CHAPTER X. PASSENGER TERMINAL CONCEPTS

1. PROPOSED IMPROVEMENTS, DOMESTIC TERMINALS

A. Introduction

The 1986 "Terminal Area Study" established the future for terminal development at the airport. The first phase construction of Terminal 4 is, with some adjustments, the implementation of this plan. The analysis presented in this chapter is consistent with the 1986 report findings, which were briefly:

- Taxiway W should be the first crossover taxiway constructed.
- Short-term parking should be provided in a structural multi-level garage above the new terminal. Other parking should be remote.
- Sky Harbor Boulevard should be relocated as a "central spine" road. Traffic should be clockwise for Terminal 4.
- Dual-level enplaning/deplaning curbs should be provided at the new terminal (T-4).
- Good bus connections terminal-to-terminal and terminal-to-parking should be provided. An alignment for future automated transit should be provided.

In Chapter VI of this report, two basic options for terminal development were examined. Both assumed that:

- Terminal 1 will be removed in the 1991-92 time frame following opening of the first phase of Terminal 4 (T-4) in 1991.
- Terminal 2 will be removed in the 1997-2002 time frame.

The two alternatives are:

Scenario 1 Keep T-3 as a two-concourse terminal. After removal of the temporary America West concourse in 1991, do not construct a permanent third replacement concourse. Additional gates required will be provided at T-4 through an acceleration of the second phase of development of that building.

Scenario 2 Replace the temporary concourse on T-3 with a permanent third concourse. The additional gates needed to meet demand would again be provided at T-4, but these would be less in number than for Scenario 1.

The scheduling of concourse construction is summarized in Table X.1.

TABLE X.1

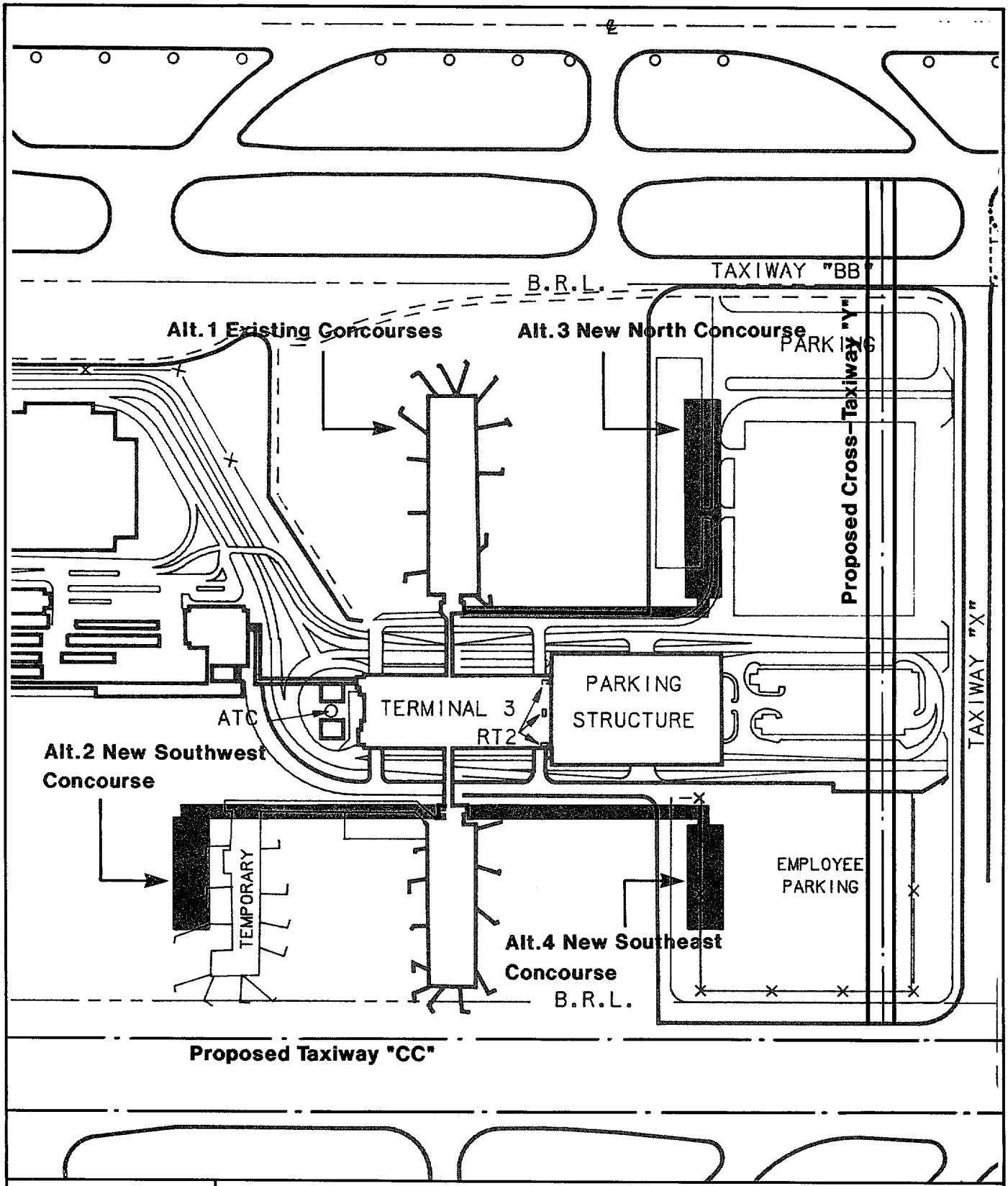
PHOENIX SKY HARBOR INTERNATIONAL AIRPORT

