CHAPTER 6
SUMMARY ANALYSIS OF FREIGHT MOVEMENT

The movement of freight over Louisiana's transportation system is discussed in this Chapter. It includes an analysis of freight flows to, from, through, and within Louisiana, along with forecasts to the year 2030. This freight flow analysis is intended to depict:

- Louisiana's trading partners
- The types of commodities transported
- The preferred modes of travel
- Growth in freight traffic in Louisiana.

The remainder of this chapter is organized by mode of transport.

1. Truck Movements
2. Rail Freight
3. Waterborne Freight
4. Air Cargo

SOURCE OF DATA

All **truck, rail, and domestic water** movements reported in this chapter are from Reebie Associates' TRANSEARCH 2000 freight flow database. Reebie has maintained and updated TRANSEARCH annually since 1980. It is a commercially available source for analyzing nationwide, regional, and local freight patterns and quantified volumes of freight activity by individual commodity and mode of transport. A variety of data sources are used to compile the database ranging from government agencies to private sector industry associations and the carriers themselves. The primary sources are contained in **Table 6.1**

Table 6.1
Primary Transearch Data Sources

Mode	Data Source	Agency/Organization
Rail	Car Load Waybill Sample	Surface Transportation Board
Water	Waterborne Commerce Statistics	Army Corps of Engineers
Air	FAA Airport Originating Tonnages Airport to Airport Flows Commodity Flow Survey Transearch	Office of Airline Statistics (DOT Form 41) BTS Office of Airline Information Bureau of Transportation Statistics Reebie Associates
Truck	Carrier Data Exchange Program Transearch Annual Survey of Manufactures Freight Locator Data Service	Reebie Associates Reebie Associates US Census Bureau Reebie Associates

Mode	Data Source	Agency/Organization
	General Statistics for Verification	Industry Associations
	Commodity Flow Survey	Bureau of Transportation Statistics

Forecasts of truck, rail, and domestic water were developed by Reebie Associates using the FHWA Freight Analysis Framework freight forecast rates to 2010, and then between 2010 and 2020. These forecasts rates, which were prepared by DRI-WEFA, were applied to the 2000 Louisiana TRANSEARCH data. Reebie Associates then used the growth rates from the 2010-2020 time frame in the Freight Analysis Framework forecasts to extend the Louisiana forecasts from 2020 to 2030.

International waterborne traffic (import/export) was obtained from *The Journal of Commerce's* 2001 Port Import Export Reporting Service (P.I.E.R.S.). These data are captured directly from ships' cargo manifests at all US ports. They include containerized cargo as well as bulk and neo-bulk.

Forecasts of international waterborne traffic were derived by WSA using growth rates obtained from the Latin American Trade and Transportation Study (LATTS). Over 400 separate growth rates were established for import versus export, Latin America versus the rest of the world, Louisiana port, and commodity. LATTS forecasts were through 2020, so the rate of growth from 2015-2020 was used to extend the projections to 2030.

Year 2000 baseline air cargo volumes for individual Louisiana airports were derived from airport air cargo surveys conducted by WSA. Survey data was supplemented with Airports Council International (ACI) data. TRANSEARCH 2000 data was utilized to establish inbound and outbound flow and commodity mix (including mail and express traffic) at Louisiana airports. Louisiana international air cargo traffic figures were obtained from US DOT T-100 segment data for the year 2000. T-100 segment data provides volume and trade partner (city-pairs) for US origin and destination international air commerce.

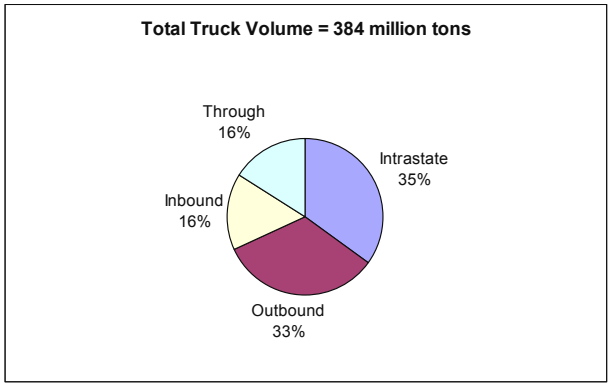
Air cargo forecasts were derived from a combination of geographical based growth rates. Source data for the growth rates include FAA Aerospace Forecasts 2002-2013, Boeing World Air Cargo Forecast 2000/2001, and MergeGlobal 2002 Air Freight Forecast. Projections include domestic, international, freight, and mail traffic, each having been calculated using distinct growth factors based upon market (domestic, international, and specific region) and freight versus mail.

