0	<b>6</b>
1	0	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	<b>3</b>
2	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	<b>4</b>
3	0	0	3	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	<b>5</b>
4	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	<b>1</b>
5	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	4	0	2	0	1	0	0	0	0	0	<b>9</b>
6	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	1	0	0	0	0	0	<b>10</b>
7	0	0	0	13	0	5	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	1	0	0	0	1	1	<b>24</b>
8	1	3	2	8	1	4	0	2	1	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	2	<b>30</b>
9	0	2	3	14	1	3	0	0	0	2	0	0	7	1	2	0	0	1	0	0	0	1	0	0	0	4	0	<b>41</b>
10	1	5	1	12	0	5	1	1	0	4	4	0	9	2	3	0	0	2	0	0	1	2	0	0	0	8	1	<b>62</b>
11	2	2	3	16	0	3	0	0	0	6	0	1	9	1	4	0	0	4	0	1	0	0	0	2	0	5	0	<b>59</b>
12	0	2	3	6	1	5	0	0	0	3	1	0	5	0	0	0	0	1	0	0	0	1	0	1	0	5	0	<b>34</b>
13	0	2	0	9	0	2	0	2	0	2	1	0	3	0	1	0	0	2	0	0	1	2	0	1	0	5	1	<b>34</b>
14	1	2	2	10	0	5	1	1	0	2	0	0	8	1	2	0	0	1	0	1	0	0	0	1	0	4	0	<b>42</b>
15	0	3	3	8	0	5	0	0	0	3	3	0	1	0	2	0	0	0	0	0	1	0	0	0	0	9	1	<b>39</b>
16	1	2	1	9	0	3	0	1	0	0	0	1	4	0	1	0	0	3	1	0	1	1	0	2	0	6	0	<b>37</b>
17	0	3	9	14	0	4	1	0	0	0	0	0	5	3	1	0	0	3	0	2	0	2	0	0	0	3	0	<b>50</b>
18	0	5	2	10	0	4	0	2	0	1	1	0	3	0	3	1	0	2	0	0	0	1	0	0	1	7	0	<b>43</b>
19	1	2	4	11	0	5	0	0	0	1	2	0	6	1	2	1	1	2	0	0	1	1	0	0	0	6	1	<b>48</b>
20	0	5	5	11	0	6	0	2	0	1	2	0	5	1	4	0	1	2	0	0	0	1	1	0	0	7	1	<b>55</b>
21	0	3	1	8	1	4	1	1	0	0	0	1	10	2	2	0	0	5	0	0	2	0	0	0	0	6	0	<b>47</b>
22	1	2	1	9	0	4	0	0	0	0	0	0	5	2	3	0	0	0	0	0	0	3	0	0	0	5	0	<b>35</b>
<u>23</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>5</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>3</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>3</u>	<u>0</u>	<b><u>17</u></b>
<b>Total</b>	<b>8</b>	<b>46</b>	<b>45</b>	<b>175</b>	<b>5</b>	<b>68</b>	<b>4</b>	<b>13</b>	<b>1</b>	<b>27</b>	<b>18</b>	<b>3</b>	<b>89</b>	<b>14</b>	<b>33</b>	<b>2</b>	<b>2</b>	<b>38</b>	<b>3</b>	<b>10</b>	<b>7</b>	<b>20</b>	<b>1</b>	<b>7</b>	<b>1</b>	<b>87</b>	<b>8</b>	<b>735</b>

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**Table V-F.2 (2 of 6)**

**1996 ARRIVAL OPERATIONS BY AIRCRAFT TYPE**

Commuter Operations

Hour	BE1	CNA	EM2	GAJ	J31	SF3	SWM	F28	Subtotal	Total
0	0	0	0	0	0	0	0	0	0	<b>6</b>
1	0	0	0	0	0	0	0	0	0	<b>3</b>
2	0	0	0	0	0	0	0	0	0	<b>4</b>
3	0	0	0	0	0	0	0	0	0	<b>5</b>
4	0	0	0	0	0	0	0	0	0	<b>1</b>
5	0	0	0	0	0	0	0	0	0	<b>9</b>
6	8	0	5	1	9	4	3	0	30	<b>40</b>
7	4	2	7	0	6	4	1	1	25	<b>49</b>
8	3	1	2	0	2	2	0	0	10	<b>40</b>
9	6	2	11	0	4	2	2	0	27	<b>68</b>
10	3	5	7	1	7	2	1	0	26	<b>88</b>
11	3	2	8	0	7	4	4	0	28	<b>87</b>
12	5	2	2	0	3	3	0	0	15	<b>49</b>
13	2	4	4	1	4	3	1	0	19	<b>53</b>
14	6	4	10	2	9	4	3	0	38	<b>80</b>
15	4	2	3	1	1	3	0	1	15	<b>54</b>
16	1	4	2	1	8	2	0	0	18	<b>55</b>
17	6	4	11	1	3	2	4	0	31	<b>81</b>
18	5	3	5	1	5	3	0	0	22	<b>65</b>
19	7	2	7	0	4	3	3	0	26	<b>74</b>
20	5	2	1	0	5	5	1	1	20	<b>75</b>
21	1	3	10	0	8	3	3	0	28	<b>75</b>
22	3	1	2	0	1	1	0	0	8	<b>43</b>
<u>23</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<b><u>17</u></b>
<b>Total</b>	<b>72</b>	<b>43</b>	<b>97</b>	<b>9</b>	<b>86</b>	<b>50</b>	<b>26</b>	<b>3</b>	<b>386</b>	<b>1121</b>

