

#	FUNCTIONAL AREA	LAND AREA REQUIREMENT					
		Actual	Required 2000	Planning Level I	Planning Level II	Planning Level III	Ultimate Level ¹
1	Terminal (No. of Gates)	25	25	0	35	40	52
2	Short Term Parking (SP) STP ²	2450	1090	0	1560	1880	2620
3	Mid-Term Parking (MP) MTP ²	1820	3400	1580	4880	5880	8180
4	Long-Term Parking (LTP)	57	56	0	81	97	135
5	Air Cargo	61.4	60	0	102	131	206
6	Belly Hold Cargo	5	7	2	9	10	15
7	RAC - Ready Return (RR) ³	1120	1120	0	1860	2240	3120
8	RAC - Individual Fac	49	49	0	70	85	118
9	RAC - Consolidated	0	0	0	54	61	85
10	Employee Parking	8	12	4	18	21	30
11	Airline Maintenance	0	15	15	22	26	37
12	Flight Kitchen	3	3	0	3	3.2	4.5
13	OSI Maintenance	3	3	0	3	3.5	4
14	Field Maintenance	1.7	3	1.3	3	3	5
15	Building Maintenance	1.3	1.5	2	1.5	2	3
16	ARFF	4.7	4.7	0	4.7	4.7	10
17	Fuel Facility	6.9	6.9	0	6.9	9.2	11.5
18	General Aviation ⁴	160	93	0	160	199	199
19	State Aircraft Pooling Mt	13	13	0	13	13	13
20	FAA Control Tower	13	13	0	13	13	13
21	Hotel (No. of rooms)	1	1	0	1	2	2
22	RCN Position (SP)	12	13	1	18	20	26
23	TANQ - Military	52	60	0	60	60	60
24	Control Point CP	1.8	1.8	0	1.8	1.8	3.2
25	Golf Course	323	323	0	323	323	323
26	DOA	3	3	0	3	3	6
27	Other	0	0	0	304	304	304

¹Short Term and Mid-Term spaces accommodated in multi-level garages.
²Ready Return spaces accommodated in consolidated RAC.
³Forecast demand accommodated by area provided.
⁴Ultimate land requirements are not shown on drawing.

Figure 5-11
Concept A-06A

Austin-Bergstrom International Airport

Master Plan Update

taxis and limos, etc. A new lower level terminal space can be created below the existing car rental area or bag claim level to house ground transportation services. The vacated car rental area on the existing bag claim level can be modified and expanded to accommodate additional bag claim devices as well as additional congregation areas for visitors.

In the outbound baggage area, substantial modification may be necessary to accommodate future space requirements for this function. Because of the manner in which individual airline baggage is laid out in the existing crescent shape space approximately half a level below the existing ramp level, the movements of baggage carts are often times impeded. Future passenger volumes will hinder the safe and secure operation of the outbound baggage function unless major renovation of this area is undertaken to improve the layout and the flow. In this concept, the approach is to create a sufficient area in, around or below the existing facility for the development of an efficient sortation system. Consideration has to be given to a 100 percent screening of all checked baggage that may take place either in the check-in lobby on the upper level and/or the outbound baggage sortation area.

The concourse area in the existing terminal may require a certain degree of retrofit work as airlines relocate or move to the new satellite concourse projected at Planning Level 3. The gate and holdroom areas currently located at the center of the south end of the existing concourse will be subject to major changes as a new terminal concourse connector is introduced and affixed to the terminal and linked to the satellite concourse approximately 1,000 feet clear to the south of the existing terminal.

The connection to the satellite is by an at-grade pedestrian connector equipped with moving walkways to link the existing terminal and the satellite concourse. Two other connection options are possible and were considered for the concourse connector. One would be a below-grade tunnel system also equipped with moving walkway, and the other would be an above-grade option to be constructed high enough to allow the bypassing of two Group III aircraft underneath it. The below grade connector was estimated to add approximately \$36 million to the cost of the concept, while adoption the above grade connector would add approximately \$10 million to the plan.

In the context of pedestrian connections between the parking garage and the terminal building, the addition of a four-level parking structure north of the existing three-level parking garage require the construction of at least three pedestrian overpasses to link the parking facilities to the terminal. These overpasses would be equipped with moving sidewalks and accessible from every level of the new parking garage and existing parking structure by stairways and elevators.

Ground Access and Parking

The ground access system associated with Concept A-06A utilizes the existing airport roadway system with additional components and roadway improvements described below.

Presidential Boulevard will continue to be the primary access road to the terminal building. New security/parking control plazas will be constructed in both directions of Presidential Boulevard between New Airport Drive and the terminal recirculation road. The new plazas will provide common entry and exit control points for all vehicle trip making within the terminal loop road.