TRUCK MOVEMENTS

Trucks hauled $526 billion[1] worth of goods to, from, within, or through Louisiana in the Year 2000. This totaled 384 million tons moving over the road network. Intrastate movements accounted for 35 percent of the tonnage, with outbound moves contributing 33 percent and inbound and through truck tonnages accounting for 16 percent each (**Figure 6.1**).

[1] Estimated from TRANSEARCH 2000 tonnages and 1997 Commodity Flow Survey value of goods factored to Year 2000 dollars.

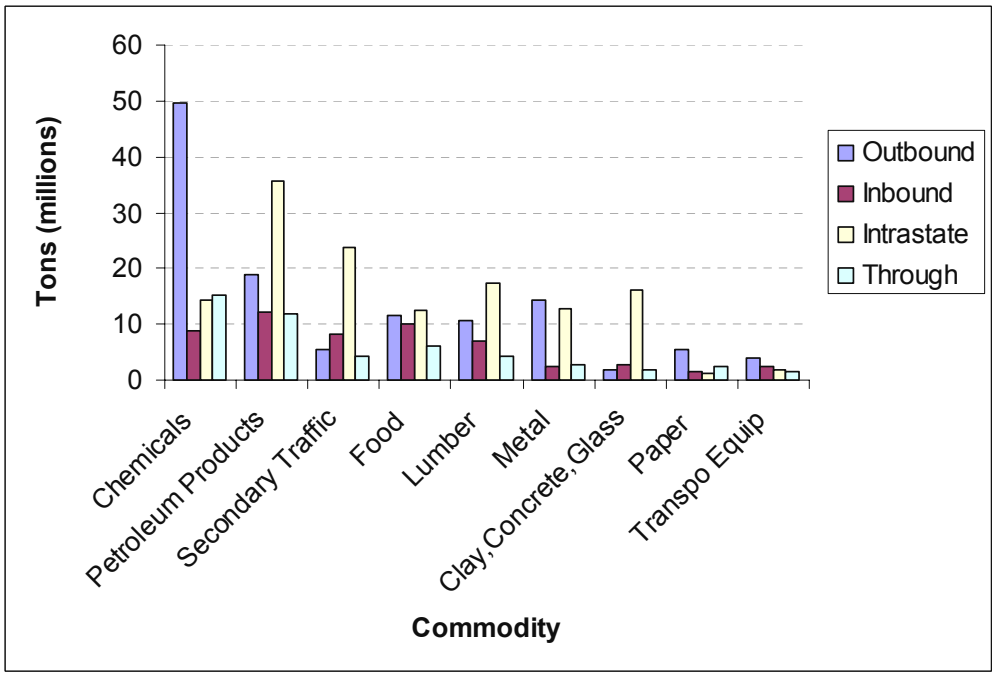
Figure 6.1
Louisiana Truck Tonnage by Traffic Type



Source: TRANSEARCH 2000

At 50 million tons, chemicals trucked out of Louisiana were easily the largest commodity movement (**Figure 6.2)**. Other outbound commodities include petroleum (19 million tons), metal (14 million tons), food (12 million tons), and lumber (11 million tons). Inbound truck moves were spread across many commodities, with the two largest being petroleum and food. Intrastate