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**Table V-F.2 (3 of 6)**

**1996 DEPARTURE OPERATIONS BY AIRCRAFT TYPE**

Air Carrier Operations																												
Hour	146	32S	72S	733	734	735	737	73S	743	744	747	74E	757	763	767	777	AB3	D10	D9S	DC8	DC9	L10	L15	M11	M1M	M80	M87	Subtotal
0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	5
1	0	2	1	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	3	0	10
2	0	1	0	0	0	0	0	0	0	1	2	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	6
3	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	5
6	0	1	3	9	1	7	0	1	0	0	0	0	2	2	0	1	0	0	0	0	0	2	0	0	0	4	0	33
7	1	2	3	13	0	3	0	0	0	0	0	0	8	2	3	0	0	3	0	2	1	1	0	0	0	6	0	48
8	1	2	0	11	0	6	1	1	0	0	2	0	6	1	5	1	1	2	1	1	2	3	1	0	0	6	2	56
9	0	3	4	7	2	4	0	1	1	0	0	0	1	1	2	0	0	3	0	0	0	1	0	0	0	9	1	40
10	0	3	4	18	1	3	0	0	0	0	0	0	7	0	3	0	0	1	0	0	0	3	0	0	0	2	1	46
11	2	2	1	14	0	4	1	1	0	2	1	0	6	0	2	0	0	4	0	0	1	1	0	1	0	6	0	49
12	0	3	5	8	0	6	0	0	0	3	3	0	11	3	3	0	0	6	0	0	0	1	0	0	0	6	0	58
13	1	2	2	10	1	1	0	1	0	6	1	1	8	1	3	0	0	1	0	0	0	0	0	3	0	4	1	47
14	0	3	0	7	0	6	0	1	0	2	0	0	4	0	1	0	0	0	0	0	1	3	0	1	0	7	0	36
15	0	2	2	9	0	4	1	1	0	3	1	0	8	0	1	0	0	5	0	0	1	0	0	0	0	3	1	42
16	1	2	3	11	0	2	0	0	0	0	2	0	1	0	1	0	0	0	0	0	1	0	0	0	0	7	0	31
17	1	4	1	11	0	4	0	1	0	3	0	0	2	1	0	0	0	2	1	1	0	1	0	0	0	8	0	41
18	0	2	3	13	0	3	1	1	0	0	0	0	2	0	1	0	0	0	0	0	0	1	0	0	0	5	0	32
19	0	2	7	9	0	5	0	1	0	0	0	0	4	1	0	0	0	1	0	6	0	1	0	1	0	4	1	43
20	1	1	1	8	0	4	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	1	1	2	0	22
21	0	1	1	7	0	4	0	3	0	0	0	0	2	0	1	0	0	2	0	0	0	0	0	0	0	1	1	23
22	0	4	2	4	0	1	0	0	0	3	1	1	6	1	4	0	0	2	0	0	0	1	0	0	0	0	0	30
<u>23</u>	<u>0</u>	<u>2</u>	<u>0</u>	<u>4</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>9</u>	<u>0</u>	<u>2</u>	<u>0</u>	<u>1</u>	<u>3</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>3</u>	<u>0</u>	<u>25</u>
<b>Total</b>	<b>8</b>	<b>44</b>	<b>46</b>	<b>175</b>	<b>5</b>	<b>67</b>	<b>4</b>	<b>13</b>	<b>1</b>	<b>26</b>	<b>17</b>	<b>3</b>	<b>90</b>	<b>14</b>	<b>32</b>	<b>2</b>	<b>2</b>	<b>38</b>	<b>3</b>	<b>10</b>	<b>7</b>	<b>21</b>	<b>1</b>	<b>7</b>	<b>1</b>	<b>87</b>	<b>8</b>	<b>732</b>

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**Table V-F.2 (4 of 6)**

**1996 DEPARTURE OPERATIONS BY AIRCRAFT TYPE**

Commuter Operations

<u>Hour</u>	<u>BE1</u>	<u>CNA</u>	<u>EM2</u>	<u>GAJ</u>	<u>J31</u>	<u>SF3</u>	<u>SWM</u>	<u>F28</u>	<u>Subtotal</u>	<u>Total</u>
0	0	0	0	0	0	0	0	0	0	5
1	0	0	0	0	0	0	0	0	0	10
2	0	0	0	0	0	0	0	0	0	6
3	1	0	0	0	0	0	0	0	1	4
4	0	0	0	0	0	0	0	0	0	1
5	0	0	0	0	0	0	0	0	0	5
6	6	0	2	0	0	1	2	0	11	44
7	8	3	7	1	8	3	1	0	31	79
8	3	2	3	0	6	3	1	1	19	75
9	2	5	5	0	4	4	0	0	20	60
10	7	3	8	1	3	2	2	0	26	72
11	2	2	7	1	3	2	1	0	18	67
12	3	2	8	1	14	6	4	0	38	96
13	6	2	3	1	1	2	0	0	15	62
14	0	5	6	1	4	3	1	0	20	56
15	9	2	8	1	9	1	3	0	33	75
16	1	2	2	1	1	5	0	1	13	44
17	6	3	4	0	5	2	1	0	21	62
18	4	3	9	0	3	3	3	0	25	57
19	2	3	10	0	9	3	2	0	29	72
20	7	2	2	1	1	2	1	0	16	38
21	3	1	2	0	7	4	0	1	18	41
22	2	3	10	0	5	4	2	0	26	56
<u>23</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>3</u>	<u>0</u>	<u>2</u>	<u>0</u>	<u>6</u>	<u>31</u>
<b>Total</b>	<b>72</b>	<b>43</b>	<b>97</b>	<b>9</b>	<b>86</b>	<b>50</b>	<b>26</b>	<b>3</b>	<b>386</b>	<b>1118</b>