Austin-Bergstrom International Airport Master Plan Update

Parking ticket dispensers will be provided on the entry plaza, and parking tollbooths on the exit plaza. In view of the heightened security requirements at airports, the new plazas will also have vehicle identification and surveillance equipment. When the new plazas becomes operational, the existing North and South Parking Toll Plazas will be demolished. The existing entry control equipment for the parking structures and lots will need to be converted from ticket dispensers to ticket validating machines, since parking tickets would be issued at the new entry plaza. The ticket validating machines would indicate where the vehicle parked, so that appropriate fees (short term, express or long term) could be determined at the tollbooths. The new plazas will extend over the existing Presidential Boulevard on- and off-ramps to New Airport Drive. As a result, these ramps will be relocated and reconfigured. The exit roadway from the plaza will connect directly to the SH 71 flyover.

A new third-level roadway will be constructed in front of the passenger terminal building to accommodate commercial vehicles (for hire shuttles, hotel shuttles, tour/charter buses, taxis, limos, etc.) as well as parking, rental car and employee shuttles. The third level roadway is envisioned to be constructed below ground level, which will require substantial excavation and add to the cost due to drainage issues at ABIA. Building the third level roadway overhead may be incompatible with terminal functions.

Cardinal Loop (the extension of Presidential Boulevard north of State Highway 71) will be widened from two to six lanes to provide access to the new remote long-term lot, the new employee parking lot, and the new rental car facility. Presidential Boulevard between the existing South Parking Toll Plaza and the existing off-ramp to New Airport Drive will be widened from four to five lanes. The section between the existing off-ramp to and on-ramp from New Airport Drive (recirculation roadway) will be widened from one to two lanes to accommodate increased recirculation traffic.

Existing access to the Ground Transportation Staging Area (GTSA) can be retained, but as an option can be reconfigured from Spirit of Texas Drive to Presidential Boulevard to ensure that all GTSA traffic passes through the new security/control plazas.

Presidential Boulevard will continue to provide private and shuttle vehicle access to the existing and new garages as well as the long-term lots.

Private vehicle access to the existing parking garage, the new garage, and the existing surface lots will be provided by the existing entry roadways from Presidential Boulevard. The construction of new security/control plazas would require the closure of the existing North Parking Toll Plaza so that all traffic associated with the existing surface lot would pass through the security/control plazas. Currently, the existing North Parking Toll Plaza allows surface lot traffic to exit the airport at Spirit of Texas Drive via Employee Avenue and New Airport Drive.

Spirit of Texas Drive will continue to provide access to the existing air cargo (via New Airport Drive and Cargo Avenue), ground support equipment maintenance (GSEM), fuel, and belly hold cargo facilities. It will also provide access to potential future air cargo area proposed in this concept to be constructed over the existing rental car area, the second central plant to be constructed across the

Austin-Bergstrom International Airport Master Plan Update

existing belly hold cargo area, and other uses to be developed on the existing Department of Aviation (DOA) area.

New Airport Drive will continue to provide access to the existing Airport Hilton Hotel, as well as to the existing flight kitchen, central plant, and terminal delivery docks via Service Avenue. The relocated DOA and building maintenance facilities east of the existing long term lots will be accessed via New Airport Drive. This road will also provide access to other new uses to be developed between SH 71 and New Airport Drive.

Golf Course Road will continue to provide access to the State Aircraft Pooling Board and the golf course area. In addition, it will provide access to other new uses planned in the vicinity of the State Aircraft Pooling Board.

Burleson Road and General Aviation Avenue will provide access to airport ancillary uses located on the south part of the airport. These areas include the existing and future general aviation, and future air cargo, belly hold cargo, field maintenance, GSEM, airline maintenance, and fuel facilities. These roads will also provide access to the new Texas Air National Guard (TANG) permanent site located on the northwest quadrant of Burleson Road and General Aviation Avenue.

US Highway 183 will provide access to other future uses to be developed in the vicinity of US Highway 183/Burleson Road intersection.

The third level of the existing parking structure, currently used for rental car ready/return, will be converted to public parking. A new four-level parking structure will be constructed over the existing Express Lot A. Both the existing structure and the new garage will accommodate short term (less than one day) and mid-term (1 to 3 days) parking. A new 71-acre remote long term parking lot will be constructed on the quadrant of Presidential Boulevard and State Highway 71. The existing rental car ready/return (R/R) area on the third level of the existing garage as well as the existing rental car service areas on Rental Car Lane will be relocated to a new consolidated rental car facility to be constructed north of State Highway 71. Employee parking will be provided in a 49-acre lot located on Cardinal Loop north of the new rental car area.

Airfield

The principal airfield components include a third parallel runway, parallel taxiway development, exit taxiways and midfield cross taxiways. Most of the airfield improvements are common to both of the final two alternatives. The primary differences between the final alternatives concepts relate to the midfield cross taxiway and parallel taxiway on the west side of the West Runway.

The concept accommodates a third parallel runway, designated Runway 17C-35C, that is 9,000 feet long and 150 feet wide. The centerline-to-centerline separation of the runway from the existing west runway (Runway 17R-35L) is 1,000 feet. The runway is located such that the north threshold is even with the north threshold of Runway 17R. The existing Runway 17R-35L with some modifications will be capable of accommodating New Large Airplane (NLA) operations should they materialize in the future.

Austin-Bergstrom International Airport

Master Plan Update

The location of the satellite concourse in this concept requires the relocation of the existing midfield cross taxiways. The cross taxiways must be constructed prior to construction of the satellite concourse.

