

## CHAPTER XV. DEVELOPMENT COSTS

The projects required to implement the airport development plans described in the Concepts working paper have been integrated with the City's adopted Capital Improvements Program for Sky Harbor. The City CIP covers the fiscal years 1988/1989 to 1993/1994.

The consolidated program is organized by phase as follows:

- 1989-1992 ( 4 years)
- 1993-1997 ( 5 years)
- 1998-2007 (10 years)

The first phase projects include maintenance projects and smaller improvement projects. The phases 1993-1997 and 1998-2007 include only the more significant construction projects, since detailed maintenance and improvement items have not been programmed beyond 1992.

The costs identified by major category are presented in Tables XV.1 through XV.6 and are summarized in Table XV.7.

The total costs are estimated at \$502 million, including several committed and funded projects. Of this total, \$295 million is scheduled for the first phase, 1989-1992. The major item in the first phase is terminal construction at \$232.6 million of which \$206.2 million relates to the construction of Terminal 4 with its first four concourses. The second phase (1993-97) costs total \$113 million, and third phase costs (1998-2007) total \$94 million.

Other significant features of the program are:

- the cost estimates assume that in the third phase, a third concourse is added to Terminal 3, and that by the Year 2007, Terminal 4 has 7 concourses. The City has the flexibility to accommodate a 2-concourse Terminal 3 together with an 8-concourse Terminal 4 instead of the above program and still meet terminal needs. This development option would result in a modest reduction in the total terminal development costs.
- land acquisition costs of \$67.4 million are included in the 1993-97 phase. Given the probability that land prices will escalate through the period, any possible acceleration of these purchases would be beneficial to the City. The cost estimates for individual parcels and groups of parcels have not been detailed, in order to avoid prejudice in negotiations.
- the largest single cost item in the airfield development category is the construction of the third parallel runway to a length of 7,800 feet in the 1993-97 time-frame. This item accounts for \$29.1 million (excluding

realignment of the ANG) of the total \$63.2 million costs of airfield improvements.

- other than terminal construction, airfield improvements, and land acquisition, the largest expenditures will be incurred in access roadway and parking improvements. These costs amount to \$33.1 million of which \$24.1 million is incurred in the first phase of the program.
- among "other" categories of capital expenditures, expansion of cargo facilities in Phase I at a cost of \$8 million is the most significant single item. Maintenance of general aviation ramp areas (\$3.4 million), relocation of the airport maintenance facility (\$1.7 million), and construction of a city fuel storage facility (\$0.8 million) are notable items.

Many of the cost items scheduled for 1989-92 construction are already under contract and funded under the F.Y. 1988-89 program, so these amounts are not all "new" money to be added to current contract commitments. For example, approximately half of the costs of the Phase I development for Terminal 4 are contracted for.

It should be noted that the consultant has no control over the cost of labor and materials or over competitive bidding and market conditions, and the above estimates of development and construction costs are made on the basis of the consultant's experience and qualifications. Consequently, the consultant does not guarantee the accuracy of such estimates.

TABLE XV.1

## DEVELOPMENT COSTS BY PHASE, TERMINAL CONSTRUCTION

Project	1989-92 (\$000's)	1993-97 (\$000's)	1998-2007 (\$000's)
<b>TERMINAL CONSTRUCTION</b>			
* Terminal 1 - Demolish & restore site	629		
* Terminal 2 - Remodel frontage	450		
- Demolish & restore site			1,000
* Terminal 3 - Modify space layouts	200		
* - Elevators	300		
* - Demolish temp. concourse	100		
- Construct 3rd concourse			13,600
- Expand terminal			16,800
* Terminal 4 - Phase I program <sup>(1)</sup>	206,173		
* - 3rd concourse N.Side with International Arrivals <sup>(2)</sup>	23,982		
- 4th concourse N.Side			33,000
- 3rd concourse S.Side			24,000
* Concourse with International Arrivals	(3)		
* Expand Existing International Terminal	500		
* International Apron	(3)		
Commuter Terminal	500		
<b>TOTAL TERMINAL COSTS, BY PHASE</b>	<b>232,634</b>	<b>--</b>	<b>87,500</b>

\* Indicates project in Capital Improvements Program for Airport. Certain of the items scheduled for 1989-92 are currently under contract and funds are committed.

