

SECTION D

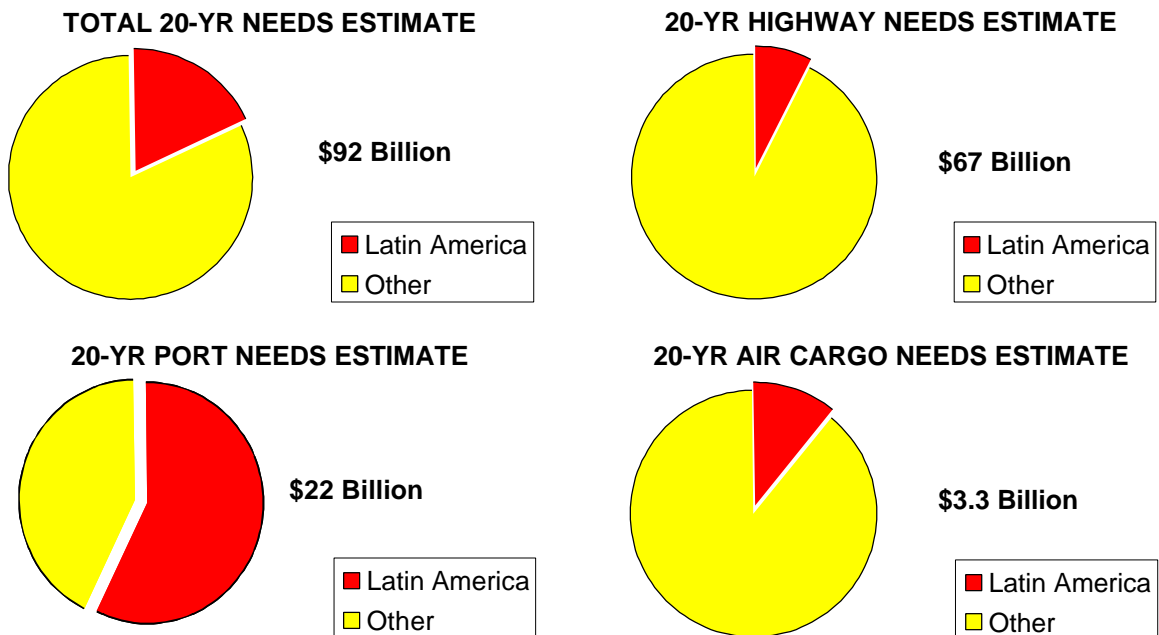
INVESTMENT NEEDS

The analysis of investment needs as reported in this section provides a perspective for the adoption of investment strategies that will achieve the LATTS goal and its seven supporting objectives that are discussed in Section E. The overview and perspective which follows indicates the magnitude of the challenge that lies ahead as well as various characteristics of the total investment needs. These features, in turn, influenced the particular strategies which were adopted by the study.

TOTAL INVESTMENT NEEDS

Depicted in **Exhibit D-1** are various characteristics of public sector investment needs on an overall basis. These needs encompass the LATTS Strategic Port, Airport and Highway Systems. No needs are included for the LATTS Strategic Rail System because they are almost exclusively the domain of the private sector and are not directly germane to public investment strategies. Nevertheless, the rail system and its freight transportation role and performance characteristics does influence, to a degree, public sector investment strategies for other modes, particularly highways.

Exhibit D-1
20 YEAR NEEDS ESTIMATES



Public sector investment needs on the LATTTS Strategic Transportation System were found to be as follows:

- ▶ Total needs amount to \$92 billion over the 20-year period.
 - B Of this amount, \$18 billion, or 20 percent of the total, are the direct result of Latin American traffic.
 - B The vast majority of total needs (80 percent) are required to serve personal travel and non-Latin American freight flows.
 - B Given this relationship and the nature of the LATTTS Strategic Transportation System, investments aimed at serving growing trade flows with Latin America will also have a very substantial impact upon serving overall transportation needs within the Alliance Region.

- ▶ Twenty-year port needs amount to \$22 billion.
 - B This represents 24 percent of the total for all needs on the LATTTS Strategic Transportation System.
 - B Of the port total, the majority (57 percent) is related to trade with Latin America. This reflects the importance of Latin America trade flows to the Alliance Region's ports.