Taxiway improvements in this concept include completion of a dual parallel taxiway system for Runway 17L-35R. This involves extension of Taxiway A to the north and south. Taxiway improvements for Runway 17L-35R also include construction of a high-speed exit taxiway that connects with the relocated midfield cross taxiways in this concept.

Taxiway improvements for Runway 17R-35L also assumed in this concept include development of a dual parallel taxiway capability. This involves extension of Taxiway C to the north and construction of Taxiway D. Taxiway D is 75 feet wide with a centerline-to-centerline separation of 267 feet from Taxiway C. Taxiways C and D will offer opportunities for accommodating NLA operations on the West Runway. Exit taxiway improvements include high-speed exits for Runways 17R and 35L and right angle exit taxiways. A right-angle exit is included 9,000 feet from the landing threshold of Runway 17R that also corresponds with the south threshold of a third parallel runway. A right-angle exit taxiway is also located approximately 9,000 feet from the landing threshold of Runway 35L.

Improvements for the Runway 17R-35L taxiway system also include widening of the entrance taxiway of Runway 35L to provide dual, or bypass, taxi capability and an aircraft deice area.

Air Cargo and Support Facilities

Cargo development in this concept includes construction of new aircraft cargo facilities in the southern portion of the airport in between the existing parallel runways. Access to the area would be from the south via General Aviation Avenue. Additional cargo facilities may be developed in the long-term in the area south of the existing cargo area that is presently occupied by rental car companies, which may be possible after rental car operations are relocated north of State Highway 71. A future belly hold cargo area is also included in this concept and is located near the intersection of Taxiway C and a future midfield cross taxiway.

Other support facilities in this concept included the following:

- **Airline Maintenance.** Airline maintenance facilities are located in the south portion of the airport in this concept, adjacent to the future TANG and west of General Aviation Avenue.
- **Flight Kitchens.** In-flight catering is presently located in close proximity to the passenger terminal. The flight kitchen function is planned to remain in its present location in this concept.
- **GSE Maintenance.** While modest expansion requirements of GSE maintenance facilities are projected, a second site is included in this concept in the south part of the airport to accommodate possible additional requirements.
- **Airport Maintenance.** Two locations are identified in this concept for Building and Field Maintenance functions. Building Maintenance is located in close proximity to the passenger terminal and Field Maintenance has been located in this concept immediately south of future (relocated) midfield cross taxiways and adjacent to the west side of General Aviation Avenue.

Austin-Bergstrom International Airport Master Plan Update

- Aircraft Rescue and Fire Fighting (ARFF). The existing ARFF building does not need to be relocated in this concept. A satellite ARFF station may be provided on the west side of the midfield area (east of the Maintenance Ramp) and is included in the concept.
- Fuel Farm. The present fuel farm can accommodate one additional storage tank and is assumed suitable to meet Planning Level 1 requirements. Facilities beyond Planning Level 1 must be provided at another location and a second fuel storage area is included in this concept on the south side of the airport immediately west of the proposed Field Maintenance facility.
- General Aviation. The existing General Aviation (GA) area may be retained in this concept to meet long-term GA requirements.
- Airport Traffic Control Tower (ATCT). The existing control tower will not need to be relocated in this concept, however, a portion of the leasehold is impacted by terminal development in this concept which will require some reconfiguration of automobile parking at the FAA air traffic facility.
- State Aircraft Pooling Board. The need for additional area for State Aircraft Pooling Board (SAPB) facilities was not identified in the facility requirements analysis. Therefore, no change is planned for the SAPB area.
- Texas Army National Guard (TANG). The (TANG) – Austin Army Aviation Support Facility will move from their current location to a permanent site at the intersection of Burleson Road and General Aviation Avenue. A 60-acre tract is dedicated for TANG use and the location and size of the TANG is assumed fixed for both concepts.
- Central Plant. A second central plant is located in this concept on the west side of Spirit of Texas Drive and will provide sufficient space to meet requirements for Planning Level 3.
- Airport Administration. A Department of Aviation (DOA) campus of approximately six acres is included in this concept in close proximity to the passenger terminal. Access can be provided via New Airport Drive. A minor operational presence may be retained at the terminal.
- Hotel. A second hotel is assumed in this concept to be developed adjacent to the existing hotel.
- Golf Course. The area designated for golf course includes portions of the existing golf course and other DOA land to develop a new 18-hole golf course. The location and size of the golf course is assumed fixed for both concepts.

Concept A-07A

Passenger Terminal

Concept A-07A is developed on the premise that not all passenger terminal operation emanates from the confines of the existing terminal facility, and rejects the idea of consolidating all core terminal functions within the existing terminal as well as the idea of expanding to the north. Instead, this concept features the creation of a unit terminal facility south of the existing terminal and south of the existing FAA control tower thus creating a decentralized operation and a balanced land use approach. Concept A-07A is presented in Figure 5-12.