SUMMARY OF GATE REQUIREMENTS AND POTENTIAL CONCOURSE LOCATIONS, 1992-2007

Terminal	Existing 1987	1992		1997		2002		2007	
		Scenario 1	Scenario 2	Scenario 1	Scenario 2	Scenario 1	Scenario 2	Scenario 1	Scenario 2
T-1	1 concourse								
T-2	1 concourse	1 concourse	1 concourse	1 concourse	1 concourse				
T-3	3 concourses	2 concourses	3 concourses	2 concourses	3 concourses	2 concourses	3 concourses	2 concourses	3 concourses
T-4		2 N.Side 2 S.Side Concourses	2 N.Side 2 S.Side Concourses	3 N.Side 2 S.Side Concourses	2 N.Side 2 S.Side Concourses	4 N.Side 3 S.Side Concourses	3 N.Side 3 S.Side Concourses	4 N.Side 4 S.Side Concourses	4 N.Side 3 S.Side Concourses

Scenario 1 - Terminal 3 reverts to a two concourse terminal.
Scenario 2 - Terminal 3 remains a third (permanent) concourse after the removal of the America West temporary concourse.

Source: HNTB



PHOENIX SKY HARBOR INTERNATIONAL AIRPORT MASTER PLAN UPDATE

Alternative Locations, Third Concourse on Terminal 3

Scale in Feet

0 100 200 300 400 500 600

Figure X-1

The airline industry is volatile. Given its dynamic nature, it is believed that the most helpful and prudent approach is to evaluate the alternatives knowing what we know now, but close out no options which could potentially be useful in the future. The following evaluation will examine the alternatives for development of Terminal 3 and Terminal 4. A summary of the advantages and disadvantages of each will provide a basis for the city to make periodic decisions about the sequencing and location of new concourse construction.

B. Terminals 1 and 2

Terminal 1 is scheduled for removal in 1991 and Terminal 2 in the 1997-2002 time frame. No development will be considered for these two terminals beyond programmed improvements and projects to maintain T-2 through the next ten years.

C. Terminal 3

There are three alternative locations for a third concourse on T-3 shown in Figure X-2. The evaluation of the alternatives addresses:

Alternative 1 - no third concourse
Alternative 2 - concourse on southwest side
Alternative 3 - concourse on northeast side
Alternative 4 - concourse on southeast side

Single-sided concourses are not evaluated due to the cost inefficiencies inherent in these designs.

The evaluation addresses the following factors:

1. Operational Characteristics

a) The south concourses can accommodate 8-10 gates, while the Alternative 3 (northeast) concourse can accommodate 12-14 gates, assuming a standard mix of aircraft.

b) The alternatives with concourses on the east side of the terminal (Alternatives 3 and 4) are closer to cross Taxiways X and Y and would thus entail lesser taxiing distances than would Alternative 2 (the southwest concourse).

c) Maintaining taxiing capability between the existing concourses and concourses on the east side (Alternatives 3 and 4) while simultaneously maintaining the obstacle-free zone to the west of proposed Taxiway Y would restrict the use of the east side of the Alternatives 3 and 4 concourses to B-727-200 and smaller aircraft types.

d) Alternative 3 would place more gates on the north side of the airport, when most of the runway capacity will (with the third runway) will be on the south side of the airport.

e) Alternative 2 would restrict two-way taxiing to Terminal 2, if it is constructed before Terminal 2 is removed in 2000.

2. **Adequacy of Existing Facilities to Support Passenger Demand**

a) The terminal building will meet all future needs, if Terminal 3 remains a two-concourse terminal and assuming that enplanements are largely O&D passengers.