- ▶ Air cargo needs of the LATTTS Strategic Airport System amount to \$3.3 billion.
 - B This is the smallest of the three modal components, constituting only 4 percent of the total.
 - B Of the air cargo total, only 12 percent is directly related to Latin American trade flows.
 - B The vast majority of total needs (88 percent) are a result of air cargo needs associated with other international and domestic flows.

- ▶ Needs for the LATTTS Strategic Highway System total \$67 billion over the 20-year analysis period.
 - B Highway needs are the largest component of total needs of the three modes at 72 percent.
 - B Nevertheless, only 8 percent of the total needs of the LATTTS Strategic Highway System is directly related to trade with Latin America.
 - B On the other hand, some 92 percent of the needs of the LATTTS Strategic Highway System are attributable to traffic flows which are not directly associated with Latin American trade flows.

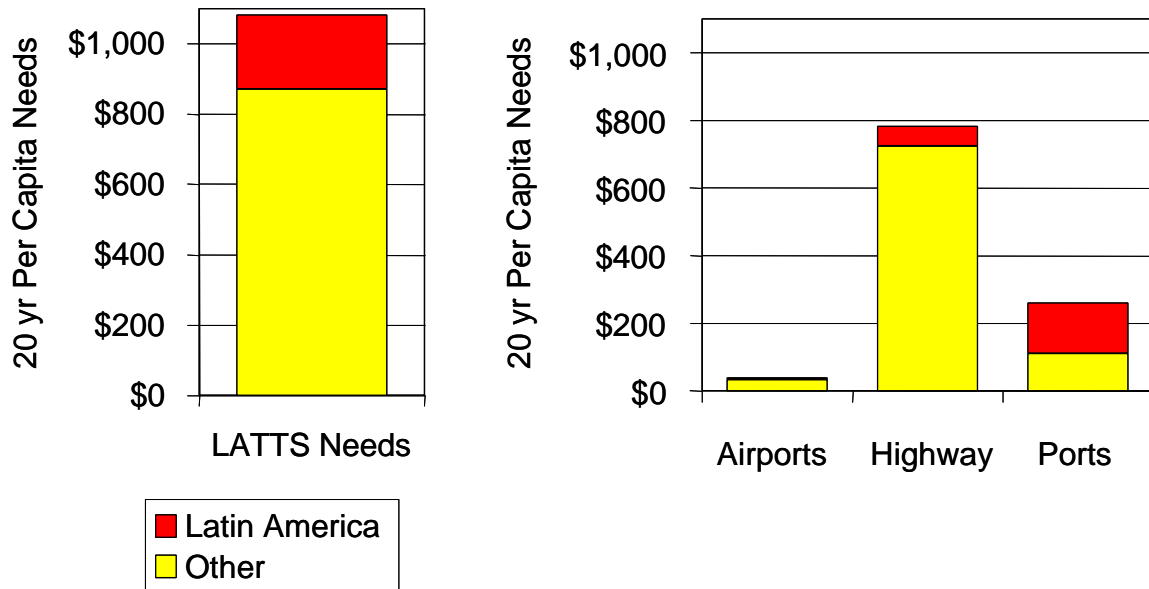
Investment Needs Per Capita

The \$92 billion in needs for the LATTTS Strategic Transportation System clearly is a hefty amount. However, when viewed in terms of per capita investment needs, it takes on a different perspective, as depicted in **Exhibit D-2**. For this presentation, per capita estimates were based on regionwide population (1998).

- ▶ Total needs of \$92 billion equates to \$1,082 per person over 20-years.
- ▶ The Latin American component of total needs amount to \$211 per capita, or only 20 percent of the total.
- ▶ Per capita needs are significantly higher for the highway component, amounting to \$783 over 20-years.

- ▶ Port per capita needs for the 20-years amount to \$260.
- ▶ By far the smallest per capita needs by mode is for airport cargo facilities at \$39.