Figure 6.2
Louisiana Truck Tonnage by Commodity and Traffic Type

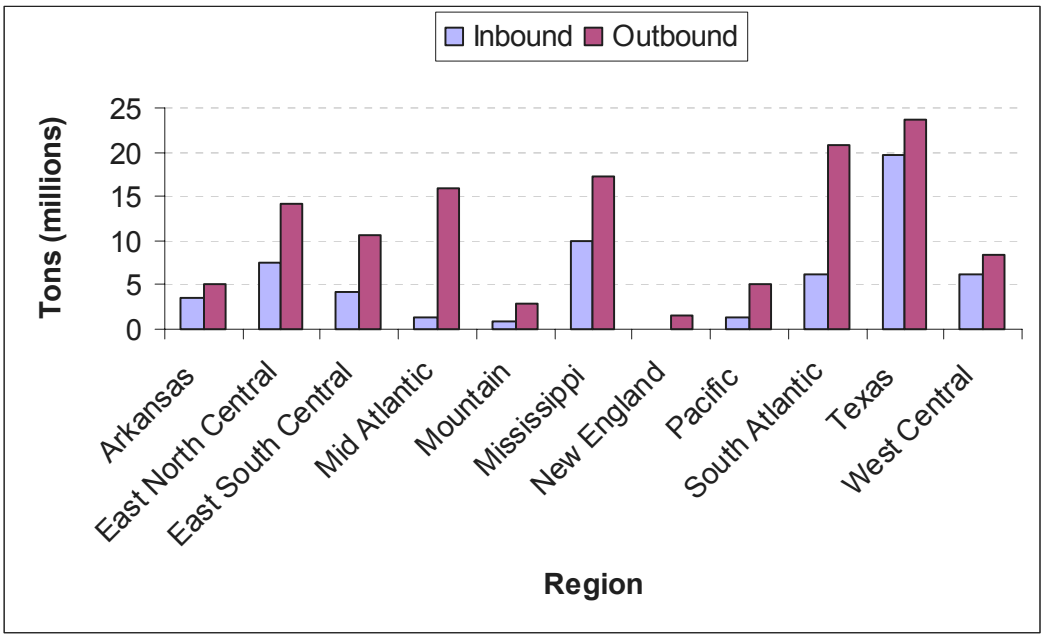


Source: TRANSEARCH 2000

movements were dominated by petroleum (36 million tons) and secondary traffic[2] (24 million tons), though lumber, clay/concrete/glass[3], chemicals, food, and metal were all above 10 million tons.

Figure 6.3 breaks down the interstate truck movements by origin and destination regions[4]. For primary originators of Louisiana inbound truck shipments were the East North Central Region (IL, IN, MI, OH, WI) food and chemicals were the main commodities, Mississippi (lumber and secondary traffic), South Atlantic (FL, GA, NC, SC, VA) chemicals, food, and metal, Texas (9.1 million tons of petroleum products and 4.0 million tons of chemicals), and West Central (IA, KS, MN, MO, NE, ND, OK, SD) 3.4 million tons of food. Outbound truck shipments headed to the Mid Atlantic Region (DE, DC, MD, NJ, NY, PA, WV) chemicals and metal, Mississippi (chemicals and lumber), South Atlantic (FL, GA, NC, SC, VA) 9.3 million tons of chemicals and 5.6 million tons of petroleum products, and Texas (7.9 million tons of chemicals and more than 3 million tons each of food, petroleum products, and metal).

Figure 6.3
Interstate Louisiana Truck Tonnage by Region and Traffic Type



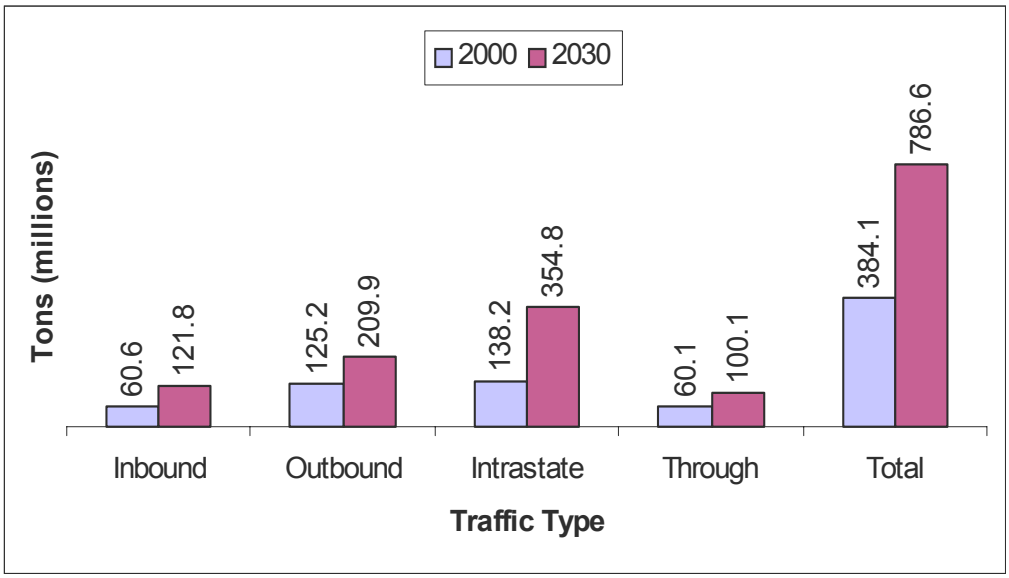
Source: TRANSEARCH 2000

Overall, truck traffic is projected to grow by 105 percent by the Year 2030 (**Figure 6.4**). Inbound truck tonnage is projected to grow by 101 percent, outbound by 68 percent, intrastate by 157 percent, and through truck traffic by 67 percent. These growth rates are determined by a combination of commodity and geographical forecast factors. The large growth in intrastate truck

