

SECTION D2

INVESTMENT NEEDS FOR THE LATTS STRATEGIC AIRPORT SYSTEM

The Alliance Region is the dominant air gateway to Latin America, and accommodates over 80 percent of Latin American air cargo trade (export and import) for the U.S. Much of this is due to the proximity of the Region to Latin America and the existence of major international gateway facilities.

Investment needs for the LATTS Strategic Airports were based on the estimated forecast increase in air cargo tonnage for LATTS Strategic Airports, with specific emphasis on the need for facilities to accommodate Latin American air cargo.

BASELINE FREIGHT VOLUMES

The initial element of the investment needs analysis was the establishment of the baseline year (1996) cargo tonnage and facilities usage for the LATTS Strategic Airports. A determination of total air cargo tonnage (international, Latin American, domestic, and mail) by state was developed. Domestic cargo and mail tonnage was obtained from Airports Council International. Total international air cargo tonnage was derived by using ACI or DRI International data, whichever was larger. Since the DRI data is for freight only and excludes mail and express, this approach was used to derive an international estimate that is more inclusive of other freight sectors.

Latin American air cargo tonnage was derived by determining the ratio between DRI Latin American tonnages versus DRI International flows, and applying that ratio to the derived total international air cargo tonnage. This approach resulted in a Latin American estimate that is inclusive of all freight sectors (even those not reported by DRI). LATTS Strategic Airports System 1996 air cargo tonnage by state for derived international and derived Latin American air cargo are shown in **Exhibit D2-1**.

These data clearly show that Florida is the dominant Latin American (and U.S.) state gateway. Florida handles over 90 percent of the Southeast Alliance Region's airborne gateway Latin American trade. Much of this is due to Miami-Dade County's cultural and socioeconomic ties with Latin America and the proximity of Miami International Airport to Latin American markets.

BASELINE CARGO BUILDINGS

An inventory of baseline year cargo building facilities in the Alliance Region and a determination of baseline year international and Latin American air cargo building utilization was undertaken as part of these analyses. This included a survey of the forty-six existing airports included in LATTS Strategic Airport System. The survey documented existing cargo building area as reported by the airport or as

**Exhibit D2-1
BASE YEAR INTERNATIONAL AND LATIN AMERICA AIR CARGO DATA**

Alliance Member	1996 International Tonnage	1996 Latin American Tonnage
Alabama	14,358	297
Arkansas	216	1
Florida	1,383,214	1,218,345
Georgia	163,917	8,030
Kentucky	15,980	270
Louisiana	2,539	0
Mississippi	0	0
North Carolina	52,266	7,382
Puerto Rico	36,515	20,311
South Carolina	11,292	905
Tennessee	124,585	15,144
Texas	191,396	23,089
Virginia	34,629	835
West Virginia	10,305	1,206
Totals	2,041,211	1,295,814

SOURCE: DRI-McGraw Hill and ACI.

identified in airport master plans. A cargo building utilization rate was determined for each state's air cargo facilities by dividing reported cargo building area by estimated annual airfreight tonnage.

Exhibit D2-2 depicts 1996 cargo building area and utilization rates by state. For planning study purposes, a rate of 1.5 square feet of building area per ton of annual airfreight is generally used to assess adequacy of air cargo facilities. This utilization rate is based on an average utilization rate at major U.S. airports. Graphic depictions by state of total baseline cargo building square feet and estimated domestic and international cargo building utilization are shown in **Exhibits D2-3** and **D2-4**.