<sup>(1)</sup> See Airports Capital Improvement Program for break-out of projects.

<sup>(2)</sup> If current discussions determine that this is the preferred location for the International Arrivals facility.

<sup>(3)</sup> Costs included in 3rd concourse, Northside, above.

Source: CIP and HNTB estimates.

TABLE XV.2

## DEVELOPMENT COSTS BY PHASE, LAND ACQUISITION

Project	1989-92 (\$000's)	1993-97 (\$000's)	1998-2007 (\$000's)
<b>LAND ACQUISITION</b>			
* Sky Harbor Center & WALA (Acquisition, infrastructure, relocation)		(1)	
Airlane frontage, north-east corner of airport		(1)	
Holiday Inn property, south-west corner of airport		(1)	
<b>TOTAL LAND ACQUISITION COSTS, BY PHASE</b>	--	67,800	--

\* Indicates project in Capital Improvements Program for Airport.

<sup>(1)</sup>Costs for individual areas not separately identified.

Source: CIP and HNTB estimates.

TABLE XV.3

## DEVELOPMENT COSTS BY PHASE, ROADWAYS AND PARKING

Project	1989-92 (\$000's)	1993-97 (\$000's)	1998-2007 (\$000's)
<b><u>ROADWAYS, EAST END OF AIRPORT</u></b>			
* Construct roads East of Taxiway W	3,774		
* Construct walkway under Taxiway X		1,141	
<b><u>ROADWAYS, WEST END OF AIRPORT</u></b>			
* Modify west entrance of airport Modify Sky Harbor Blvd. West of T-2	2,425	1,100	
* Relocate 24th Street Construct post-2000 roadway systems	4,193		1,138
<b><u>INTERIOR ROADWAYS</u></b>			
* Improve Sky Harbor Blvd. West of T-2 Additional lanes through traffic at T-3	1,141		4,360
<b><u>PARKING</u><sup>(1)</sup></b>			
* Add T-2 rental car parking	200		
* Parking lots	3,500		
* Replace revenue control	3,500		
* Construct East shuttle lot (3000 spaces)	3,594		
* Relocate E. Employee Lot Entrance	90		
* Repave FBO parking area	160		
Extend East Shuttle Lot (500 spaces)		500	
Extend East Shuttle Lot (800 spaces)			800
* America West Employee Parking	1,500		
<b>TOTAL ROADWAYS &amp; PARKING COSTS, BY PHASE</b>	<b>24,077</b>	<b>2,741</b>	<b>6,298</b>

\* Indicates project in Capital Improvements Program. Certain items scheduled for the 1989-92 timeframe are currently under contract and funds are committed.

<sup>(1)</sup> Assumes parking garage at T-2 (2,200 spaces) remains through 2007.

Source: CIP and HNTB estimates.

TABLE XV.4

## DEVELOPMENT COSTS BY PHASE, AIRFIELD

Project	1989-92 (\$000's)	1993-97 (\$000's)	1998-2007 (\$000's)
<b><u>RUNWAY EXTENSION</u></b>			
Extend 8L-22R by 1000 feet		(Unscheduled)	
<b><u>NEW PARALLEL RUNWAY 8-26</u></b>			
Conduct EA	500		
Design Runway		1,000	
Remove Buildings, S.W. Corner		200	
Construct Runway & assoc. taxiways		27,600	
<b><u>RE-ALIGNMENT OF ARIZONA ANG</u></b>			
Plan & design new facilities	(1)		
Construct replacement facilities		(1)	
Demolish old facilities		(1)	
<b><u>CROSS TAXIWAY W</u></b>			
* Construct assoc. taxiways <sup>(2)</sup>	623		
<b><u>CROSS TAXIWAY Y</u></b>			
* Construct Taxiway Y	7,500		
<b><u>CROSS TAXIWAY Z</u></b>			
Construct Taxiway Z		4,100	
<b><u>OTHER AIRFIELD IMPROVEMENTS</u></b>			
* Overlay north runway 8L-26R	2,396		
* Overlay south runway 8R-26L		2,516	
* Taxiway A (East) Extension	1,198		
* Construct Air Cargo Taxiways	4,939		
* Pave and Drain Fueling areas	200		
* Taxiway Signs & Lighting	370		
* Taxiways D, BB & Lighting	3,700		
* Construct Holding Pad, N. Runway		1,321	
* Replace T-2 ramp		5,000	
<b>TOTAL AIRFIELD COSTS BY PHASE</b>	<b>21,426</b>	<b>41,737</b>	<b>--<sup>(3)</sup></b>

\* Indicates project in Capital Improvements Program for Airport. Certain of the items scheduled for 1989-92 are currently under contract and funds are committed.