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**Table V-F.2 (5 of 6)**

**1996 TOTAL OPERATIONS BY AIRCRAFT TYPE**

Air Carrier Operations																												
Hour	146	32S	72S	733	734	735	737	73S	743	744	747	74E	757	763	767	777	AB3	D10	D9S	DC8	DC9	L10	L15	M11	M1M	M80	M87	Subtotal
0	0	1	1	1	0	0	0	1	0	0	0	1	2	0	0	0	0	1	0	0	0	1	0	0	0	2	0	11
1	0	2	1	1	0	0	0	0	0	1	1	0	2	1	0	0	0	0	0	0	0	1	0	0	0	3	0	13
2	0	2	0	0	0	0	0	0	0	1	3	0	1	0	0	0	0	1	2	0	0	0	0	0	0	0	0	10
3	0	0	4	0	0	0	0	0	0	0	3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	8
4	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5	0	0	1	1	0	0	0	0	0	0	1	0	2	0	0	0	0	6	0	2	0	1	0	0	0	0	0	14
6	0	1	4	10	1	8	0	1	0	0	0	0	2	2	0	1	0	3	0	3	0	3	0	0	0	4	0	43
7	1	2	3	26	0	8	0	0	0	0	0	0	9	2	3	0	0	3	1	3	1	2	0	0	0	7	1	72
8	2	5	2	19	1	10	1	3	1	1	3	0	8	1	5	1	1	2	1	1	2	3	1	0	0	8	4	86
9	0	5	7	21	3	7	0	1	1	2	0	0	8	2	4	0	0	4	0	0	0	2	0	0	0	13	1	81
10	1	8	5	30	1	8	1	1	0	4	4	0	16	2	6	0	0	3	0	0	1	5	0	0	0	10	2	108
11	4	4	4	30	0	7	1	1	0	8	1	1	15	1	6	0	0	8	0	1	1	1	0	3	0	11	0	108
12	0	5	8	14	1	11	0	0	0	6	4	0	16	3	3	0	0	7	0	0	0	2	0	1	0	11	0	92
13	1	4	2	19	1	3	0	3	0	8	2	1	11	1	4	0	0	3	0	0	1	2	0	4	0	9	2	81
14	1	5	2	17	0	11	1	2	0	4	0	0	12	1	3	0	0	1	0	1	1	3	0	2	0	11	0	78
15	0	5	5	17	0	9	1	1	0	6	4	0	9	0	3	0	0	5	0	0	2	0	0	0	0	12	2	81
16	2	4	4	20	0	5	0	1	0	0	2	1	5	0	2	0	0	3	1	0	2	1	0	2	0	13	0	68
17	1	7	10	25	0	8	1	1	0	3	0	0	7	4	1	0	0	5	1	3	0	3	0	0	0	11	0	91
18	0	7	5	23	0	7	1	3	0	1	1	0	5	0	4	1	0	2	0	0	0	2	0	0	1	12	0	75
19	1	4	11	20	0	10	0	1	0	1	2	0	10	2	2	1	1	3	0	6	1	2	0	1	0	10	2	91
20	1	6	6	19	0	10	0	2	0	2	2	0	6	1	4	0	1	3	0	0	0	1	1	1	1	9	1	77
21	0	4	2	15	1	8	1	4	0	0	0	1	12	2	3	0	0	7	0	0	2	0	0	0	0	7	1	70
22	1	6	3	13	0	5	0	0	0	3	1	1	11	3	7	0	0	2	0	0	0	4	0	0	0	5	0	65
23	0	3	1	9	1	0	0	0	0	2	0	0	9	0	5	0	1	3	0	0	0	2	0	0	0	6	0	42
<b>Total</b>	<b>16</b>	<b>90</b>	<b>91</b>	<b>350</b>	<b>10</b>	<b>135</b>	<b>8</b>	<b>26</b>	<b>2</b>	<b>53</b>	<b>35</b>	<b>6</b>	<b>179</b>	<b>28</b>	<b>65</b>	<b>4</b>	<b>4</b>	<b>76</b>	<b>6</b>	<b>20</b>	<b>14</b>	<b>41</b>	<b>2</b>	<b>14</b>	<b>2</b>	<b>174</b>	<b>16</b>	<b>1467</b>

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**Table V-F.2 (6 of 6)**

**1996 TOTAL OPERATIONS BY AIRCRAFT TYPE**

**Commuter Operations**

<u>Hour</u>	<u>BE1</u>	<u>CNA</u>	<u>EM2</u>	<u>GAJ</u>	<u>J31</u>	<u>SF3</u>	<u>SWM</u>	<u>F28</u>	<u>Subtotal</u>	<u>Total</u>
0	0	0	0	0	0	0	0	0	0	<b>11</b>
1	0	0	0	0	0	0	0	0	0	<b>13</b>
2	0	0	0	0	0	0	0	0	0	<b>10</b>
3	1	0	0	0	0	0	0	0	1	<b>9</b>
4	0	0	0	0	0	0	0	0	0	<b>2</b>
5	0	0	0	0	0	0	0	0	0	<b>14</b>
6	14	0	7	1	9	5	5	0	41	<b>84</b>
7	12	5	14	1	14	7	2	1	56	<b>128</b>
8	6	3	5	0	8	5	1	1	29	<b>115</b>
9	8	7	16	0	8	6	2	0	47	<b>128</b>
10	10	8	15	2	10	4	3	0	52	<b>160</b>
11	5	4	15	1	10	6	5	0	46	<b>154</b>
12	8	4	10	1	17	9	4	0	53	<b>145</b>
13	8	6	7	2	5	5	1	0	34	<b>115</b>
14	6	9	16	3	13	7	4	0	58	<b>136</b>
15	13	4	11	2	10	4	3	1	48	<b>129</b>
16	2	6	4	2	9	7	0	1	31	<b>99</b>
17	12	7	15	1	8	4	5	0	52	<b>143</b>
18	9	6	14	1	8	6	3	0	47	<b>122</b>
19	9	5	17	0	13	6	5	0	55	<b>146</b>
20	12	4	3	1	6	7	2	1	36	<b>113</b>
21	4	4	12	0	15	7	3	1	46	<b>116</b>
22	5	4	12	0	6	5	2	0	34	<b>99</b>
<u>23</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>3</u>	<u>0</u>	<u>2</u>	<u>0</u>	<u>6</u>	<u><b>48</b></u>
<b>Total</b>	<b>144</b>	<b>86</b>	<b>194</b>	<b>18</b>	<b>172</b>	<b>100</b>	<b>52</b>	<b>6</b>	<b>772</b>	<b>2239</b>