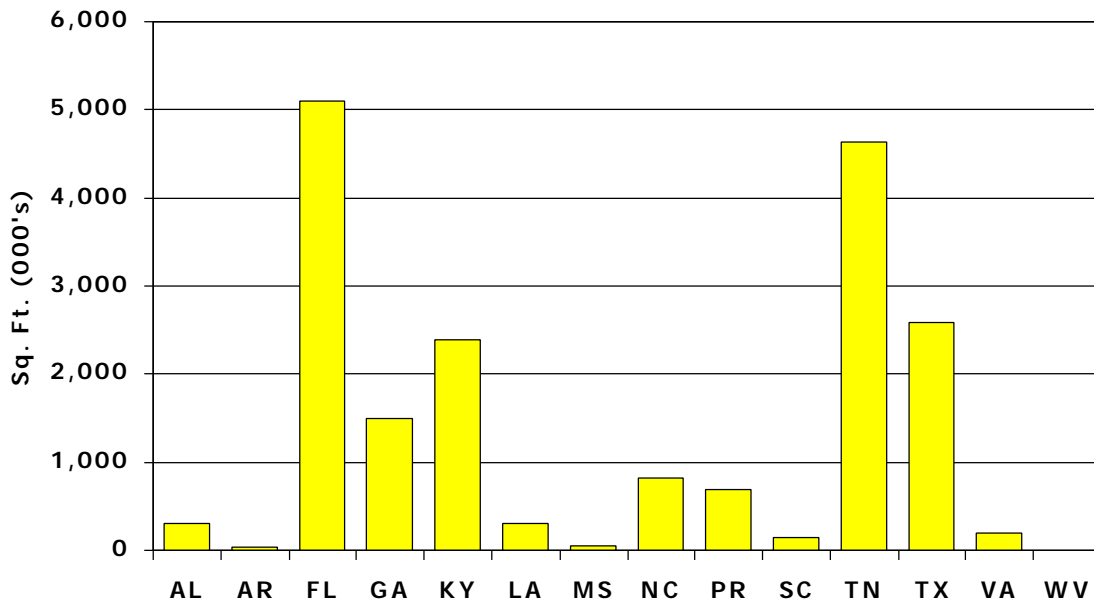
Air cargo forecasts for the Alliance Region for the forecast year 2020 were developed using the DRI forecasts produced as part of the LATTTS study. In addition, a control total for total (international and domestic) 2020 air cargo traffic through the Alliance was derived by applying a growth rate to the 1996 ACI estimate. An average annual growth rate of 5.9% was used. This is based on published air cargo industry forecasts such as the Airbus Global Market Forecast (1999). Based on this, air cargo is expected to grow from a 1996 base of 9.4 million tons to over 35 million tons in 2020, an increase of 26 million tons. Of that, approximately 6 million tons is expected to be international air cargo, over half (3.7 million) of which is expected to be Latin American air cargo.

Exhibits D2-5 and **D2-6** depict the international and Latin American air cargo tonnage forecast by state for 2020. **Exhibits D2-7** and **D2-8** graphically illustrate the significant increase in air cargo for the Alliance by 2020 for both domestic and international air cargo tonnage.

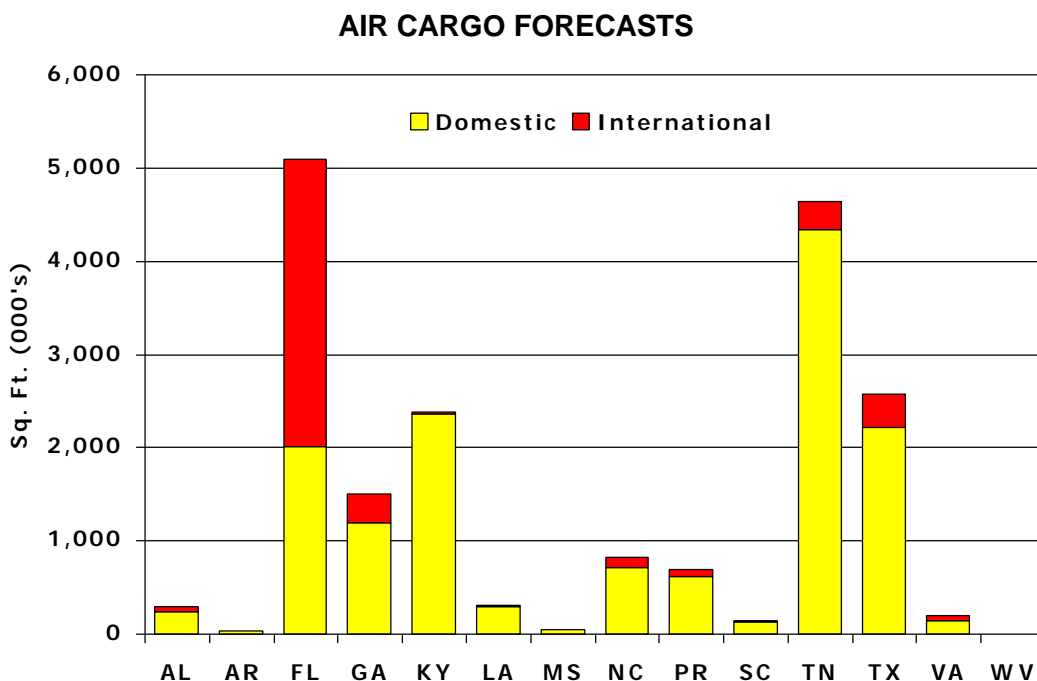
**Exhibit D2-2
CARGO BUILDING AREA UTILIZATION RATE BY STATE**