This concept is a decentralized concept in the context that there are two distinct operating terminals with distinct group of airline tenants. A distinct terminal roadway system will be required to access the new unit terminal and many support facilities may need to be duplicated on the south side to serve the new

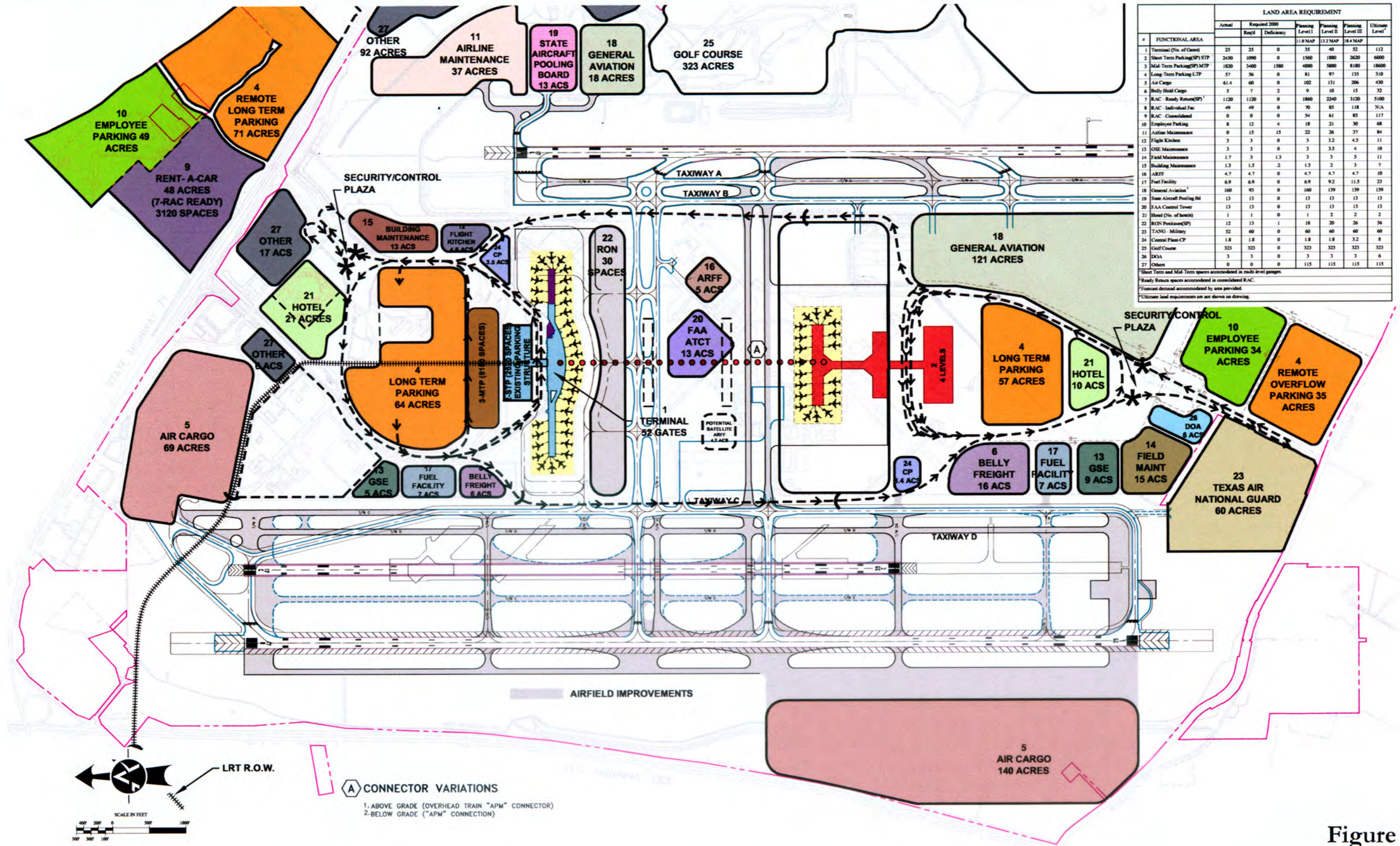


Figure 5-12
Concept A-07A

Austin-Bergstrom International Airport Master Plan Update

operation on the south. The unit terminal is envisioned as being linked to the existing terminal complex by way of a perimeter loop road.

At Planning Level 3 in Concept A-07A, the existing terminal would have to be preserved and maximized to its full capability and capacity. It is assumed that Planning Level 1 requirements will be met at the existing terminal and construction will be implemented to meet such needs while details for the implementation of Planning Level 3 requirements get underway. Improvements made at the existing terminal for Planning Level 1 will have to provide additional capacity for additional activity slightly beyond Planning Level 1 as Planning Level 2 will trigger the start of work on the south side of the airport property.

A three-level roadway system is proposed to accommodate the vehicular and curbside requirements projected for Planning Level 3. Similarly, the terminal will be planned to be a three-level facility with a mezzanine level added to house administrative office functions for the airlines and others if needed. DOA administrative offices are not intended to be housed in the new terminal. The upper level of the three-level terminal building will be dedicated strictly for passenger ticketing/check-in function. All required ticketing and check-in positions can be accommodated in the new terminal. With the potential reallocation and redistribution of various airlines into the two terminals, more public spaces can be created in both terminal lobby areas for use by the public represented by the well-wishers and the meeters and greeters. The south unit terminal development in this concept would enable the retention of the atrium area opening in the existing terminal over the existing baggage claim devices thereby preserving the architectural quality of the space.