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**Table V-F.3 (1 of 2)**

**1996 HOURLY ARRIVAL OPERATIONS BY FIX**

TIME	Jet Arrival Fix					Turboprop Arrival Fix				Total
	CIVET	FILLMORE	KRAUZ	SANTA CATALINA	VENTURA	DARTS /1	KRAUZ /2	PARADISE /3	VENTURA /4	
00:00 - 01:00	4	1	0	0	1	0	0	0	0	6
01:00 - 02:00	3	0	0	0	0	0	0	0	0	3
02:00 - 03:00	3	1	0	0	0	0	0	0	0	4
03:00 - 04:00	3	0	2	0	0	0	0	0	0	5
04:00 - 05:00	1	0	0	0	0	0	0	0	0	1
05:00 - 06:00	3	0	0	0	6	0	0	0	0	9
06:00 - 07:00	6	0	0	0	4	10	2	7	11	40
07:00 - 08:00	12	10	2	0	0	5	10	3	7	49
08:00 - 09:00	16	10	3	0	1	0	5	2	3	40
09:00 - 10:00	20	17	3	1	0	5	6	5	11	68
10:00 - 11:00	34	20	6	2	0	6	8	5	7	88
11:00 - 12:00	33	23	3	0	0	8	9	4	7	87
12:00 - 13:00	20	10	3	1	0	4	5	1	5	49
13:00 - 14:00	24	9	1	0	0	0	10	5	4	53
14:00 - 15:00	22	15	4	1	0	8	8	11	11	80
15:00 - 16:00	19	14	4	1	1	4	4	4	3	54
16:00 - 17:00	24	8	3	0	2	1	7	4	6	55
17:00 - 18:00	31	14	4	0	1	5	9	7	10	81
18:00 - 19:00	24	16	3	0	0	4	7	2	9	65
19:00 - 20:00	23	17	3	0	0	3	7	0	0	43
20:00 - 21:00	34	13	5	0	3	4	8	3	5	75
21:00 - 22:00	20	17	7	0	3	7	9	4	8	73
22:00 - 23:00	23	9	1	0	2	0	6	1	1	43
23:00 - 24:00	7	5	4	0	1	0	0	0	0	17
<b>Totals</b>	<b>415</b>	<b>226</b>	<b>63</b>	<b>6</b>	<b>25</b>	<b>74</b>	<b>120</b>	<b>76</b>	<b>116</b>	<b>1,121</b>

/1 includes BUR      /3 includes ONT

/2 includes SNA      /4 includes SBA

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**Table V-F.3 (2 of 2)**

**1996 HOURLY DEPARTURE OPERATIONS BY FIX**

TIME	Jet Departure Fix					Turboprop Departure Fix				Total
	DAGGET	EXERT	GORMAN	MISSION BAY/ OCEANSIDE	THERMAL	GORMAN /1	OCEANSIDE /2	PARADISE /3	VENTURA /4	
00:00 - 01:00	1	1	0	0	3	0	0	0	0	5
01:00 - 02:00	1	1	0	4	4	0	0	0	0	10
02:00 - 03:00	1	3	0	0	2	0	0	0	0	6
03:00 - 04:00	0	1	0	0	2	0	1	0	0	4
04:00 - 05:00	0	1	0	0	0	0	0	0	0	1
05:00 - 06:00	0	0	2	0	3	0	0	0	0	5
06:00 - 07:00	7	7	8	1	10	3	2	1	5	44
07:00 - 08:00	6	7	8	4	23	7	10	5	9	79
08:00 - 09:00	10	6	6	3	31	4	5	4	6	75
09:00 - 10:00	3	9	7	6	15	5	6	3	6	60
10:00 - 11:00	7	7	8	4	20	5	8	5	8	72
11:00 - 12:00	10	12	6	7	14	3	7	3	5	67
12:00 - 13:00	6	13	6	4	29	8	13	7	10	96
13:00 - 14:00	8	10	7	1	21	3	4	2	6	62
14:00 - 15:00	6	8	5	2	15	4	7	4	5	56
15:00 - 16:00	6	7	7	3	19	6	9	8	10	75
16:00 - 17:00	8	6	7	2	8	2	4	4	3	44
17:00 - 18:00	7	9	6	3	16	2	8	2	9	62
18:00 - 19:00	6	7	10	1	8	6	8	5	6	57
19:00 - 20:00	8	6	12	2	15	5	10	5	9	72
20:00 - 21:00	4	4	5	1	8	5	3	3	5	38
21:00 - 22:00	5	4	5	2	7	4	8	2	4	41
22:00 - 23:00	3	5	1	1	20	5	6	5	10	56
23:00 - 24:00	2	1	0	8	14	1	2	3	0	31
<b>Totals</b>	<b>115</b>	<b>135</b>	<b>116</b>	<b>59</b>	<b>307</b>	<b>78</b>	<b>121</b>	<b>71</b>	<b>116</b>	<b>1,118</b>

/1 includes BUR      /3 includes ONT

/2 includes SNA      /4 includes SBA

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## 2 Methodology for Measuring Performance

The activity in the 1996 design day flight schedule was simulated for the four primary runway operating configurations at LAX which are:

- ◆ West Flow Visual Approaches (Visual)
- ◆ West Flow VFR Instrument Approaches (ILS)
- ◆ West Flow IMC (IFR)
- ◆ East Flow Instrument Approaches (East)

Delay, taxi time, and throughput statistics were collected and summarized for each of the cases simulated and are presented in the following section. Refer to Chapter II of the LAX Master Plan for detailed definitions of the performance statistics.