ALLIANCE Member	1996 Cargo Building Area	1996 Cargo Utilization Rate
Alabama	302,145	4.2
Arkansas	38,280	1.9
Florida	5,090,805	2.2
Georgia	1,500,000	1.9
Kentucky	2,387,901	1.4
Louisiana	311,875	3.9
Mississippi	47,000	0.7
North Carolina	818,763	1.9
Puerto Rico	693,850	1.9
South Carolina	142,106	0.9
Tennessee	4,635,046	2.3
Texas	2,582,320	1.9
Virginia	197,475	1.5
West Virginia	N/A	N/A
Totals	18,747,568	2.0

**Exhibit D2-3
AIR CARGO BUILDING SPACE, BY STATE**



**Exhibit D2-4
UTILIZATION OF EXISTING AIR CARGO BUILDING SPACE, BY STATE**

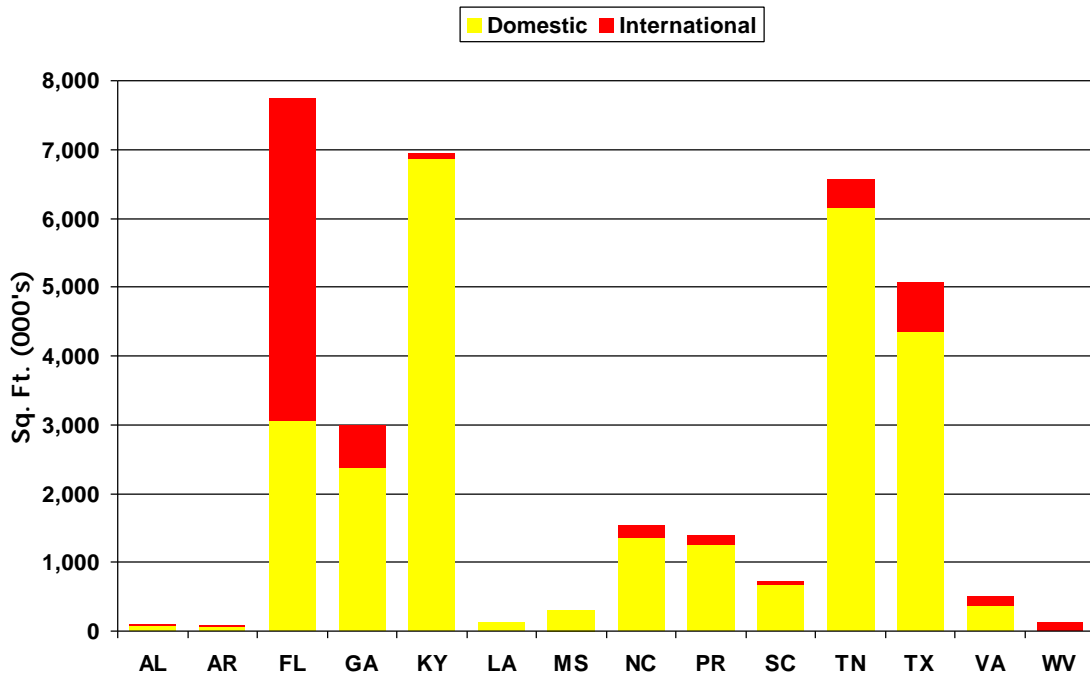


**Exhibit D2-5
INTERNATIONAL AND LATIN AMERICAN AIR CARGO FORECAST
FOR THE ALLIANCE REGION**

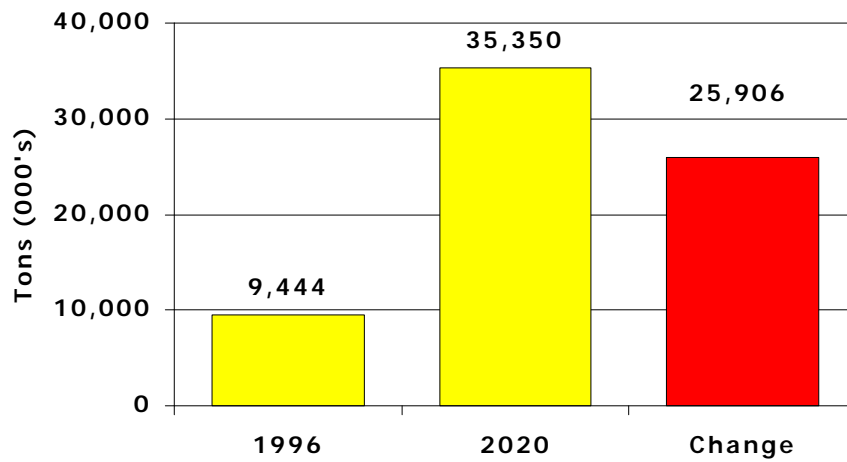
Alliance Member	2020 International Tonnage	2020 Latin American Tonnage
Alabama	44,828	1,079
Arkansas	1,069	2
Florida	3,781,959	3,404,615
Georgia	672,713	36,626
Kentucky	11,908	424
Louisiana	0	0
Mississippi	0	0
North Carolina	259,621	43,334
Puerto Rico	140,492	75,977
South Carolina	55,323	4,120
Tennessee	532,044	78,655