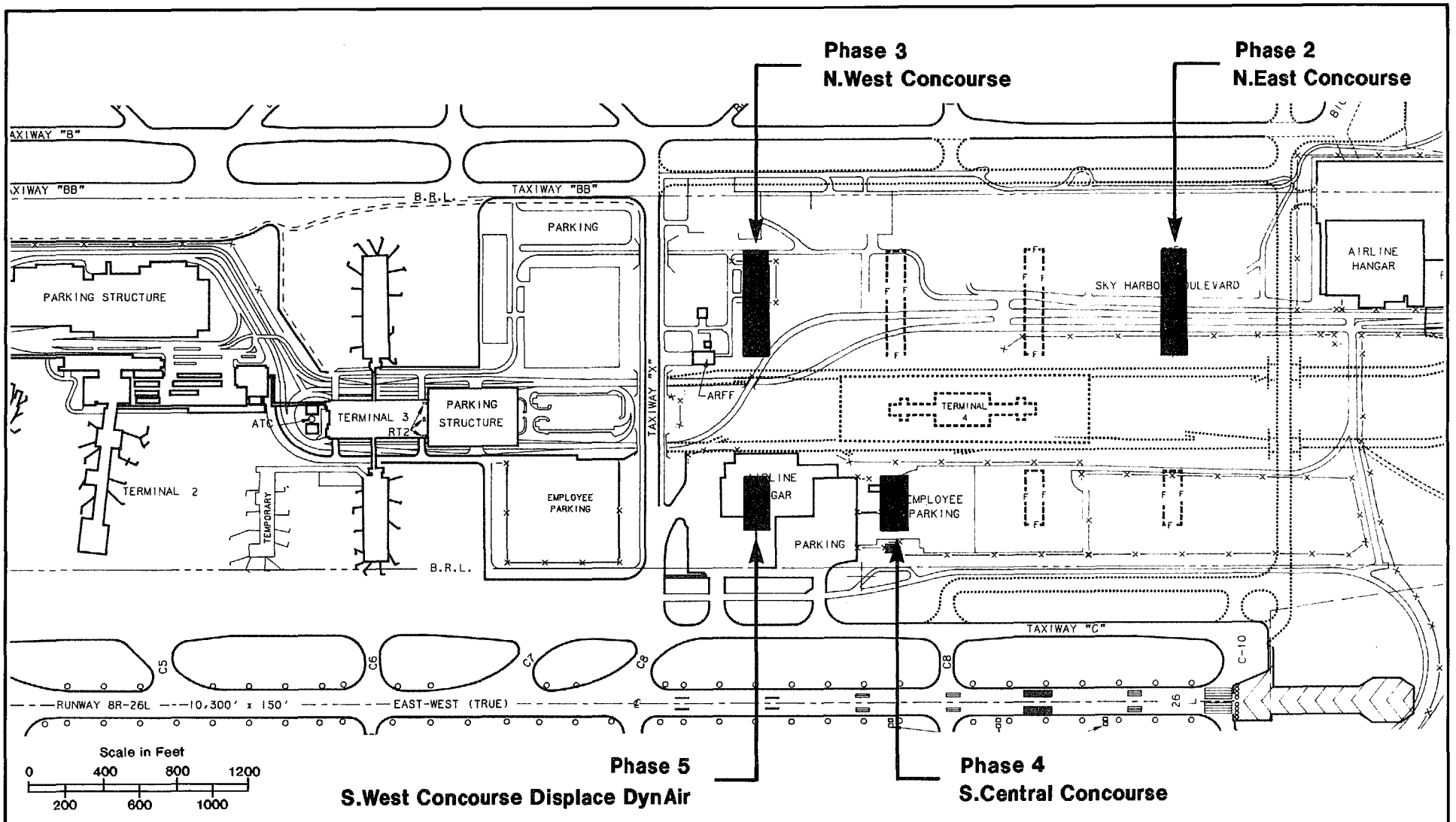
b) Development of a third concourse at Terminal 3 will result in space and service deficiencies within the terminal, assuming enplanements are primarily O&D traffic. Deficiencies will occur in ticketing, bag claim, public circulation space, food service concessions, airlines' operations areas and terminal curbside length. The terminal generally meets demands for ticketing, baggage-handling and airline operations today because a high portion of enplanements are connecting passengers and do not use the terminal facilities.

c) The most feasible opportunity for terminal expansion appears to be toward the west, displacing the FAA administrative functions housed at the base of the ATC tower. Expansion of the Ticketing/Bag Claim Level, Service Level, and Passenger Transfer Levels of the terminal, totaling 120,000 square feet, would accommodate the needed facilities. The estimated costs of providing these improvements are approximately $17 million.

3. **Costs**

a) The development costs of the new southwest concourse alternative are estimated at approximately $17 million, including the connector bridge. Additional apron pavement would not be required in this alternative. The development costs of Alternative 3, a new northeast concourse, and Alternative 4, a new southeast concourse, are approximately $25 million and $17 million, respectively. Alternative 3 and 4 development includes the concourse, connector bridge and additional apron pavement. A summary of development costs for each alternative is shown in Table X.2.

The comparable cost of providing an additional concourse at T-4 is estimated to be approximately $33 million dollars for a north concourse and $24 million for a south concourse. These estimates include development of the concourse, connector bridge and additional apron pavement.



PHOENIX SKY HARBOR INTERNATIONAL AIRPORT MASTER PLAN UPDATE

Phasing of Concourse Construction, Terminal 4

Figure X-2

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TABLE X-2
PHOENIX SKY HARBOR INTERNATIONAL AIRPORT
ORDER OF MAGNITUDE COSTS
TERMINAL T-3 EXPANSION