It is assumed that approximately 750,000 square feet of new space will be constructed in the new terminal. Approximately 310,000 square feet will be dedicated to the double loaded satellite concourse to accommodate approximately 20 gates. The unique feature of the unit terminal in this concept is the complete separation of terminal and concourse functions. This will allow the independent changes or improvement in these two major functional areas to take place as airport and airline operation evolves. The creation of a double loaded concourse not only shortens the travel distance between the gate areas in the event of passenger transfers that may occur within the concourse, but it also allows a better concentration of concessions within the concourse area that can be rather visible from all the gate areas.

The physical separation of the terminal and the concourse gates provide the opportunity for each airline to choose the preferred location for their outbound baggage functions. Baggage claim requirements can be met in the new building to support inbound activities. Some minor modifications may be required to improve and expand the existing claim areas in the existing terminal structure.

The link between the terminal and the satellite concourse in the new south terminal is an at-grade connector equipped with moving sidewalks.

The advantage evident in Concept A-07A is the retention of key airfield elements such as the midfield cross taxiway. More importantly, A-07A preserves the land area between the existing terminal and the new terminal for future expansion beyond Planning Level 3. The disadvantage of Concept A-07A is the

Austin-Bergstrom International Airport Master Plan Update

impact on general aviation because part of its operation may be displaced or relocated in the early stages of airport development.

Another significant advantage of Concept A-07A is the retention of most of the facilities built and developed for the opening of ABIA in May 1999. This maximizes all prior infrastructure investments and eliminates the need to demolish newly constructed facilities built to satisfy the requirements established for Planning Level 3.

In terms of pedestrian connection between the new terminal and the proposed parking garage, a single overhead pedestrian connector will be provided and equipped with moving sidewalk. Escalators and elevators as well as stairways shall be provided on the garage side as well as on the terminal front to facilitate the vertical movement of people. The garage structure is separated from the face of the terminal in this concept by approximately 350 feet to 400 feet to provide as much open area as possible between the garage and the terminal, both from a security perspective as well as from a curbside and terminal roadway planning perspective.

Concept A-07A also preserves the existing RON positions. One of the most significant features of this concept is its influence on the development of a cargo site that will serve the long-term interest of ABIA. In view of the new unit terminal developed to the south of the airport property, air cargo must be relocated to an area with a large acreage available but also a location with good access. Consequently, in the concept, air cargo is located in a new area west of the West Runway.

Ground Access and Parking

The roadway system currently serving the passenger terminal will be modified to accommodate projected 2020 traffic demand.

New security/parking control plazas will be constructed in both directions of Presidential Boulevard between New Airport Drive and the terminal recirculation road, as previously described in Concept A-06A.

The terminal curbside roadway system will remain at two levels. However, a reconfiguration and reallocation of curb spaces for private and commercial vehicles will be necessary to accommodate projected curbside demand.

Cardinal Loop (the extension of Presidential Boulevard north of State Highway 71) will be widened from two to four lanes from State Highway 71. However, unlike Concept A-06A, the section between the new rental car facility and the new long-term parking lot will remain at two lanes.

The recirculation roadway section of Presidential Boulevard between the existing off-ramp to and on-ramp from New Airport Drive will remain at one lane, unlike Concept A-06A which requires two lanes to accommodate increased recirculation traffic.

Austin-Bergstrom International Airport

Master Plan Update

Similar to Concept A-06A, access to the existing Ground Transportation Staging Area (GTSA) can be retained or reconfigured from Spirit of Texas Drive to Presidential Boulevard to ensure that all GTSA traffic passes through the new security/control plazas.

Presidential Boulevard will continue to provide private and shuttle vehicle access to the existing lots and garage. Private vehicle access to the existing parking garage and surface lots will be provided by the existing entry roadways from Presidential Boulevard.

Spirit of Texas Drive will continue to provide access to the existing air cargo (via New Airport Drive and Cargo Avenue), ground support equipment maintenance (GSEM), fuel, and belly hold cargo facilities. New Airport Drive will continue to provide access to the existing Airport Hilton Hotel, as well as the relocated building maintenance and flight kitchen facilities east of the existing long term lots. Service Avenue will be relocated south of the existing in-flight kitchen area to provide access to the existing central plant and terminal delivery docks. This relocation is necessary since the new east spine road will cut across the existing Service Avenue.

Golf Course Road will continue to provide access to the State Aircraft Pooling Board and the golf course. In addition, it will provide access to other new uses planned in the vicinity of the State Aircraft Pooling Board, including airline maintenance and general aviation.

Primary access to the new south passenger terminal will be provided via Burleson Road and General Aviation Avenue. General Aviation Avenue will form the inbound direction of the new terminal loop road system. The south access road will be a divided roadway with two lanes in each direction for a total of four lanes from Burleson Road to the south security/control plazas.