Texas	568,347	75,742
Virginia	130,942	4,136
West Virginia	52,008	7,806
Totals	6,251,253	3,732,515

SOURCE: Derived from DRI-McGraw Hill and ACI data.

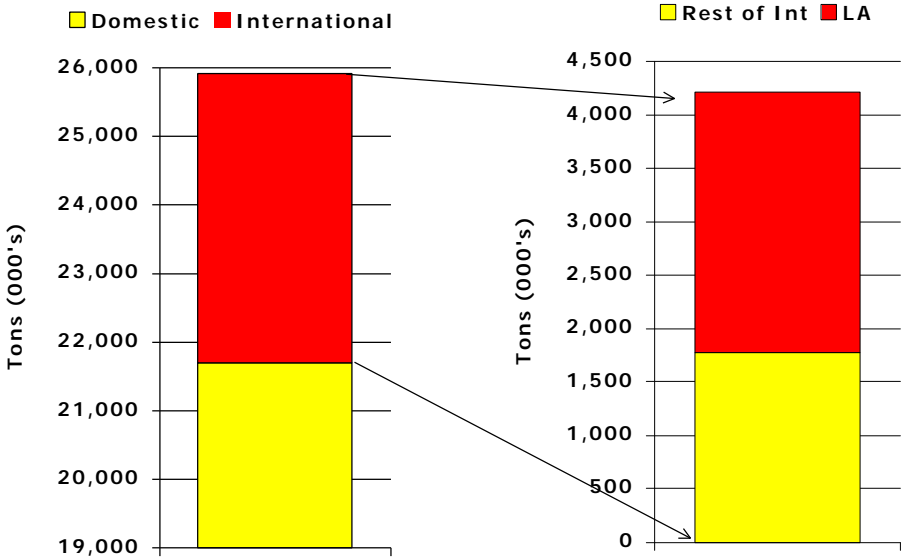
**Exhibit D2-6
2020 TONNAGE BY STATE, DOMESTIC AND INTERNATIONAL**



**Exhibit D2-7
EXPECTED INCREASE IN TOTAL AIR CARGO TONNAGE
THROUGH THE ALLIANCE**



**Exhibit D2-8
LATIN AMERICAN PORTION OF ALLIANCE AIR CARGO TRAFFIC GROWTH**



It is important to note that the individual state forecasts are based on 1996 shares among the member states. Moreover, the forecasts do not reflect any future constraints that may develop. Therefore, these forecasts do not account for potential shifts among states due to market changes, capacity constraints, or any other reason. These forecasts were used as a basis to compute future capacity needs for the Region as a whole. Actual apportionment of future capacity investment among the member states is dependent on individual state efforts to capture a share of future capacity improvements and market.