[2] Secondary traffic is the movement of shipments between warehouses and stores, rather than direct from a manufacturer.
[3] Clay/concrete/glass generally reflects growth in building and construction.
[4] East North Central – IL, IN, MI, OH, WI; East South Central – AL, KY, TN; Mid Atlantic – DE, DC, MD, NJ, NY, PA, WV; Mountain – AZ, CO, ID, MT, NV, NM, UT, WY; New England – CT, ME, MA, NH, RI, VT; Pacific – AK, CA, HI, OR, WA; South Atlantic – FL, GA, NC, SC, VA; West Central – IA, KS, MN, MO, NE, ND, OK, SD.

volumes is driven by growth in food (191%), lumber (141%), clay/concrete/glass (227%), and secondary traffic (264%). These four groups make up half of the intrastate truck tonnage. The lower growth rate for outbound truck movements is largely due to a modest 31 percent increase projected for chemical shipments. Inbound trucks from Arkansas, Mississippi, and the Mountain Region (AZ, CO, ID, MT, NV, NM, UT, WY) are expected to increase by more than 150 percent, while inbound truck shipments from the Pacific Region (AK, CA, HI, OR, WA) are only projected to increase 26 percent. Arkansas and New England (CT, ME, MA, NH, RI, VT) are the only outbound regions expected to grow at more than 100 percent, while outbound truck tonnage to the East North Central (IL, IN, MI, OH, WI) and Mid Atlantic (DE, DC, MD, NJ, NY, PA, WV) show 32 percent and 29 percent growth, respectively.

Figure 6.4
Forecasts of Louisiana Truck Tonnages by Traffic Type



Source: TRANSEARCH 2000, DRI-WEFA Forecasts

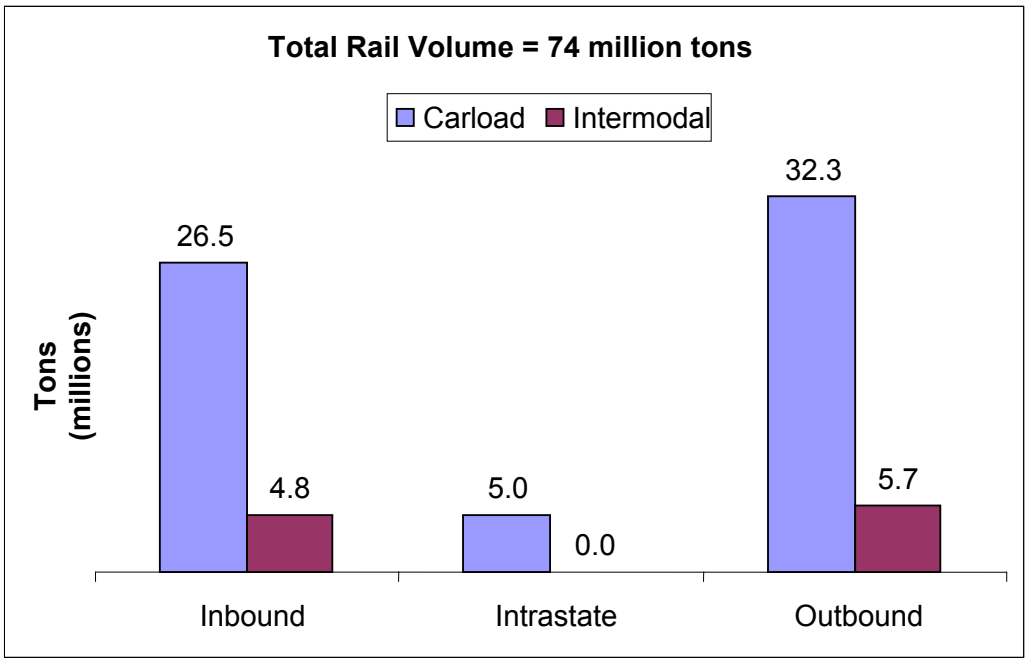
RAIL FREIGHT

In the Year 2000, 17 freight railroads operated in Louisiana. These railroads carried more than 1.8 million carloads, operated on 3,187 route-miles of track, and employed more than 3,300 workers[5].

Interstate movements account for 94 percent of Louisiana's 74 million tons of rail traffic. **Figure 6.5** contains a summary of Louisiana rail freight by traffic type (inbound, outbound, intrastate). There was 32 million tons of carload rail freight originated in Louisiana and shipped out of state, 26 million tons of out of state traffic that terminated in Louisiana, and another 5 million tons of carload traffic that moved locally within Louisiana by rail. The corresponding intermodal tonnages are 5.7 million tons outbound, 4.8 million tons inbound, and 38 thousand tons local. Using an average weight of 15 tons per container, there were approximately 380,000 outbound containers and 320,000 inbound containers.