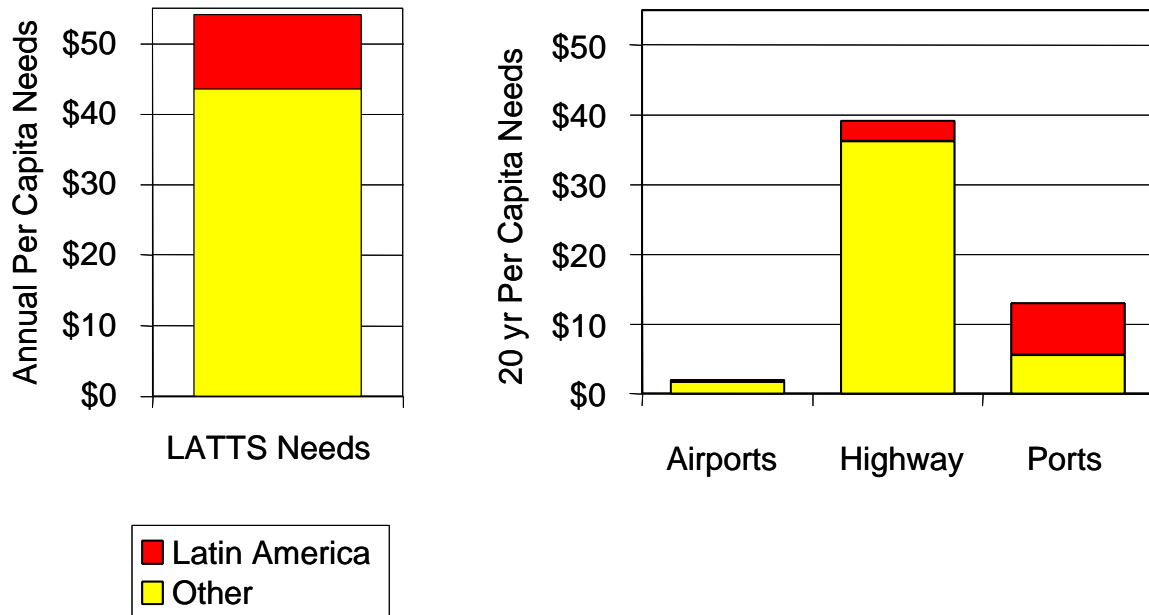
**Exhibit D-2
PER CAPITA LATTTS NEEDS ESTIMATES
20 YEAR TOTAL**



The total 20-year need values are converted to annual amounts in **Exhibit D-3**.

- ▶ On an annual basis, per capita needs of the LATTTS Strategic Transportation System amount to \$54.
- ▶ Of this total, only \$11 is related to Latin America trade flows.
- ▶ Annual highway needs amount to \$39 per capita.
- ▶ Ports have annual needs of \$13 per person.
- ▶ Only \$2 per person per year is needed for air cargo flows.

**Exhibit D-3
PER CAPITA LATTTS NEEDS ESTIMATES
Annual per Capital Average**



Comparison with Industrial Capital Investments

Industry clearly has a major dependence upon the transportation system to transport raw materials, intermediate and finished goods. Despite this heavy dependence, industrial capital investments are far greater than transportation investment needs.

As noted in **Exhibit D-4**, in 1998 investment by private industry (in South Carolina) equated to more than \$1,500 per capita. As already emphasized, only \$52 per capita is required annually for the LATTTS Strategic Transportation System.

LATTTS Strategic Port System Needs

The needs of the ports included in the LATTTS Strategic Transportation System, as previously noted, amount to \$22 billion over 20-years. Translation of this value into per capita values is depicted in **Exhibit D-5**.

- ▶ On a 20-year basis, port needs equate to \$260 per person.
- ▶ The Latin American trade component of these needs amounts to \$148 per capita, or 57 percent of the total.
- ▶ On an annual basis, total per capita needs amount to just \$13, of which \$7 constitutes the portion attributable to Latin American trade.