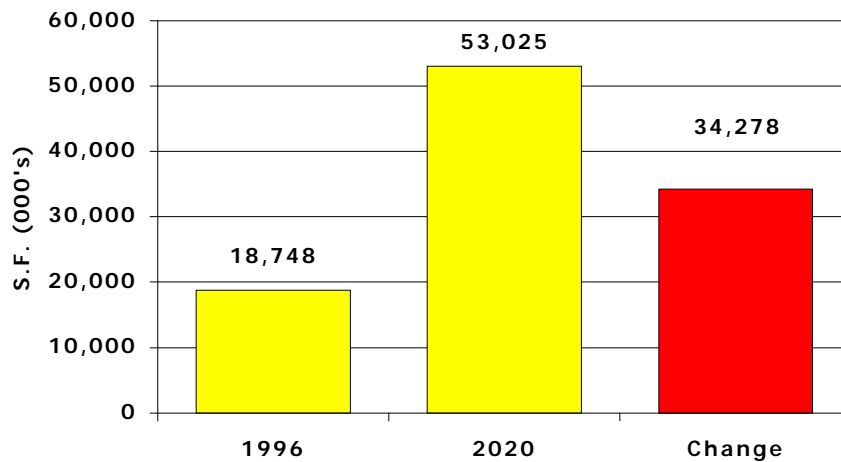
ADDITIONAL CARGO BUILDING REQUIREMENTS

The investment needs assessment analysis determined 2020 cargo building area requirements by state. As previously noted, a cargo building utilization of 1.5 square feet per ton of annual airfreight was used for general planning purposes. Total cargo tonnage forecast for 2020 was multiplied by 1.5 to arrive at the amount of cargo building area needed. Existing 1996 cargo building area was then subtracted from this amount to determine the need for new cargo building square footage. The 2020-need analysis for new cargo building area for the Alliance Region and by state is presented in **Exhibits D2-9, D2-10 and D2-11.**

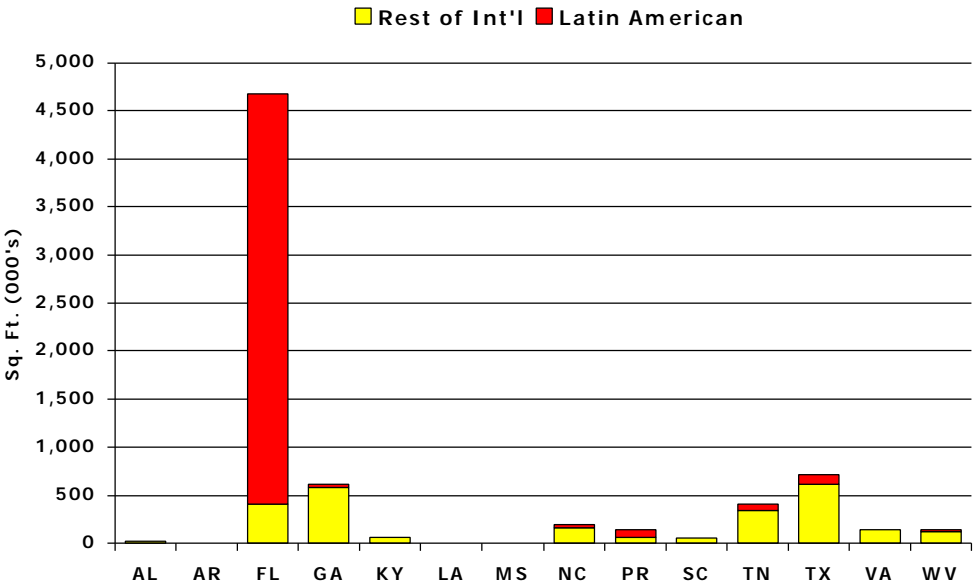
**Exhibit D2-9
2020 ESTIMATED CARGO BUILDING AREA NEEDS**

Alliance Member	2020 Total Cargo Building Area	2020 New Cargo Building Area Needed
Alabama	405,687	103,542
Arkansas	115,172	76,892
Florida	12,837,581	7,746,776
Georgia	4,490,313	2,990,313
Kentucky	9,334,480	6,946,579
Louisiana	446,520	134,645
Mississippi	352,458	305,458
North Carolina	2,374,196	1,555,433
Puerto Rico	2,082,095	1,388,245
South Carolina	870,246	728,140
Tennessee	11,205,448	6,570,402
Texas	7,659,132	5,076,812
Virginia	716,165	518,690
West Virginia	135,802	135,802
Totals	53,025,294	34,277,726