Two methods were used to measure aircraft delays in cases where, due to the difference between demand and capacity, arrival delays reached excessive levels. These methods are:

- ◆ Without Flight Cancellations
- ◆ With Flight Cancellations

In the first method, delays are estimated assuming that all of the demand scheduled at LAX is processed. In cases of high delay, this results in a significant amount of activity occurring at the Airport after midnight. In the second method, flights are canceled such that the remaining activity is processed by midnight. Only commuter and general aviation flights were canceled since the number of cancellations required was low.

Under both methods, flow control was applied when excessive arrival airspace delays were observed. The flow control process reschedules arrivals to later hours in the day such that the anticipated demand does not exceed the hourly acceptance rate at LAX. The arrival delay that is a direct result of a flow control program is recorded as flow delay that takes place at the origin airport.

### 3 Performance Results

Tables V-F.4 through V-F.7 summarize aircraft delay, unimpeded taxi time, and runway throughput statistics for arrivals and departures by runway operating configuration with and without flight cancellations. In addition, annualized delay and throughput averages are also presented for VFR, IFR, and all weather. Average delay and unimpeded taxi time results without cancellations are summarized below in Table V-F.8.

Table V-F.8

1996 AVERAGE DELAY AND UNIMPEDED TAXI TIME SUMMARY  
WITHOUT CANCELLATIONS

Configuration	Average Minutes Per Operation		
	Delay	Unimpeded Taxi Time	Total Delay and Taxi Time
VFR Visual West Flow	6.05	7.86	13.90
VFR ILS West Flow	9.74	7.98	17.72
VFR ILS East Flow	32.71	8.71	41.41
IFR West Flow	17.83	8.11	25.93
All Weather Annual Average	9.21	7.95	17.16

Source: SIMMOD Simulation Output

VFR visual west flow has the lowest delay of 6.05 minutes followed by VFR ILS west flow, then IFR west flow. The VFR east flow operation has a significantly higher delay of 32.71 minutes. Unimpeded taxi time is very similar for all the west flow configurations as would be expected. Unimpeded taxi time for east flow operations is almost one minute higher than for west flow operations due mostly to the length of the departure taxi route to Runways 6R and 7L.

The VFR ILS west flow, IFR, and VFR ILS east flow cases yielded unreasonably high arrival airspace delays which required the application of flow control. The flight schedule for these cases was submitted through a flow control process before running the airside simulations with the SIMMOD model. Table V-F.9 summarizes the resulting flow control delay and corresponding hourly acceptance rate for each runway operating configuration.

Table V-F.4

AVERAGE DELAY AND UNIMPEDED TAXI TIME - YEAR 1996 ( 2,239 OPERATIONS ) , WITHOUT CANCELLATIONS

Configuration	Annual Use	Average Delay (Minutes per Operation)										
		Arrivals				Departures			Average			
		Flow	Airspace	Ground	Total	Airspace	Ground	Total	Flow	Airspace	Ground	Total
VFR Visual West Flow	69.70%	0.00	4.27	1.29	5.56	0.31	6.23	6.54	0.00	2.29	3.76	6.05
VFR ILS West Flow	15.49%	6.76	7.03	0.94	14.73	0.25	4.48	4.73	3.38	3.64	2.71	9.74
VFR East Flow	5.71%	45.02	7.40	2.24	54.66	0.30	10.40	10.70	22.54	3.85	6.31	32.71
<b>Average VFR</b>	<b>90.90%</b>	<b>3.98</b>	<b>4.94</b>	<b>1.29</b>	<b>10.21</b>	<b>0.30</b>	<b>6.19</b>	<b>6.49</b>	<b>1.99</b>	<b>2.62</b>	<b>3.74</b>	<b>8.35</b>
IFR West Flow	9.10%	19.95	4.35	1.35	25.65	0.29	9.69	9.98	9.99	2.32	5.51	17.83
<b>Average All Weather</b>	<b>100.00%</b>	<b>5.43</b>	<b>4.88</b>	<b>1.30</b>	<b>11.61</b>	<b>0.30</b>	<b>6.51</b>	<b>6.81</b>	<b>2.72</b>	<b>2.59</b>	<b>3.90</b>	<b>9.21</b>

Configuration	Annual Use	Average Unimpeded Taxi Time (Minutes per Operation)		
		Arrivals	Departures	Average
		VFR Visual West Flow	69.70%	6.71
VFR ILS West Flow	15.49%	6.91	9.05	7.98
VFR East Flow	5.71%	6.74	10.67	8.71
<b>Average VFR</b>	<b>90.90%</b>	<b>6.75</b>	<b>9.11</b>	<b>7.93</b>
IFR West Flow	9.10%	6.86	9.35	8.11
<b>Average All Weather</b>	<b>100.00%</b>	<b>6.76</b>	<b>9.13</b>	<b>7.95</b>

Configuration	Annual Use	Average Delay and Unimpeded Taxi Time (Minutes per Operation)		
		Arrivals	Departures	Average
		VFR Visual West Flow	69.70%	12.27
VFR ILS West Flow	15.49%	21.64	13.78	17.72
VFR East Flow	5.71%	61.40	21.37	41.41
<b>Average VFR</b>	<b>90.90%</b>	<b>16.95</b>	<b>15.61</b>	<b>16.28</b>
IFR West Flow	9.10%	32.51	19.33	25.93
<b>Average All Weather</b>	<b>100.00%</b>	<b>18.37</b>	<b>15.95</b>	<b>17.16</b>