ALTERNATIVE 1 : TWO EXISTING CONCOURSES		**NO COST**
ALTERNATIVE 2 - NEW SOUTHWEST CONCOURSE		
TERMINAL: 3 FLOORS @ 40000 SF/FLR	120000 SF @ 140 / SF=	$16,800,000
CONCOURSE: 2 FLOORS @ 27000 SF/FLR	54000 SF @ 140 / SF=	$7,560,000
BRIDGE: W/ MOVING WALKWAY	30000 SF @ 200 / SF=	$6,000,000
APRON PAVEMT: W/ HYDRANT FUELING	NOT REQ.	$0
		$30,360,000 TOTAL
ALTERNATIVE 3 - NEW NORTHEAST CONCOURSE		
TERMINAL: 3 FLOORS @ 40000 SF/FLR	120000 SF @ 140 / SF=	$16,800,000
CONCOURSE: 2 FLOORS @ 49500 SF/FLR	99000 SF @ 140 / SF=	$13,860,000
BRIDGE: W/ MOVING WALKWAY	28600 SF @ 200 / SF=	$5,720,000
APRON PAVEMT: W/ HYDRANT FUELING	55000 SY @ 100 / SY=	$5,500,000
		$41,880,000 TOTAL
ALTERNATIVE 4 - NEW SOUTHEAST CONCOURSE		
TERMINAL: 3 FLOORS @ 40000 SF/FLR	120000 SF @ 140 / SF=	$16,800,000
CONCOURSE: 2 FLOORS @ 27000 SF/FLR	54000 SF @ 140 / SF=	$7,560,000
BRIDGE: W/ MOVING WALKWAY	28600 SF @ 200 / SF=	$5,720,000
APRON PAVEMT: W/ HYDRANT FUELING	37000 SY @ 100 / SY=	$3,700,000
		$33,780,000 TOTAL

NOTE: VALUES ARE 1989 DOLLARS

ESTIMATE DOES NOT INCLUDE:
BAG CLAIM EQUIPMENT
TAXIWAY PAVEMENT
ADD. STRUCTURED PARKING
A/E DESIGN FEES
AIRLINE F.F.& E.

Source: HNTB

b) Development of a fifth concourse for T-4 would require expansion of the terminal building to meet passenger demand. If enplanements are primarily O&D traffic, expansion within the T-4 shell to meet this demand is estimated to cost approximately $5 million.

4. Passenger Convenience and Service

a) The passenger travel distance, curbside-to-gate, would be greater by about 700 feet for a third concourse on T-3 than for the existing two permanent concourses. It is assumed that a moving sidewalk system would operate in the connector bridge between the entrances to the existing the new concourses.

b) The passenger travel distance to an additional concourse on T-4 is similar to that for Alternatives 2, 3 and 4 at T-3.

c) More passengers with connections to the hubbing carriers would be faced with inter-terminal transfers for Alternatives 2, 3 and 4 (the three-concourse alternatives) than for Alternative 1 (the two-concourse alternative).

5. Future Expansion

a) Alternatives 2, 3 and 4 are not realistically expandable beyond the third concourse, if enplanements are predominantly O&D. The constraint is the availability of terminal facilities.

b) Alternative 1 retains the option to expand T-3 with a third concourse.

6. Traffic Circulation and Parking

a) Parking at T-3 is adequate for Alternative 1 but short by 600 spaces for the alternatives with a third permanent concourse, assuming the three-concourse T-3 serves primarily O & D passengers.

b) Alternatives 2, 3 and 4 will require lengthening of the T-3 curbside by expansion of the building, again assuming that passengers mostly have local trip origins and destinations. Use of the outer curb inhibits traffic flow in one lane of the through roadways. The full capacity of the through roadways will be required in the future to accommodate traffic accessing and departing T-4. The alternative to extending the inner curbside is to continue current use of the outer curb and to construct an additional lane of through roadway on the north and south sides of the terminal. This is discussed further in Chapter XIII.

7. Phasing

a) Development of Alternative 1 prior to 2000 would eliminate two-way taxiing capability between the new concourse and T-2 until T-2 is demolished.

b) Alternative 1 implies accelerated development of T-4 may result in displacement of the DynAir maintenance facility at an earlier date than would the three-concourse alternatives.

These considerations are summarized in Table X.3.

The conclusions of these analyses is that (1) the opportunity for development of the third concourse on T-3 should be preserved, and (2) the best of the alternative locations is Alternative 2, a new south-west concourse. To ensure that the option remains open, plan development will include a concourse in this location.

D. Terminal 4

The long-term configuration of the Terminal 4 complex is established with four concourses on the north side of the terminal building and four concourses to the south. Phase I of the construction program includes the two central concourses on the north side and the two eastern concourses on the south side of the terminal building. (See Figure X-3.)

Table X.1 indicates the general scheduling of concourse construction under the two scenarios. This schedule indicates the potential need for one more concourse by 1997 and two to three more concourses by 2002.

A factor in determining the preferred order of construction of the concourses is the existing DynAir hangar facility between T-4 and Taxiway X, which would be displaced by development of the southwest concourse. This was constructed in 1964 and is an active maintenance operation. The lease on this facility runs through 2004.

In the interests of deferring disruption of this hangar for as long as possible, the proposed order of construction would be:

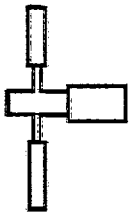
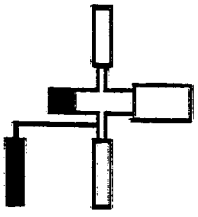
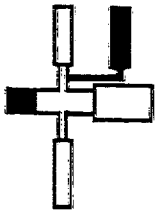
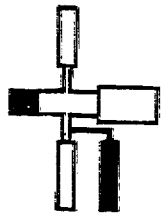
Phase 1 Two Concourses North and South
Phase 2 North Concourse - East Side
Phase 3 North Concourse - West Side
Phase 4 South Concourse - Center
Phase 5 South Concourse - West Side; Relocate DynAir Hangar

These priorities may be amended as conditions change through the planning period.