**Exhibit D2-10
CHANGE IN CARGO BUILDING NEEDS FOR THE ALLIANCE REGION**



**Exhibit D2-11
2020 BUILDING NEEDS BY STATE, INTERNATIONAL AND LATIN AMERICA**



CARGO RAMP AND APRON AREA REQUIREMENTS

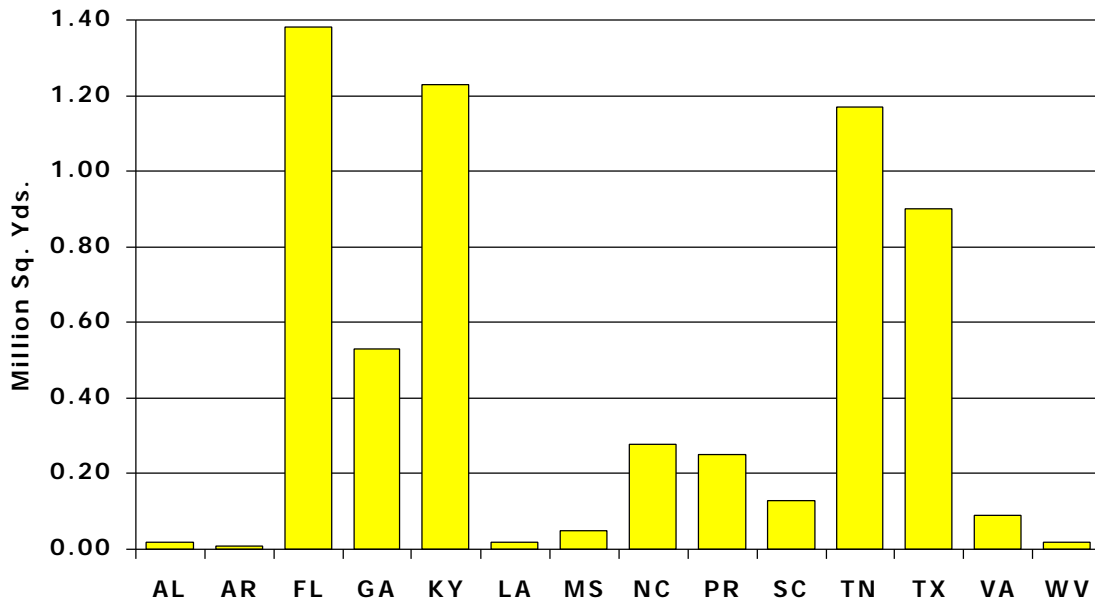
New air cargo ramp/apron area that would be needed also was estimated. This estimate was based on new building square footage and aircraft parking/maneuvering requirements. One aircraft parking position per 45,000 square feet of new cargo building area was used to estimate new air cargo ramp/apron areas. Ramp/apron area determinations were based on an adequate parking position/maneuvering area for a Boeing 767-300 freighter, which equates to 8,000 square yards of apron/ramp area. This aircraft parking position area would provide sufficient apron/ramp area for a mix of smaller or larger cargo aircraft. **Exhibit D2-12** depicts the amount of new apron/ramp area required by state by the year 2020.