Source: SIMMOD simulation output

Prepared by: Landrum & Brown

Draft, 02/27/1998

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**Table V-F.5**

**AVERAGE DELAY AND UNIMPEDED TAXI TIME - YEAR 1996 ( 2,233 OPERATIONS ) , WITH CANCELLATIONS**

Configuration	Annual Use	Cancellations	Average Delay (Minutes per Operation)										
			Arrivals				Departures			Average			
			Flow	Airspace	Ground	Total	Airspace	Ground	Total	Flow	Airspace	Ground	Total
VFR Visual West Flow	69.70%	0	0.00	4.27	1.29	5.56	0.31	6.23	6.54	0.00	2.29	3.76	6.05
VFR ILS West Flow	15.49%	0	6.76	7.03	0.94	14.73	0.25	4.48	4.73	3.38	3.64	2.71	9.74
<u>VFR East Flow</u>	<u>5.71%</u>	<u>107</u>	<u>30.98</u>	<u>7.03</u>	<u>2.36</u>	<u>40.37</u>	<u>0.37</u>	<u>9.97</u>	<u>10.34</u>	<u>15.45</u>	<u>3.69</u>	<u>6.18</u>	<u>25.31</u>
<b>Average VFR</b>	<b>90.90%</b>	<b>6</b>	<b>2.93</b>	<b>4.90</b>	<b>1.29</b>	<b>9.12</b>	<b>0.30</b>	<b>6.14</b>	<b>6.44</b>	<b>1.46</b>	<b>2.60</b>	<b>3.71</b>	<b>7.78</b>
IFR West Flow	9.10%	0	19.95	4.35	1.35	25.65	0.29	9.69	9.98	9.99	2.32	5.51	17.83
<b>Average All Weather</b>	<b>100.00%</b>	<b>6</b>	<b>4.48</b>	<b>4.85</b>	<b>1.30</b>	<b>10.62</b>	<b>0.30</b>	<b>6.46</b>	<b>6.77</b>	<b>2.24</b>	<b>2.58</b>	<b>3.88</b>	<b>8.69</b>

Configuration	Annual Use	Average Unimpeded Taxi Time (Minutes per Operation)		
		Arrivals	Departures	Average
		VFR Visual West Flow	69.70%	6.71
VFR ILS West Flow	15.49%	6.91	9.05	7.98
<u>VFR East Flow</u>	<u>5.71%</u>	<u>6.89</u>	<u>10.72</u>	<u>8.81</u>
<b>Average VFR</b>	<b>90.90%</b>	<b>6.75</b>	<b>9.10</b>	<b>7.93</b>
IFR West Flow	9.10%	6.86	9.35	8.11
<b>Average All Weather</b>	<b>100.00%</b>	<b>6.76</b>	<b>9.12</b>	<b>7.94</b>

Configuration	Annual Use	Average Delay and Unimpeded Taxi Time (Minutes per Operation)		
		Arrivals	Departures	Average
		VFR Visual West Flow	69.70%	12.27
VFR ILS West Flow	15.49%	21.64	13.78	17.72
<u>VFR East Flow</u>	<u>5.71%</u>	<u>47.26</u>	<u>21.06</u>	<u>34.12</u>
<b>Average VFR</b>	<b>90.90%</b>	<b>15.87</b>	<b>15.55</b>	<b>15.71</b>
IFR West Flow	9.10%	32.51	19.33	25.93
<b>Average All Weather</b>	<b>100.00%</b>	<b>17.38</b>	<b>15.89</b>	<b>16.64</b>

Source: SIMMOD simulation output

Prepared by: Landrum & Brown

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**Table V-F.6**

**PEAK HOUR THROUGHPUT - YEAR 1996 ( 2,239 DESIGN DAY OPERATIONS ) , WITHOUT CANCELLATIONS**

Configuration	Annual Use	Peak Arrival Throughput Hour			
		Arrivals	Departures	Total	Hour
VFR Visual West Flow	69.70%	91	61	152	11:00-12:00
VFR ILS West Flow	15.49%	72	80	152	15:00-16:00
VFR East Flow	5.71%	66	34	100	22:00-23:00
<b>Average VFR</b>	<b>90.90%</b>	<b>86</b>	<b>63</b>	<b>149</b>	
IFR West Flow	9.10%	70	69	139	15:00-16:00
<b>All Weather Average</b>	<b>100.00%</b>	<b>85</b>	<b>63</b>	<b>148</b>	
Configuration	Annual Use	Peak Departure Throughput Hour			
		Arrivals	Departures	Total	Hour
VFR Visual West Flow	69.70%	40	85	125	12:00-13:00
VFR ILS West Flow	15.49%	40	82	122	08:00-09:00
VFR East Flow	5.71%	58	74	132	10:00-11:00
<b>Average VFR</b>	<b>90.90%</b>	<b>41</b>	<b>84</b>	<b>125</b>	
IFR West Flow	9.10%	65	76	141	16:00-17:00
<b>All Weather Average</b>	<b>100.00%</b>	<b>43</b>	<b>83</b>	<b>126</b>	
Configuration	Annual Use	Peak Total Operations Throughput Hour			
		Arrivals	Departures	Total	Hour
VFR Visual West Flow	69.70%	91	61	152	10:00-11:00
VFR ILS West Flow	15.49%	72	80	152	15:00-16:00
VFR East Flow	5.71%	62	73	135	13:00-14:00
<b>Average VFR</b>	<b>90.90%</b>	<b>86</b>	<b>65</b>	<b>151</b>	
IFR West Flow	9.10%	65	76	141	16:00-17:00
<b>All Weather Average</b>	<b>100.00%</b>	<b>84</b>	<b>66</b>	<b>150</b>	

