

AD-A099 973

PEAT MARWICK MITCHELL AND CO SAN FRANCISCO CALIF  
RUNWAY CAPACITY MODEL INPUTS, MIAMI INTERNATIONAL AIRPORT, IMPR--ETC(U)  
JAN 77

F/G 1/2

UNCLASSIFIED

NL

For 1  
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LEVEL II

①  
F

⑥

RUNWAY CAPACITY MODEL INPUTS.

MIAMI INTERNATIONAL AIRPORT  
IMPROVEMENT TASK FORCE.

DTIC  
ELECTE  
JUN 09 1981

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Peat, Marwick, Mitchell & Co.

⑪ Jan 1977

⑫  
6

81 6 08 136

409 753

RUNWAY CAPACITY MODEL INPUTS  
 MIAMI INTERNATIONAL AIRPORT  
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Aircraft Classification

Revised aircraft classification reflects new ATC rules contained in FAA Handbook 7110.65.

<u>Ave.</u>	<u>Aircraft Class</u>	<u>Description</u>
3%	A	Small single-engine aircraft (less than 12,500 lbs)
12	B	Small twin-engine aircraft (less than 12,500 lbs and Lear Jets)
60	C	Large aircraft (between 12,500 lbs and 300,000 lbs)
25	D	Heavy aircraft (more than 300,000 lbs)

Accession For	
NTIS GRA&I	<input checked="" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By _____	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A	

Aircraft Mix

Additional information (mix by runway and airfield mix) needed.

Runway Uses.

See attached figure.

Ceiling/Visibility

<u>Runway Use</u>	<u>Ceiling</u>	<u>Visibility</u>
Cases 1 & 2	At least 1,500 feet	At least 5 miles
Cases 3 & 4	Between 200 feet & 1,500 feet	Between 2,400 feet RVR & 5 miles
Cases 5 & 6	Less than 200 feet	Between 1,200 feet RVR & 2,400 feet RVR

Airspace Restrictions

NONE

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Effective Common Approach Path Length (Nautical Miles)

	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
Runway 12	2	2	5	5
All other runways	5	5	5	5

Approach Speed (Ground Speed, Knots)

*FROM MARKER IN.*

	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
	95	120	130	140

Percent Arrivals

Cases 1 to 4	40, 50, 60%	<i>departure peak</i>	<i>at arrival peak period</i>
Cases 5 and 6	0%		

Effective Arrival Runway Occupancy Time (Seconds)

*BASED ON 1990 OBSERVATIONS.*

*Reflective of VFR*

*Cases 3 & 4 + 10 sec. for IFR.*

	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
9R	35	41	53	62
9L	35	41	50	52
27R	35	41	52	63
27L	35	41	55	63
12	35	41	51	57
30	35	41	53	63

Effective Departure Runway Occupancy Time (Seconds)

*TIME ENTERING RUNWAY TO TIME OF LIFT OFF*

	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
Cases 1 to 4	33 <sup>29</sup>	36 <sup>34</sup>	40 <sup>35</sup>	45 <sup>42</sup>

~~Cases 5 and 6 60 60 60 60~~

*BASED*

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Arrival-Arrival Separation (Nautical Miles)

Mean of achieved separation on approach path.

		Trail Aircraft Class			
		A	B	C	D
Lead	A	1.5	1.5	3.3	3.5
Aircraft	B	1.5	1.5	3.3	3.5
Class	C	4.5	4.5	4.0	4.5
	D	6.5	6.5	5.5	5.0

*Actual observed values,  
Not at saturation  
Conditions.*

*Use arrival separation as  
found at other airports.*

Standard deviation = 30 seconds.

*will develop new  
values for saturation  
Conditions*

Departure-Departure Separation (Seconds)

Mean achieved minimum separation at threshold.

Cases 1 to 4

		Trail Aircraft Class			
		A	B	C	D
Lead	A	35	45	60	60
Aircraft	B	45	45	60	60
Class	C	60	60	60	60
	D	120	120	120	90

*will develop  
new values  
for saturation.*

Cases 5, 6

		Trail Aircraft Class			
		A	B	C	D
Lead	A	120	120	120	120
Aircraft	B	120	120	120	120
Class	C	90	90	120	120
	D	120	120	120	120

Departure-Arrival Separation

- D9L/A12; \* D12/A9L;

		Arrival Aircraft Class			
		A	B	C	D
Departure	A	0	0	0	0
Aircraft	B	0	0	0	0
Class	C	60	60	60	60
	D	60	60	60	60

*will develop  
new values*

\*D9L/A12 means departures on 9L and arrivals on 12, etc.

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Departure-Arrival Separation (cont.)

- D27L/A30; \* D27R/A30  
60 seconds for all aircraft pairs
- D12/A9R; D9R/A12  
60 seconds for all aircraft pairs, except if  
lead aircraft is "heavy," separation is 120  
seconds.

Arrival-Departure Separation

- A9L/D12; A12/D9L

		Departure Aircraft Class			
		<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
Arrival Aircraft Class	A	0	0	20	20
	B	0	0	20	20
	C	0	0	20	20
	D	0	0	20	20

- A9R/D12; A12/D9R; A30/D27L  
20 seconds for all aircraft pairs

Arrival-Arrival Separations (Different Runways)

- A30/A27R; A27R/A30  
independent
- A30/A27L; A27L/A30  
60 seconds for all aircraft pairs

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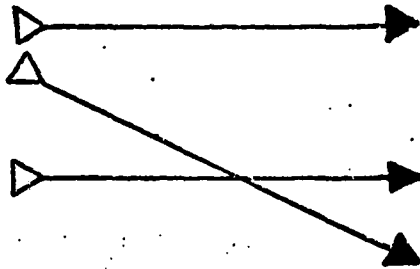
\*D27L/A30 means departures on 27L and arrivals on 30, etc.

TRAVIS INTERNATIONAL AIRPORT

BASELINE CASES

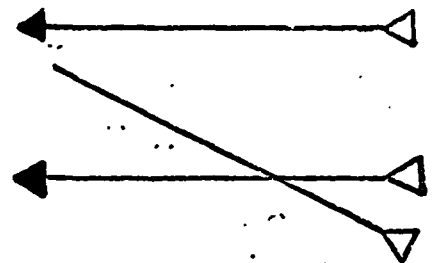
CASE 1

> 1500'  
> 5 mi



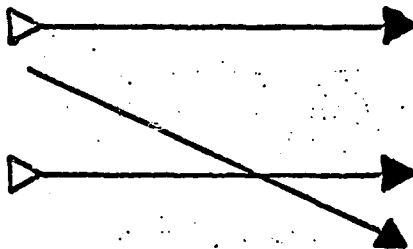
CASE 2

> 1500'  
> 5 mi



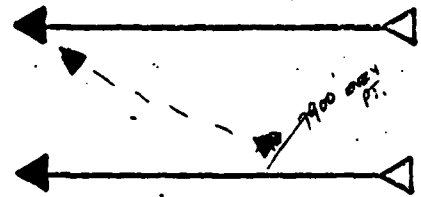
CASE 3

< 1500'  
< 5



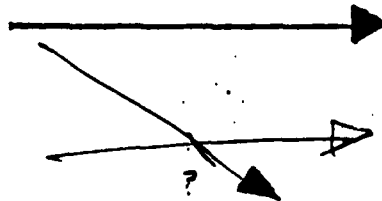
CASE 4

< 1500'  
< 5 mi



CASE 5 (1000)

< 700'  
< 2400' RVR



CASE 6 (1600)

< 700'  
< 2400' RVR