INFRASTRUCTURE NEEDS COST ESTIMATE

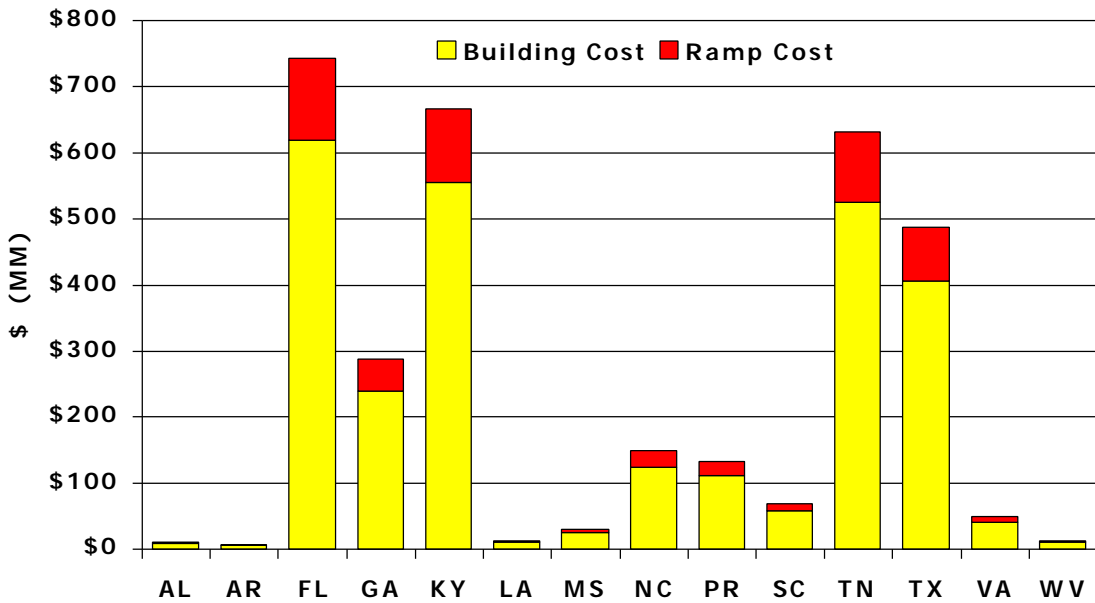
As a final component of the needs analyses, an estimate of infrastructure costs for new cargo building and ramp area was developed. New cargo building costs were based on \$80 per square foot. New ramp/apron area was based on \$90 per square yard. New cargo building costs for the Alliance Region were estimated to be approximately \$2.74 billion dollars. New ramp/apron area costs for the Alliance Region were estimated to be approximately \$548 million dollars. **Exhibits D2-13, D2-14, and D2-15** portray 2020 air cargo infrastructure costs for each state.

In summary, overall total air cargo building square footage in the Alliance will need to increase by an approximate factor of 3 to accommodate projected total 2020 air cargo tonnage. A conservative estimate of \$3.2 billion dollars will be needed to fund this infrastructure.

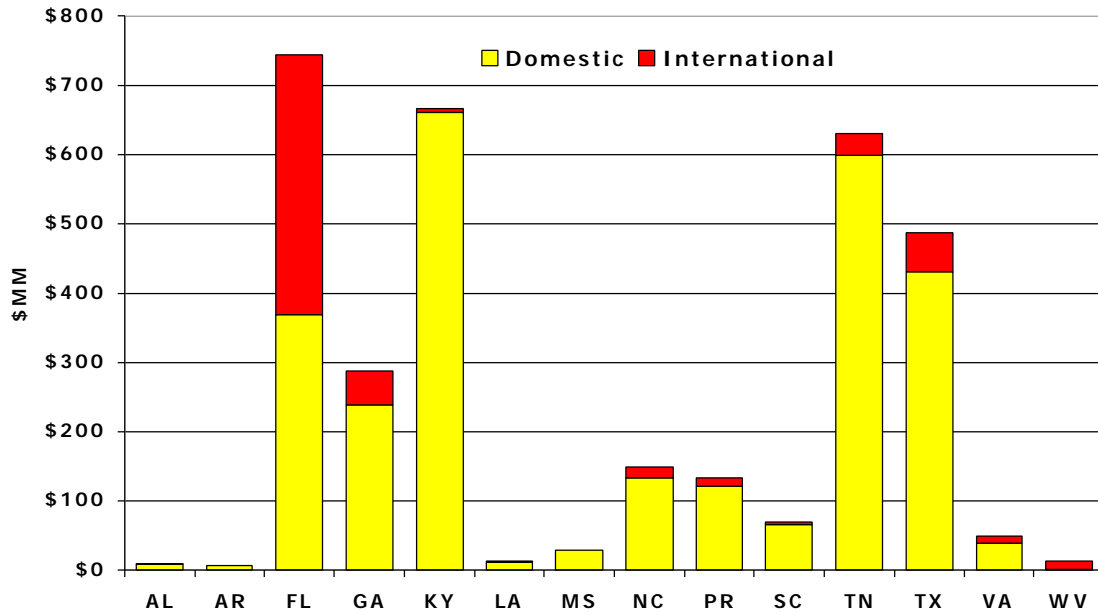
**Exhibit D2-12
2020 CARGO APRON NEEDS, ALL CARGO**



**Exhibit D2-13
2020 AIR CARGO INFRASTRUCTURE COSTS – NEW CARGO BUILDING & RAMP SPACE**



**Exhibit D2-14
2020 AIR CARGO INFRASTRUCTURE COSTS – DOMESTIC AND INTERNATIONAL**



**Exhibit D2-15
2020 AIR CARGO INFRASTRUCTURE COSTS – INTERNATIONAL AND LATIN AMERICA**