2. PROPOSED INTERNATIONAL TERMINAL FACILITIES

The sizing of a "one-stop" federal government Immigration and Naturalization, Customs Service and other agencies (the Federal Inspection Services or FIS) which would be housed in the International arrivals area was determined on the requirement to service 400 deplaning passengers per hour. The

TABLE X-3
SUMMARY EVALUATION OF
ALTERNATIVES FOR DEVELOPMENT
TERMINAL T-3

EVALUATION FACTOR	ALTERNATIVE 1 EXISTING CONCOURSES	ALTERNATIVE 2 NEW SOUTHWEST CONCOURSE	ALTERNATIVE 3 NEW NORTHEAST CONCOURSE	ALTERNATIVE 4 NEW SOUTHEAST CONCOURSE
GRAPHIC				
OPERATIONAL CHARACTERISTICS	GOOD	PROVIDES 10 -12 GATES AT NEW CONCOURSE ELIMINATES TWO-WAY A/C TAXIING TO T-2 OTHERWISE GOOD	PROVIDES 12-14 GATES AT NEW CONCOURSE CONSTRAINT DUE TO CROSS-TAXIWAY "Y" IMBALANCE WITH AIRFIELD NEW R/W ON SOUTH SIDE	PROVIDES 10-12 GATES AT NEW CONCOURSE CONSTRAINT DUE TO CROSS-TAXIWAY "Y"
ADEQUACY OF THE EXISTING TERMINAL FACILITIES TO SUPPORT PASSENGER DEMAND	TERMINAL MEETS ALL NEEDS	(1) DEFICIENCIES: TICKET COUNTER TICKET OFFICES BAGGAGE CLAIM BAG SERVICE CURBSIDE	(1) DEFICIENCIES: TICKET COUNTER TICKET OFFICES BAGGAGE CLAIM BAG SERVICE CURBSIDE	(1) DEFICIENCIES: TICKET COUNTER TICKET OFFICES BAGGAGE CLAIM BAG SERVICE CURBSIDE
COSTS	(2) COMPARABLE DEV. ON T-4 NORTH CONCOURSE W/ APRON $33 MILLION SOUTH CONCOURSE W/ APRON $24 MILLION TERMINAL BUILD OUT $5 MILLION	TERMINAL $16.8 MILLION CONCOURSE $7.5 MILLION BRIDGE $6.0 MILLION APRON NOT REQ. TOTAL $30.4 MILLION	TERMINAL $16.8 MILLION CONCOURSE $13.8 MILLION BRIDGE $5.7 MILLION APRON $5.5 MILLION TOTAL $41.8 MILLION	TERMINAL $16.8 MILLION CONCOURSE $7.5 MILLION BRIDGE $5.7 MILLION APRON $3.7 MILLION TOTAL $33.7 MILLION
PASSENGER CONVENIENCE AND SERVICE	FEWER INTER-TERMINAL PASSENGER TRANSFERS	TRAVEL DISTANCE 1150 LF CURBSIDE TO NEW CONCOURSE MORE INTER-TERMINAL PASSENGER TRANSFERS	TRAVEL DISTANCE 1290 LF CURBSIDE TO NEW CONCOURSE MORE INTER-TERMINAL PASSENGER TRANSFERS	TRAVEL DISTANCE 1165 LF CURBSIDE TO NEW CONCOURSE MORE INTER-TERMINAL PASSENGER TRANSFERS
FUTURE EXPANSION	THIRD CONCOURSE CAN BE ADDED AT ANY TIME	EXPANSION FEASIBLE EXPANSION WOULD REQUIRE ADD. TERMINAL EXPANSION, YIELD LIMITED CAPACITY	EXPANSION FEASIBLE EXPANSION WOULD REQUIRE ADD. TERMINAL EXPANSION YIELD LIMITED CAPACITY	EXPANSION NOT FEASIBLE TO MAINTAIN STANDARD LEVEL OF SERVICE

(1) ASSUMES THAT THE TERMINAL & CONCOURSE SERVICE PRIMARILY O&D PASSENGERS
IF A MAJOR HUBBING AIRLINE OCCUPIES T-3,THE REQUIREMENTS FOR ADD. FACILITIES
WILL BE REDUCED TO THE DEFICIENCIES WHICH ARE APPARENT TODAY,PRIMARILY IN
THE BAGGAGE CLAIM AREA.

(2) THESE ARE THE COSTS OF PROVIDING COMPARABLE FACILITIES IN ADD. CONCOURSES ON T-4

TABLE X.3
SUMMARY EVALUATION OF
ALTERNATIVES FOR DEVELOPMENT
TERMINAL T-3
(CONT.)