Exhibit D-4
LATTS NEEDS vs INDUSTRIAL CAPITAL INVESTMENT (South Carolina)
Annual per Capita Average

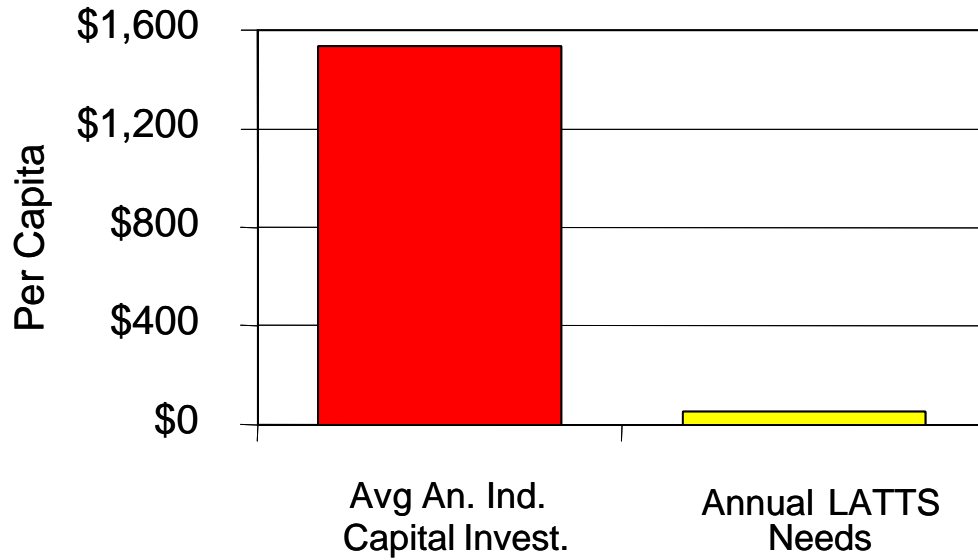
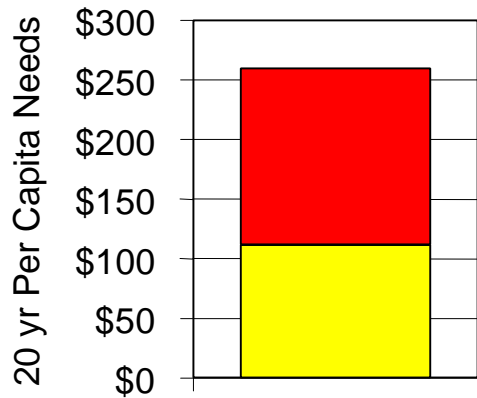
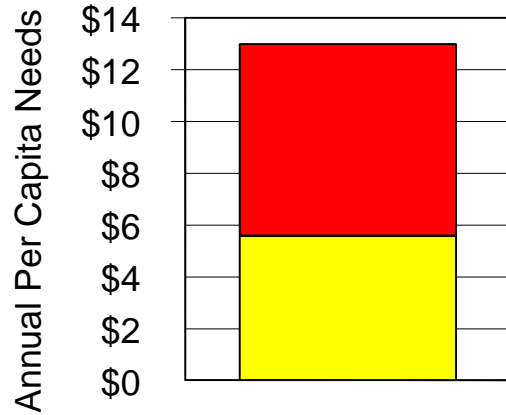
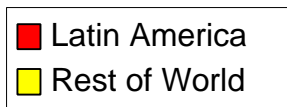