Source: SIMMOD simulation output

Prepared by: Landrum & Brown

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**Table V-F.7**

**PEAK HOUR THROUGHPUT - YEAR 1996 ( 2,233 DESIGN DAY OPERATIONS ) , WITH CANCELLATIONS**

Configuration	Annual Use	Peak Arrival Throughput Hour			
		Arrivals	Departures	Total	Hour
VFR Visual West Flow	69.70%	91	61	152	11:00-12:00
VFR ILS West Flow	15.49%	72	80	152	15:00-16:00
VFR East Flow	5.71%	65	39	104	22:00-23:00
<b>Average VFR</b>	<b>90.90%</b>	<b>86</b>	<b>63</b>	<b>149</b>	
IFR West Flow	9.10%	69	71	140	15:00-16:00
<b>All Weather Average</b>	<b>100.00%</b>	<b>85</b>	<b>64</b>	<b>148</b>	
Configuration	Annual Use	Peak Departure Throughput Hour			
		Arrivals	Departures	Total	Hour
VFR Visual West Flow	69.70%	40	85	125	12:00-13:00
VFR ILS West Flow	15.49%	40	82	122	08:00-09:00
VFR East Flow	5.71%	39	74	113	08:00-09:00
<b>Average VFR</b>	<b>90.90%</b>	<b>40</b>	<b>84</b>	<b>124</b>	
IFR West Flow	9.10%	65	76	141	16:00-17:00
<b>All Weather Average</b>	<b>100.00%</b>	<b>42</b>	<b>83</b>	<b>125</b>	
Configuration	Annual Use	Peak Total Operations Throughput Hour			
		Arrivals	Departures	Total	Hour
VFR Visual West Flow	69.70%	91	61	152	10:00-11:00
VFR ILS West Flow	15.49%	72	80	152	15:00-16:00
VFR East Flow	5.71%	61	71	132	13:00-13:00
<b>Average VFR</b>	<b>90.90%</b>	<b>86</b>	<b>65</b>	<b>151</b>	
IFR West Flow	9.10%	65	76	141	16:00-17:00
<b>All Weather Average</b>	<b>100.00%</b>	<b>84</b>	<b>66</b>	<b>150</b>	

Source: SIMMOD simulation output

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Table V-F.9

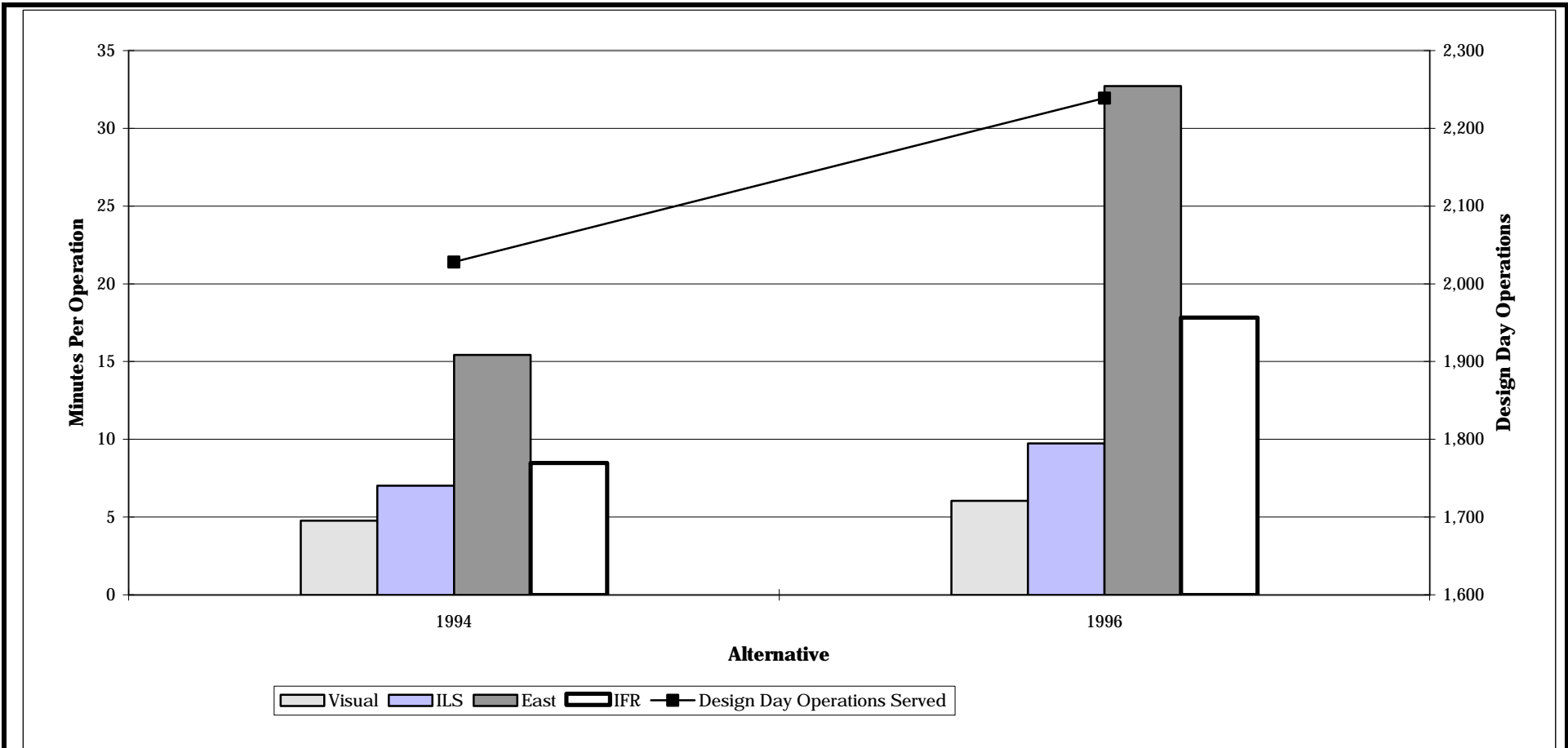
## 1996 ARRIVAL FLOW CONTROL ACCEPTANCE RATE AND DELAY

<u>Configuration</u>	<u>Arrival Rate Per Hour</u>	<u>Flow Delay (min./operation)</u>
VFR Visual West Flow	n/a	n/a
VFR ILS West Flow	72	6.76
VFR ILS East Flow (with 107 operations cancelled)	61	30.98
VFR ILS East Flow (without cancellations)	61	45.02
IFR West Flow	66	19.95

The VFR ILS east flow configuration incurs the highest flow delay among all runway operating configurations due to the low acceptance rate. The west flow ILS and IFR configurations did not require cancellations as all arrivals could be processed prior to midnight. The east flow configuration required 107 operations to be canceled in order to process all arrivals before midnight. East flow was also simulated without cancellations to determine what the delays would be if the additional 107 operations were processed. The flow delay is higher for this case.