EVALUATION FACTOR	ALTERNATIVE 1 EXISTING CONCOURSES	ALTERNATIVE 2 NEW SOUTHWEST CONCOURSE	ALTERNATIVE 3 NEW NORTHEAST CONCOURSE	ALTERNATIVE 4 NEW SOUTHEAST CONCOURSE
(1) TRAFFIC CIRCULATION AND PARKING	ADEQUATE PARKING ADEQUATE CURBSIDE	ADEQUATE SHORT-TERM PARKING SHORTAGE OF CURBSIDE INCREASED THRU TRAFFIC	ADEQUATE SHORT-TERM PARKING SHORTAGE OF CURBSIDE INCREASED THRU TRAFFIC	ADEQUATE SHORT-TERM PARKING SHORTAGE OF CURBSIDE INCREASED THRU TRAFFIC
LAND UTILIZATION	NONE	DEVELOPMENT OF LAND CURRENTLY USED FOR TEMPORARY CONCOURSE OPTIMUM REUSE OF AREA	DEVELOPMENT OF LAND ADJACENT TO PROPOSED CROSS-TAXIWAY Y CONCENTRATES ACTIVITY	DEVELOPMENT OF LAND ADJACENT TO PROPOSED CROSS-TAXIWAY Y CONCENTRATES ACTIVITY
PHASING	ACCELERATED DEVELOPMENT OF T-4 CONCOURSES EARLIER DISPLACEMENT OF DYN-AIR HANGAR	DEVELOPMENT PRIOR TO YEAR 2000 WOULD RESTRICT A/C TAXIING TO T-2	NO PROBLEMS	NO PROBLEMS

total floor area requirement is 35,500 square feet. Factors which relate to the location of this new facility are:

- International arrival gates will not be used exclusively for this purpose. They will service domestic flights when not required for international arrivals. The FIS facilities will, therefore, be incorporated into or connected with a domestic concourse.

- This will be a long-term facility, so only locations in T-3 and T-4 will be considered.

There are five alternative locations for the FIS facilities. They are:

Alternative 1 - Include the FIS in a new concourse in T-3.[1]
Alternative 2 - Renovate an existing concourse on T-3 to include the FIS.
Alternative 3 - Include the FIS in a new concourse on T-4.
Alternative 4 - Construct the FIS in the T-4 terminal building.
Alternative 5 - Construct a separate International Arrivals Building.

Schematic locations for the FIS facility are shown on Figure X-4.

The five alternative locations are evaluated according to the following factors:

Operational Characteristics

- location of facility with respect to the long runway;
- ability to service large aircraft without bringing them up to the terminal; and
- interaction with other activities in the concourse or terminal.

Cost/Phasing

- potential for integration into first four concourses on T-4;
- order of magnitude costs; and
- potential disruption of T-3 activities.

Future Expansion

- any constraint that would inhibit expansion of FIS/gates; and
- alternative uses of the space.

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[1] Either the most westerly of the two concourses proposed for the north side in Phase I (A), or in an additional concourse on the north east side of the terminal, proposed for Phase II (B).