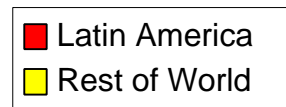
Exhibit D-5
LATTS PORTS NEEDS ESTIMATES



LATTS Ports Needs



LATTS Ports Needs

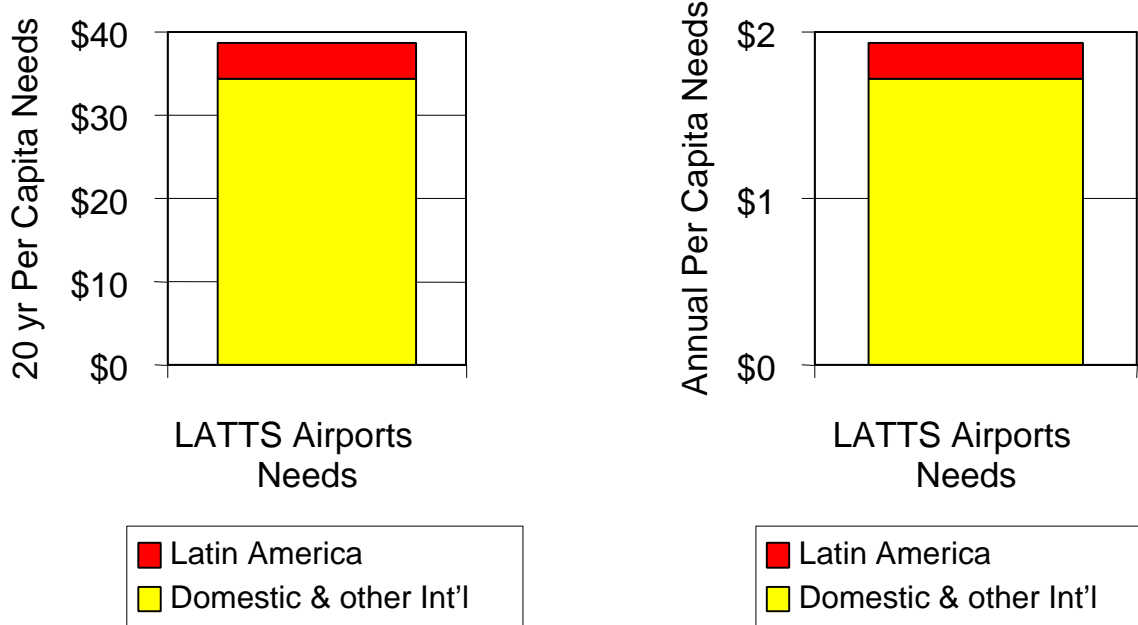


LATTS Strategic Airport System Needs

Total 20-year needs for air cargo at LATTS airports amounts to some \$3.3 billion. Based upon this amount, **Exhibit D-6** presents per capita values.

- ▶ Per capita public sector needs over the 20-years total \$39.
- ▶ Of this total, only \$4 is due to Latin American trade flows.
- ▶ On an annual basis, per capita needs amount to only \$2, of which only 12 percent is due to Latin American trade.

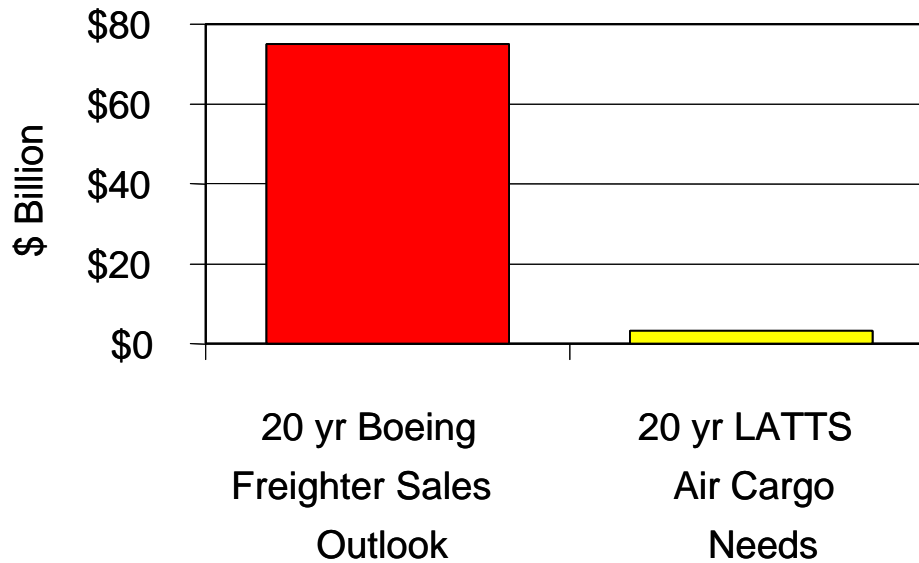
**Exhibit D-6
LATTS AIRPORTS NEEDS ESTIMATES**



As noted, public sector air cargo needs at LATTS airports are only a small component of total needs of the LATTS Strategic Transportation System. Further, they are dwarfed by the amount of investment by the private sector for air cargo. **Exhibit D-7** compares the 20-year LATTS air cargo needs of \$3.3 billion¹ to the \$75 billion¹ forecast for Boeing freighter sales over a like span of years. The huge disparity is readily apparent.