New security/control plazas will be constructed in each direction of General Aviation Avenue, similar to the north security/control plaza to be constructed on Presidential Boulevard. The plazas will be located south of the recirculation roadway for the new south terminal.

The south terminal loop road system will have three lanes between the south security/control plazas and the garage access point, and two lanes between the garage access points and the terminal ramps. Two lanes will be provided on the recirculation section of the south terminal loop road.

The new south terminal roadway system will have three levels for arrivals, departures, and commercial/shuttle vehicles. Curbside configuration will be discussed below.

Separate access/egress ramps or roadways will be provided for the parking garage, long term parking, and the hotel, all of which are located within the new terminal loop road. These ramps/roadways will generally consist of one lane each, except for the garage which requires two lanes.

Two-lane two-way service roads will be constructed to provide access to airport ancillary uses on both sides of the new terminal loop. The service roads will be connected via ramps to the new terminal loop road system in the vicinity of the south security/control plazas. It is envisioned that the new terminal access road on General Aviation Avenue will be elevated in the vicinity of the control

Austin-Bergstrom International Airport

Master Plan Update

plazas to be able to cross over the service road which will be constructed at ground level. The east service road will serve the existing general aviation, and the future remote overflow and employee parking areas located east of General Aviation Avenue. The west service road will serve the future DOA Administration, field maintenance, GSEM, fuel farm, and belly hold cargo facilities that are located west of the new terminal loop road.

Burleson Road and General Aviation Avenue will provide access to the new Texas Air National Guard (TANG) permanent site located on the northwest quadrant of Burleson Road and General Aviation Avenue.

US Highway 183 will provide access to future air cargo and/or other uses to be developed in the vicinity of US Highway 183/Burleson Road intersection.

The new south passenger terminal will be connected to the existing passenger terminal via two one-way spine roads to be constructed partly underground and on alignments approximately parallel to the runways. Each spine road will have two lanes. The east spine road will flow in a one-way northbound direction from the new south terminal to the existing terminal. The west spine road will flow in a one-way southbound direction from the existing terminal to the new south terminal. The west spine road will impact the existing belly freight facility, which will need to be reconfigured to accommodate the west spine road alignment.

The terminal curbside roadways at the existing north terminal will remain at two levels. The existing Ground Transportation Staging Area (GTSA) will continue to function as the staging area for commercial vehicles serving the existing north terminal. However, access to the GTSA will be reconfigured from Spirit of Texas Drive to Presidential Boulevard to ensure that all GTSA traffic passes through the new security/control plaza.

The new south terminal will have a three-level roadway system. The first level roadway (at grade) will be used by arriving passengers. The second level roadway (above grade) will be used by departing passengers. The third level roadway (below grade) will accommodate commercial vehicles as well as parking, employee and rental car shuttles, effectively operating as the Ground Transportation Center for the new south terminal.

The third level of the existing parking structure, currently used for rental car ready/return, will be converted to public parking, as in Concept A-06A. The rental car ready/return area will be relocated to a new rental car facility. The existing long term Lots B to G will continue to provide long term (more than 3 days) parking spaces for the existing terminal. A new 71-acre remote parking lot will be constructed on the southeast quadrant of Cardinal Loop and State Highway 71, as in Concept A-06A. However, unlike Concept A-06A which provides this lot to accommodate long term parking demand, Concept A-07A provides this lot for overflow parking during peak summer and holiday seasons. Passengers will be transported between the passenger terminal and the new remote lot via dedicated parking shuttles.

Austin-Bergstrom International Airport

Master Plan Update

A new four-level parking structure will be constructed for the new south unit terminal. This structure will occupy approximately the same building footprint as the existing parking structure and will accommodate both short term and medium term parking.

A new 57-acre long term parking lot will be constructed south of the new parking structure. This lot will accommodate the projected long term parking demand in the new south terminal area.

The aforementioned parking lot/structure, as well as a potential new hotel, will be located inside the new terminal loop road system. Access to this lot and structure will primarily be controlled via new security/control plazas on General Aviation Avenue. Dedicated parking shuttle services will be provided between the long term lot and the new south terminal.

A new 35-acre remote parking lot will be constructed on the northeast quadrant of Burleson Road and General Aviation Avenue. This lot will be accessed directly from Burleson Road, as well as indirectly from General Aviation Avenue via the east service road. This remote lot will provide overflow parking spaces during peak summer and holiday seasons. Dedicated parking shuttles will also serve this lot.

A new consolidated rental car facility will be constructed north of State Highway 71, as in Concept A-06A. This facility will serve both the existing north terminal and the new south terminal. Separate employee parking lots will be provided for the existing north terminal and the new south terminal.

Airfield

Concept A-07A accommodates a third parallel runway, Runway 17C-35C, the same as in Concept A-06A. Accommodations for potential NLA operations and issues related to the rehabilitation of Runway 17R-35L are also the same as Concept A-06A.

While the proposed south side terminal in this concept does not impact the existing midfield cross taxiways, additional cross taxiways are proposed to serve the new terminal. The southernmost cross taxiway for the new terminal may be incorporated as an apron edge taxiway and aligned with the existing Taxiway T.