Alt. 5
New Building on Site of T-1

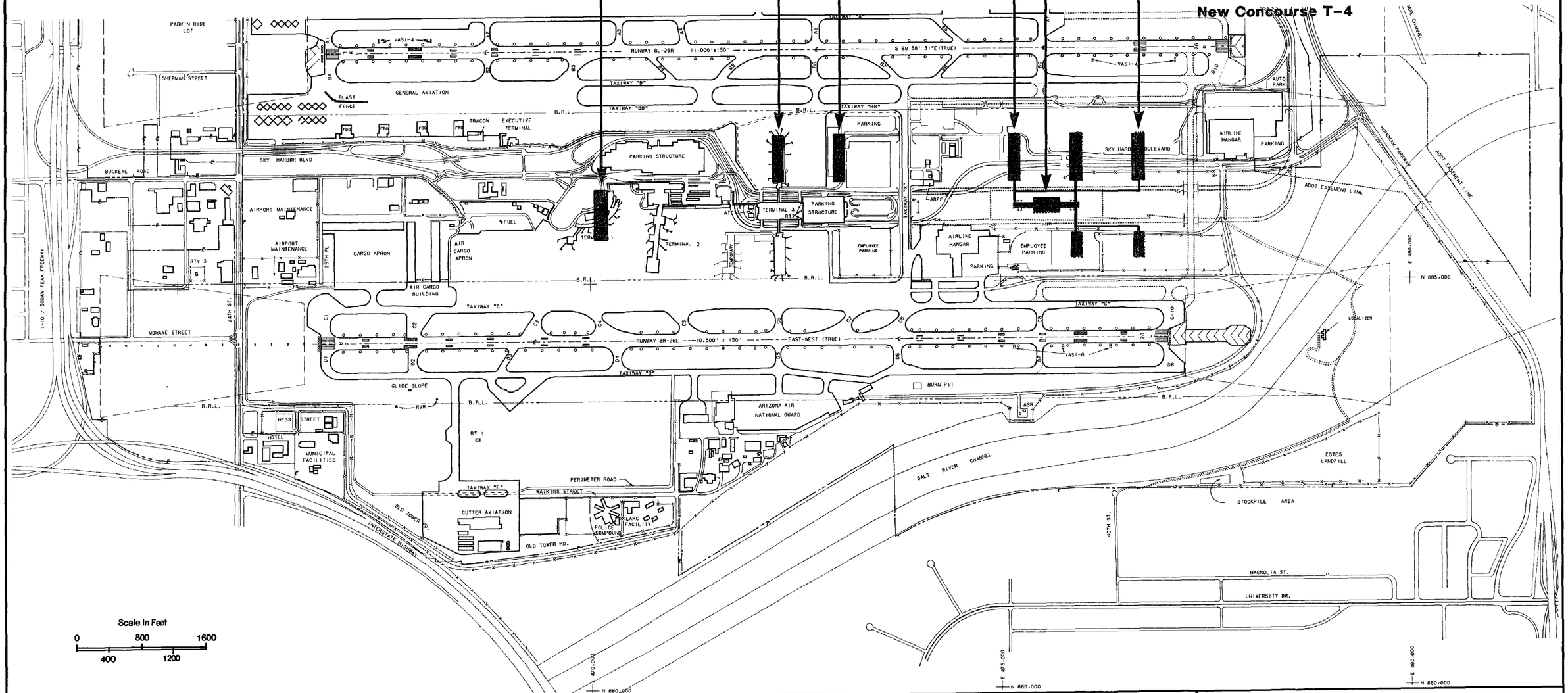
Alt. 2
Existing Concourse T-3

Alt. 1
New Concourse T-3

Alt. 3 (A)
New Concourse T-4

Alt. 4
Terminal T-4

Alt.3 (B)
New Concourse T-4



Scale In Feet
0 800 1600
400 1200

PHOENIX SKY HARBOR INTERNATIONAL AIRPORT MASTER PLAN UPDATE

- Airport Boundary
- Runway Safety Area
- Runway Clear Zones
- Runway Centerline
- Building Restriction Line
- Railroad
- Fenceline
- Future Development

N

Alternative Locations, International Arrivals Facilities

Figure X-3

Flexibility

- adaptability to joint domestic/international use.

Passenger Convenience

- ease of inter-terminal transfers; and
- distance to be traveled with bags.

Greeter Convenience

- availability (or potential for providing) good greeting space; and
- availability of automobile parking.

The results of this analysis are summarized in Table X.4.

The facility could be made to work in any of the five locations. International service could be provided by any of the carriers at PHX. However, the benefits to a hubbing carrier are greater than for an airline which does not hub, since it can provide and benefit from its own domestic "feed" to the international routes. At the time of preparation of this report, two hubbing airlines are located in T-4, one of which has announced plans for starting international service. The T-4 location appears to be advantageous in this respect.

If the current investigation of the demand for international travel confirms that the FIS should be located in T-4, design of the first phase concourses should be revised to incorporate the arrival facilities. In the meantime, current city programs include an interim "face-lift" of the existing International Terminal.

3. PROPOSED COMMUTER TERMINAL FACILITY

The commuter (regional) air carrier activity is relatively small at PHX. In December 1988, there were 53 scheduled average daily departures by commuter-type aircraft. Of these, 23 were by America West (DH-8 aircraft) and by Skywest (Metroliner aircraft), the latter being a code-sharing partner of Delta Airlines. These 23 flights are serviced out of the gates of the major air carriers. The remaining 30 departures were by 7 other commuter airlines operating out of parking positions at various locations at Terminal 1, Terminal 2 and Executive Terminal.

Future daily activity levels are estimated to be 65 departures daily.

Many of the commuter flights will continue to be serviced out of the terminal concourses. Code-sharing airlines and unaffiliated regional carriers who have been able to sub-lease a gate not fully utilized by the lessee are examples. It was estimated that a facility of about 5,000 square feet with 6-8

TABLE X.4
SUMMARY EVALUATION OF
ALTERNATIVE LOCATIONS FOR
INTERNATIONAL ARRIVALS FACILITY
page 1 of 2

FACTOR	ALTERNATIVE 1 NEW CONCOURSES ON T-3	ALTERNATIVE 2 RENOVATE EXISTING CONCOURSE T-3	ALTERNATIVE 3 NEW CONCOURSE T-4	ALTERNATIVE 4 T-4 TERMINAL	ALTERNATIVE 5 SEPARATE FACILITY (1)
OPERATIONAL CHARACTERISTICS	ASSUME N.E. CONCOURSE ADJACENT TO LONG RUNWAY BAG RE-CHECK REQ. FOR INTER-TERMINAL TRANSFERS	IMPACT ON OPERATIONS DURING CONSTRUCTION RECONFIGURE GATES FOR STERILE CORRIDOR BAG RE-CHECK TO DOMESTIC CLAIM & CURBSIDE	NORTH CONCOURSE ADJACENT TO RUNWAY 26R (LONG R/W) AT CENTER OF HUBBING ACTIVITY BAG RE-CHECK TO DOMESTIC CLAIM & CURBSIDE	REQUIRES GATES AT THROAT OF CONCOURSE, OR LONG STERILE CORRIDOR WITHIN CONCOURSE	EXCELLENT AIRCRAFT ACCESS SEPERATED FROM OTHER TERMINAL ACTIVITY DIFFICULT PAX CONNECTIONS BAG RE-CHECK REQUIRED
COST AND PHASING	FACILITY DEVELOPED WITH NEW CONCOURSE $5.0 MILLION	DEMOLITION EXPENSE $0.25 MILLION OPS. RELOCATION EXPENSE $1.25 MILLION UTILITIES/EQUIP. UPGRADE $0.75 MILLION FIS FACILITIES $5.00 MILLION TOTAL $7.25 MILLION	FACILITY DEVELOPED WITH NEW CONCOURSE $5.0 MILLION	EXPENSE FOR STERILE CORRIDOR, BRIDGE, ELEVATOR IMPACT FUTURE T-4 DEV. REQUIRES 35,000 SF OF PRIME TERMINAL SPACE FIS $5.0 MILLION ACCESS $3.5 MILLION TOTAL $8.5 MILLION	DEVELOPMENT COST OF NEW TERMINAL FACILITY $5.75 MILLION
FUTURE EXPANSION	50% EXPANSION AVAILABLE AT LEVEL 1 WOULD DISPLACE AIRLINE OPS. AREAS	LIMITED & EXPENSIVE WOULD REQUIRE ADDITIONAL DEMOLITION & RELOCATION	DESIGN CAN PROVIDE FOR EXPANSION POTENTIAL	DIFFICULT, MORE EXPENSIVE THAN OTHER ALTERNATIVES	EASY EXPANSION
FLEXIBILITY FOR JOINT DOMESTIC/ INTERNTIONAL USE	EXCELLENT W/GATES AT END OF CONCOURSE	EXCELLENT W/GATES AT END OF CONCOURSE	EXCELLENT W/GATES AT END OF CONCOURSE	SOME CONSTRAINT DUE TO INBOARD GATE POSITIONS	VERY LIMITED