Peak hour total operations throughput shown in Tables V-F.6 and V-F.7 varies between a low of 135 operations for east flow without cancellations and a high of 152 for visual and ILS west flow. Peak arrival throughput is also highest for visual west flow with 91 arrivals and lowest for east flow with cancellations with 65 arrivals. Peak hour departure throughput is highest for the visual west flow case (85 departures) and lowest for east flow (74 departures).

**Figures V-F.1** and **V-F.2** compare the performance of the 1996 and 1994 airside baselines (without cancellations). As shown, aircraft delays have increased considerably as a result of the additional activity at LAX. All weather average delay in 1996 is 3.15 minutes higher than in 1994, which is an increase of over 50 percent.



Note: Based on 1994, 1996 performance without cancellations.

Source: SIMMOD simulation output

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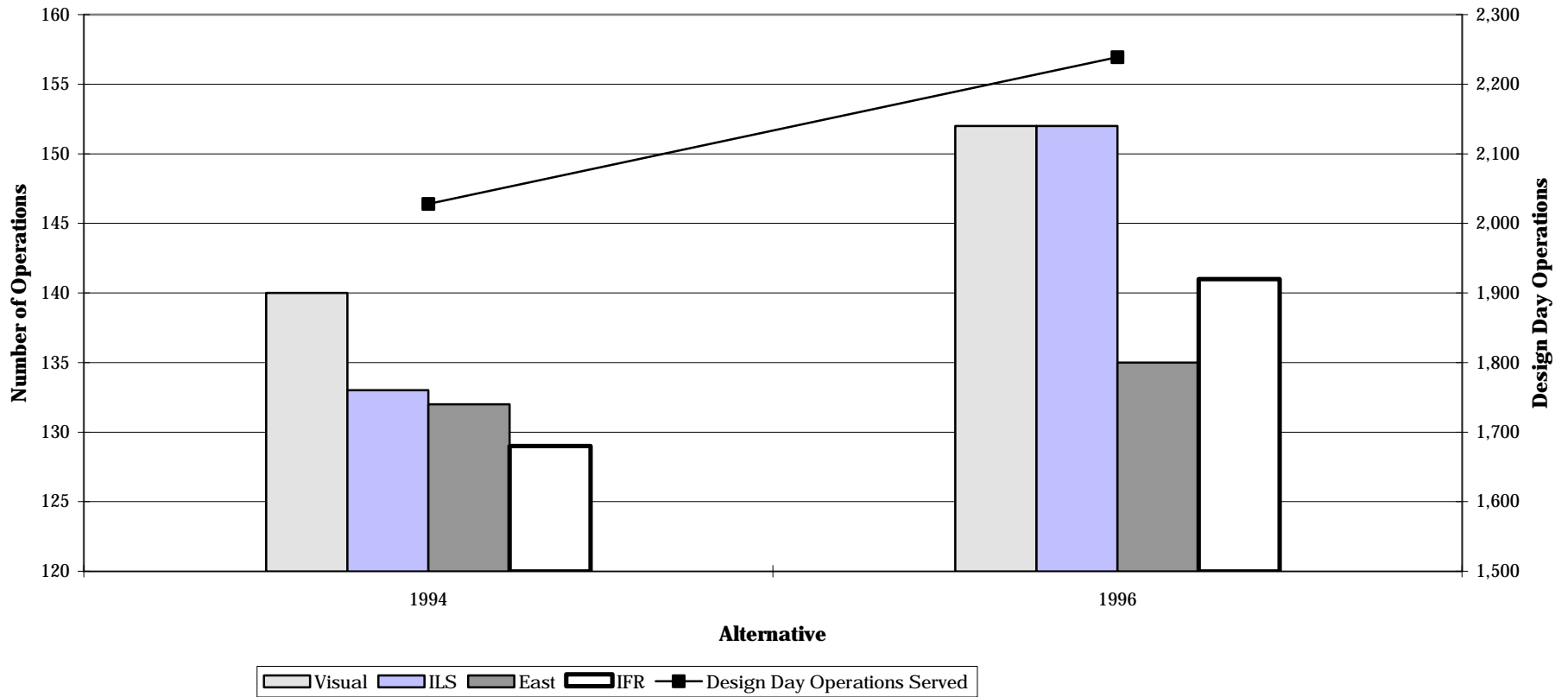
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<u>Alternative</u>	<u>Delay (Minutes Per Operation)</u>				<u>Design Day Operations Served</u>
	<u>Visual</u>	<u>ILS</u>	<u>East</u>	<u>IFR</u>	
1994	4.76	7.02	15.43	8.47	2,028
1996	6.05	9.74	32.71	17.83	2,239

**Los Angeles International Airport  
Master Plan**

**1994 vs. 1996  
Delay and Operations Served**

**Figure  
V-F.1**



Note: Based on 1994, 1996 performance without cancellations.

Source: SIMMOD simulation output

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<b>Alternative</b>	<b>Total Peak Hour Throughput</b>				<b>Design Day Operations Served</b>
	<b>Visual</b>	<b>ILS</b>	<b>East</b>	<b>IFR</b>	
1994	140	133	132	129	2,028
1996	152	152	135	141	2,239

**Los Angeles International Airport  
Master Plan**

**1994 vs. 1996 Peak Hour Total Throughput  
and Operations Served**

**Figure  
V-F.2**