Taxiway improvements in this concept include completion of a dual parallel taxiway system for Runway 17L-35R and high-speed exits as in Concept A-06A. Taxiway improvements on the east side of Runway 17R-35L are also similar to Concept A-06A.

A major difference from Concept A-06A is the need to develop a west side parallel taxiway for Runway 17R-35L to serve the future cargo area. A 75-foot wide taxiway is provided with a runway centerline to taxiway centerline of 400 feet. The west side of the runway will be served by high-speed and right angle exits, and dual entrance taxiways. An apron edge taxiway on the cargo apron will provide dual taxiway capability in the cargo area. This concept also requires the development of access taxiways east of Runway 17L-35R to serve future airline maintenance and general aviation areas.

Austin-Bergstrom International Airport Master Plan Update

Air Cargo and Support Facilities

Cargo development in this concept includes construction of new aircraft cargo facilities west of Runway 17R-35L. Access to the area would be via U.S. Highway 183. As with Concept A-06A, the area presently occupied by rental car companies may be used for cargo expansion if needed. The west side spine road that connects the north terminal to the south terminal area will impact a portion of the existing belly hold cargo facility, which will need to be reconfigured to accommodate the west spine road alignment. A future belly hold cargo area is also included in this concept and is located along Taxiway C near the southern end of Runway 35L.

Other support facilities in Concept A-07A include:

- **Airline Maintenance.** Airline maintenance facilities are proposed to be located east of Runway 17L-35R and immediately north of the State Aircraft Pooling Board.
- **Flight Kitchens.** In-flight catering is located in the same general area as Concept A-06A, in close proximity to the passenger terminal.
- **GSE Maintenance.** GSE maintenance facilities are accommodated in a similar manner as Concept A-06A with a second site included in the south part of the airport to accommodate possible additional requirements.
- **Airport Maintenance.** Two locations are identified in this concept for Building and Field Maintenance functions. Building Maintenance is located in close proximity to the existing passenger terminal and Field Maintenance has been located in the south part of the airport immediately north of the planned TANG area.
- **Aircraft Rescue and Fire Fighting (ARFF).** The existing ARFF building does not need to be relocated in this concept. A satellite ARFF station may be provided on the west side of the midfield area and is included in the concept.
- **Fuel Farm.** As with Concept A-06A, the present fuel farm can accommodate one additional storage tank and is assumed suitable to meet Planning Level 1 requirements. Facilities beyond Planning Level 1 must be provided at another location and a second fuel storage area is included in this concept on the south side of the airport near the south end of Runway 17R-35L.
- **General Aviation.** Most of the existing General Aviation (GA) area may be retained in this concept, however, approximately 39 acres of the existing area will need to be relocated. A new GA area is included in this concept south of the State Aircraft Pooling Board. This will require extension of taxiway access to the site.
- **Airport Traffic Control Tower (ATCT).** The existing control tower is not impacted by proposed passenger terminal development and therefore remains unchanged in this concept.
- **State Aircraft Pooling Board.** The State Aircraft Pooling Board (SAPB) facilities are unchanged and remain in place as in Concept A-06A.
- **Texas Army National Guard (TANG).** The (TANG) – The location and size of the TANG is the same as Concept A-06A and located on a 60-acre tract at the intersection of Burleson Road and General Aviation Avenue.
- **Central Plant.** A second central plant is located in this concept on the south part of the airport to serve the proposed south unit terminal.

Austin-Bergstrom International Airport Master Plan Update

- Airport Administration. A Department of Aviation (DOA) campus of approximately six acres is included in this concept to the east of the proposed Field Maintenance area.
- Hotel. A second hotel is assumed in this concept to be developed in the southern part of the airport in the proposed south terminal area.
- Golf Course. The location and size of the golf course is the same as Concept A-06A.

Evaluation Process

An evaluation workbook was prepared for DOA staff to assist them in reviewing and evaluating the final two alternatives. An evaluation matrix was also included to facilitate DOA in evaluating the final two alternatives. The matrix is presented as Table 5-2 and included the following six factors.

- Constructability. This factor considers the impacts of a construction program on airport operations, as well as the relative ease of construction.
- Minimal Disruption to Existing Operations. While similar to the first factor, this factor considers potential disruption (inconvenience) to passengers and airlines, and impacts on airport support facilities.
- Ease of Phasing. The ability of a concept to expand incrementally and respond to changing requirements in the aviation industry is a positive attribute of an alternative plan.
- Functional Accommodation and Distribution of Support Facilities. This factor considered if support facilities are effectively provided at permanent sites, and capable of accommodating long term requirements.
- Expansion Flexibility. The ability to expand to accommodate demand beyond that which is forecast in the master plan for both the passenger terminal and other airport facilities.
- Financial Ramifications. This factor includes the overall cost to implement a concept as well as the rates and charges that may be required. In terms of costs, an order of magnitude estimate of capital costs was prepared for the two final alternatives.

Following the distribution and review of the evaluation workbook, a workshop with DOA was held to identify a preferred alternative.

Evaluation Results

At a DOA workshop on December 17, 2001, a consensus was reached that Concept A-07A represents the preferred strategy for the long-term development of the airport. As explained below, this was also the consensus of airline representatives and a peer review of the master plan, primarily the alternatives evaluation.