TABLE X.4
SUMMARY EVALUATION OF
ALTERNATIVE LOCATIONS FOR
INTERNATIONAL ARRIVALS FACILITY
page 2 of 2

FACTOR	ALTERNATIVE 1 NEW CONCOURSES ON T-3	ALTERNATIVE 2 RENOVATE EXISTING CONCOURSE T-3	ALTERNATIVE 3 NEW CONCOURSE T-4	ALTERNATIVE 4 T-4 TERMINAL	ALTERNATIVE 5 SEPARATE FACILITY (1)
PASSENGER CONVENIENCE	BAG RE-CHECK AT FIS EXIT MOVING SIDEWALK ASSISTED POST FIS WALK OF 1015 ft. TO DOMESTIC BAG CLAIM AND CURBSIDE	BAG RE-CHECK AT FIS EXIT POST FIS WALK OF 350 ft. TO DOMESTIC BAG CLAIM AND CURBSIDE	BAG RE-CHECK AT FIS EXIT MOVING SIDEWALK ASSISTED POST FIS WALK OF 1200 ft. TO DOMESTIC BAG CLAIM AND CURBSIDE	LONG WALK DISTANCE IN STERILE CORRIDOR +700 ft.	INCONVENIENT CONNECTION TO DOMESTIC AIRLINES
GREETER CONVENIENCE	IN T-3 TERMINAL PUBLIC LOBBY CLOSE PARKING	IN T-3 TERMINAL PUBLIC LOBBY CLOSE PARKING	IN T-4 TERMINAL PUBLIC LOBBY ROOFTOP PARKING	EXCELLENT GREETER LOBBY AT FIS EXIT CLOSE PARKING	EXCELLENT

(1) ASSUME DEVELOPED IN LOCATION OF EXISTING T-1 TERMINAL, AFTER 1991 DEMOLITION OF THAT FACILITY

parking positions would meet the needs of those regional airlines unable to negotiate for space on the concourses.

Options for such a facility are:

Alternative 1 The small facility and ramp area adjacent to Terminal 1. When T-1 is removed in 1991, this area will be without ticketing and baggage support. Moreover, it will be quite remote from the center of airline activity in T-3 and T-4 to which most commuting passengers desire to make connections. This facility will serve its purpose for the short-term (through 1991-92) but the activity will need a new home at that time.

Alternative 2 Allocation of one or two gate positions on an airline concourse as "commuter gates". The finances of unaffiliated commuter airline operations typically dictate the most economical solutions. While this solution could work well functionally, the costs of airline gates and participation in the costs of support functions in the main terminal buildings may eliminate it, unless the commuters are able to make arrangements with a major air carrier. The mixing of light aircraft on the air carrier ramp could create congestion. In addition, there are potential security problems when the origins of commuter flights are not equipped with security checking facilities.

Alternative 3 When international arrivals are relocated, assign commuters to the current International Terminal. The commuters would require only a section of this facility, but terminal space and ramp will be available outside of airline security and adjacent to T-3: hence with easy access to the major carrier gates. This is the preferred solution, dependent upon the phasing of related actions.

Alternative 4 Assign a section of apron remote from the terminal ramp, for commuter aircraft parking with ticketing/baggage in one of the terminal buildings. This is a workable solution but is not preferred when there are other options available. Transportation between the parking positions and terminal facilities is a principal disadvantage.

Alternative 5 Develop a small commuter facility at the west end of Terminal 2 after Terminal 1 is demolished in 1991. This alternative would require construction of a small terminal facility. The estimated cost of a 5000-square foot commuter terminal is $500,000. Curbside space is available, though this would be eliminated by the roadway construction associated with construction of Taxiway Z. Parking is available in the T-2 parking garage. This would be a satisfactory solution,

although it is less convenient than Alternative 3 for passenger connections to and from Terminal 3. This is a less permanent solution than Alternative 3.

The recommended solution is to continue use of the temporary facility on the ramp adjacent to T-1 until the International Terminal becomes available. At that time, assuming that the demand warrants, the old International Terminal should be rehabilitated for a series of new uses and the section adjacent to the ramp assigned for commuter airline use. This use could then continue until the demolition of the terminal with Terminal 2 required for the post-2000, roadway improvements.