¹ Boeing World Air Cargo Forecast 2000/2001.

**Exhibit D-7
LATTS AIRPORTS NEEDS vs BOEING FREIGHTER SALES
20 Year Outlook**



LATTS Strategic Highway System Needs

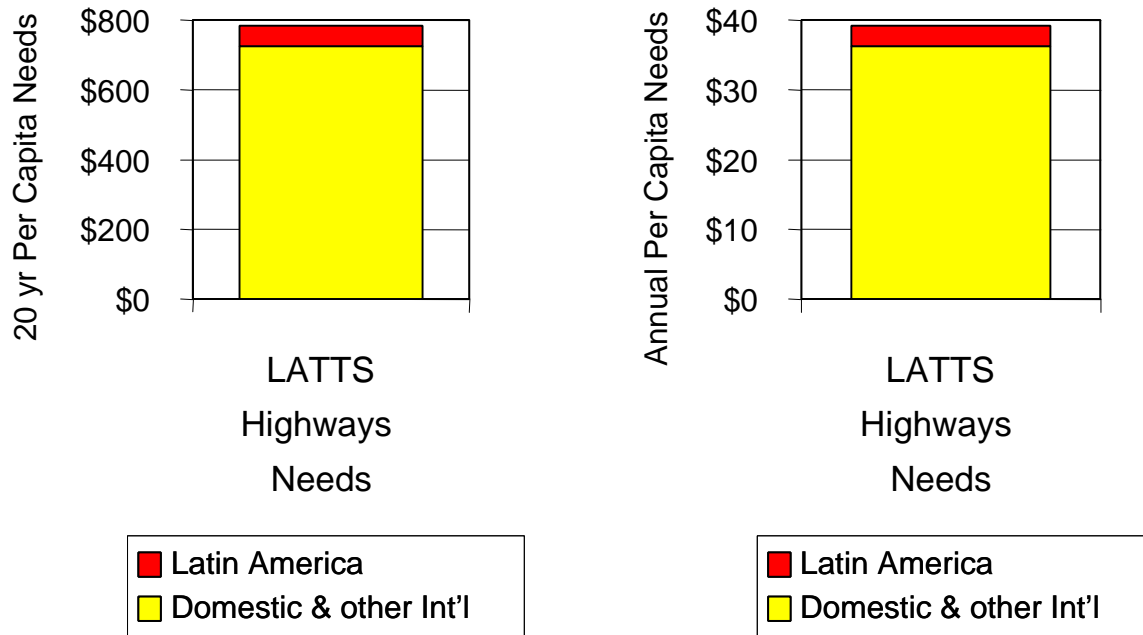
Discussed earlier was the total of \$67 billion in 20-year needs for the highways included in the LATTS Strategic Transportation System. **Exhibit D-8** translates these needs into per capita values.

- ▶ Over 20-years, per capita needs amount to \$783.
- ▶ Only 7.5 percent of this total, or \$59, is directly due to Latin American trade flows.
- ▶ On an average annual basis, highway needs amount to \$39 per person but only \$3 is required by the incremental Latin American component of total traffic.

On a per capita basis, **Exhibit D-9** compares the LATTS annual highway needs estimate to historical highway expenditures.

- ▶ On a national basis, public outlays amounted to some \$36.2 billion in 1998, an amount 7.5 times the annual LATTS highway needs value of \$4.6 billion.
- ▶ The Alliance had higher 1998 outlays per capita than for the nation as a whole.
- ▶ Alliance expenditures averaged \$147 per person, a value 3.8 times the LATTS annual highway per capita needs value.

**Exhibit D-8
LATTS HIGHWAY NEEDS ESTIMATES**



**Exhibit D-9
LATTS HIGHWAY NEEDS vs HISTORICAL EXPENDITURES**
Annual Expenditures