Concept A-07A was preferred as it provided expansion capability beyond the twenty-year planning horizon, minimized operational impacts and disruption to existing terminal facilities and permitted new terminal facilities to be developed at a “greenfield” site, and balanced the distribution of services on airport. The concept also retained the existing midfield cross taxiways and FAA control tower, and also permitted the existing passenger terminal to retain its character and design simplicity. Cost was also a concern and a consideration of DOA staff involved in the process. The cost difference

Austin-Bergstrom International Airport Master Plan Update

between Concepts A-06A and A-07A was estimated at approximately two percent. The cost for each alternative is summarized in Table 5-3, which presents the cost by major airport functional area or cost item. The costs shown represent costs to DOA and do not include costs to third parties. Third party costs were estimated at approximately \$325 million for both of the final alternatives. Details of the cost estimate were contained in Appendix A of Evaluation Workbook 2.

**Table 5-2
PASSENGER TERMINAL COMPLEX EVALUATION MATRIX
FOR FINAL TWO ALTERNATIVES**

#	Evaluation Criteria	Weight Factor	A-06A		A-07A	
1	Constructability	15				
2	Minimal Disruption to Existing Operations	15				
3	Ease of Phasing	15				
4	Support Facility Distribution	20				
5	Expansion Capability	20				
6	Financial Ramifications	15				
TOTAL		100				

The costs shown in Table 5-3 include some costs that had previously been budgeted by DOA. These included improvements previously included under the DOA CIP that total approximately \$168 million for both concepts. The CIP has since been revised by DOA.

Based on the evaluation of concepts, and concurrence of the findings by airlines and peer review, Concept A-07A was identified as the preferred development option to be carried forward as the basis for the recommended development program. The final phase of the master plan involved refining, modifying and defining in further detail the preferred concept. This included development of airport layout plans, terminal expansion plans, environmental screening, phasing and implementation program.

Austin-Bergstrom International Airport Master Plan Update

Table 5-3
SUMMARY OF ORDER OF MAGNITUDE COSTS
CONCEPTS A-06A AND A-07A
(\$ millions)

Cost Item	Concept A-06A	Concept A-07A
Airfield	\$69 M	\$101 M
Passenger Terminal (incl. apron & RON)	\$309 M	\$250 M
Roads & Parking	\$115 M	\$130 M
Air Cargo	\$44 M	\$49 M
Other Support Facilities	\$65 M	\$81 M
Utilities	\$9 M	\$13 M
Demolition	\$10 M	\$10 M
Land Acquisition	\$28 M	\$28 M
Allowances	\$668 M	\$683 M
CIP Improvements	\$168 M	\$168 M
Total	\$1,485 M	\$1,513 M

Source: P&D Aviation, Ben Lao & Associates, Martinez Wright & Mendez, Inc.

CONCEPT A-07A, THE PREFERRED ALTERNATIVE

As mentioned above, the preferred alternative passenger terminal complex concept selected by DOA was Concept A-07A. The consensus with respect to the preference of this concept plan was based on several key factors.

- **Constructability.** The fact that construction of new terminal facilities will essentially occur at a “greenfield” site was very attractive in terms of minimizing impacts on passengers in the terminal and on terminal roadways since it is separated from the existing terminal. The terminal development may occur relatively easily and need not consider working around an operating terminal building.
- **Existing Terminal.** The concept permits the character and design simplicity of the existing terminal to be retained. There will also be minimal disruption to existing terminal facilities.
- **Expansion Capability.** Concept A-07A provides a plan to meet passenger terminal and other support facility requirements well beyond the twenty-year planning horizon of the Master Plan Update.
- **Balanced Land Uses.** The preferred development alternative provides a balance of land uses and distribution of services between the north and south sides of the airport, as well as between airside and landside functions.

Austin-Bergstrom International Airport Master Plan Update

- **Support Facilities.** The concept provides ample opportunities to accommodate support functions, and impacts on existing support facilities are minimized.
- **Airfield.** The existing midfield cross taxiways are not impacted by the proposed development and can be retained. The existing FAA Airport Traffic Control Tower and TRACON may also be retained during the planning period.
- **Access.** The development of a second airport access point will serve to divert airport traffic from SH 71.
- **Cost.** Overall, the cost difference between the preferred alternative concept and the other finalist (Concept A-06A) was approximately two percent.
- **Consensus of Committees and Peer Review.** The alternatives evaluation process was presented to the Technical Advisory Committee, Aviation Advisory Committee and Airline Technical Committee that participated in the Master Plan Update. Each meeting with these committees concluded that Concept A-07A reflects the preferred development strategy. Likewise, a Peer Review hosted by the DOA also concluded that Concept A-07A best represents the long-term development strategy for the airport.

Based on the results of the alternatives process, it is concluded that Concept A-07A represents the preferred course of action and that the concept should serve as the basis for final planning tasks of the Master Plan Update. These include performing an environmental evaluation of the preferred development alternative, preparation of terminal expansion plans, and development of an implementation plan.