(1) Replacement costs of buildings estimated at \$33 million. Allocation of these costs between City of Phoenix and DOD will be negotiated.

(2) Taxiway currently under construction.

(3) No improvements scheduled for this phase, but there will likely be projects identified over the next 5-10 years.

Source: CIP and HNTB estimates.

TABLE XV.5

DEVELOPMENT COSTS BY PHASE, NAVIGATIONAL AIDS

Project	1989-92 (\$000's)	1993-97 (\$000's)	1998-2007 (\$000's)
<b><u>AIRPORT SURVEILLANCE RADAR</u></b>			
Conduct ASR relocation study		(FAA cost)	
Relocate ASR		(FAA cost)	
<b><u>OTHER NAVIGATIONAL AIDS</u></b>			
* Relocate FAA transmitter RT3 <sup>(1)</sup>			
Install ILS/MLS on 26R & 8L		490 (FAA cost)	
* Relocate FAA transmitter T4 RT2 <sup>(1)</sup>		439	
* Remove ILS from 8R, Install on new runway		(FAA cost)	
<b>TOTAL NAVAID COSTS, BY PHASE</b>	<b>929<sup>(1)</sup></b>	<b>--</b>	<b>--</b>

\* Indicates project is Capital Improvements Program for Airport. Certain of these items scheduled for 1989-92 are already under contract and funds are committed.

<sup>(1)</sup>Costs to be negotiated with FAA.

Source: CIP and HNTB estimates.

TABLE XV.6

## DEVELOPMENT COSTS BY PHASE, OTHER PROJECTS

Project	1989-92 (\$000's)	1993-97 (\$000's)	1998-2007 (\$000's)
<b><u>GENERAL AVIATION FACILITIES</u></b>			
* Rebuild NW Gen. Avn. Ramp	390		
* Rehab. Executive Terminal Ramp	1,520		
* Repave NW Gen. Avn. Ramp	1,500		
<b><u>CARGO FACILITIES</u></b>			
* Demolish Airport Maintenance Bldg.	200		
* Construct 4th Cargo Bldg.	4,505		
* Construct additional ramp	3,500		
<b><u>AIRPORT MAINTENANCE FACILITY</u></b>			
* Relocate Airport maintenance	1,670		
<b><u>AIRPORT BURN PIT</u></b>			
* Prepare temporary burn pit	100		
* Prepare permanent burn pit	740		
<b><u>AIRLINE MAINTENANCE</u></b>			
Realign Airplane		935	
Remove Dynair Hangar			600
<b><u>HOTEL</u></b>			
* Buy out lease	820		
Clear Site	(1)		
Construct Hotel	(1)		
<b><u>FUEL STORAGE FACILITIES</u></b>			
Construct City Facility	800		
Demolish USP's at T-4, Gate 207		80	
<b>TOTAL COSTS OTHER PROJECTS, BY PHASE</b>	<b>15,745</b>	<b>1,015</b>	<b>600</b>

\* Indicates project in Capital Improvements Program for Airport. Certain of these items scheduled for 1989-92 construction are already under contract and funds are committed.

(1) Not an airport cost.

Source: CIP and HNTB estimates.



TABLE XV.7

## TOTAL DEVELOPMENT COSTS, BY PHASE

Category of Project	1989-92 (\$000's)	1993-97 (\$000's)	1998-2007 (\$000's)
TERMINAL CONSTRUCTION	232,634	--	87,500
LAND ACQUISITION	--	67,400	--
ROADWAYS & PARKING	24,077	2,741	6,298
AIRFIELD	21,426	41,737	--
NAVIGATIONAL AIDS	929	--	--
OTHER PROJECTS	15,745	1,015	600
<b>TOTAL DEVELOPMENT COSTS, BY PHASE</b>	<b>294,811</b>	<b>112,893</b>	<b>94,398</b>

Sources: Tables XV-2 through XV-7.