[5] Association of American Railroads

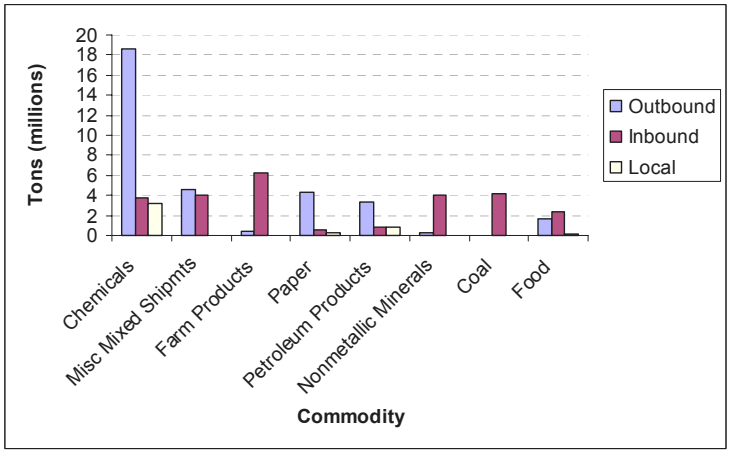
Figure 6.5
Louisiana Rail Tonnage by Traffic Type



Source: TRANSEARCH 2000

Figure 6.6 subdivides the rail traffic by major commodity groupings and traffic type. The dominant outbound commodity is chemicals, accounting for nearly 19 million tons. Other large outbound movements were miscellaneous mixed shipments (4.5 million tons), paper (4.4 million tons), petroleum (3.3 million tons), and food (1.6 million tons). Inbound primary inbound commodities were agriculture/grains (6.2 million tons), coal (4.2 million tons), nonmetallic minerals (4.1 million tons), miscellaneous mixed shipments (4.0 million tons), and chemicals (3.8 million tons). Local rail traffic included 3.2 million tons of chemicals and less than 1 million tons of petroleum.

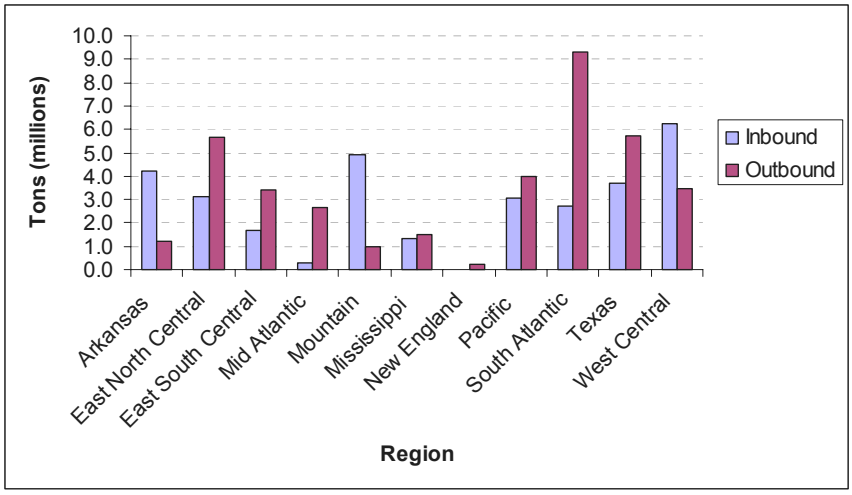
Figure 6.6
Louisiana Rail Tonnage by Commodity and Traffic Type



Source: TRANSEARCH 2000

On a regional basis (**Figures 6.7**), the primary originators of inbound traffic were Arkansas, Mountain, Texas, and West Central. The principal commodities received were 3.6 million tons of nonmetallic minerals from Arkansas, 4.2 million tons of coal from the Mountain Region (AZ, CO, ID, MT, NV, NM, UT, WY), 4.7 million tons of farm products from the West Central Region (IA, KS, MN, MO, NE, ND, OK, SD), and a variety of products from Texas including chemicals, transportation equipment, and petroleum. The main recipients of outbound traffic were the East North Central, Pacific, South Atlantic, and Texas. The East North Central Region (IL, IN, MI, OH, WI) received, among other commodities, 3.3 million tons of chemicals. The Pacific Region (AK, CA, HI, OR, WA) received intermodal, chemicals, and paper, while the South Atlantic Region (FL, GA, NC, SC, VA) received intermodal, chemicals, petroleum products, and paper. The largest tonnages of goods to Texas were chemicals, petroleum products, and paper. **Figures 6.8 (a, b)** and **6.9 (a, b)** describe current and future Louisiana through rail tonnage on a regional basis from a nationwide perspective.

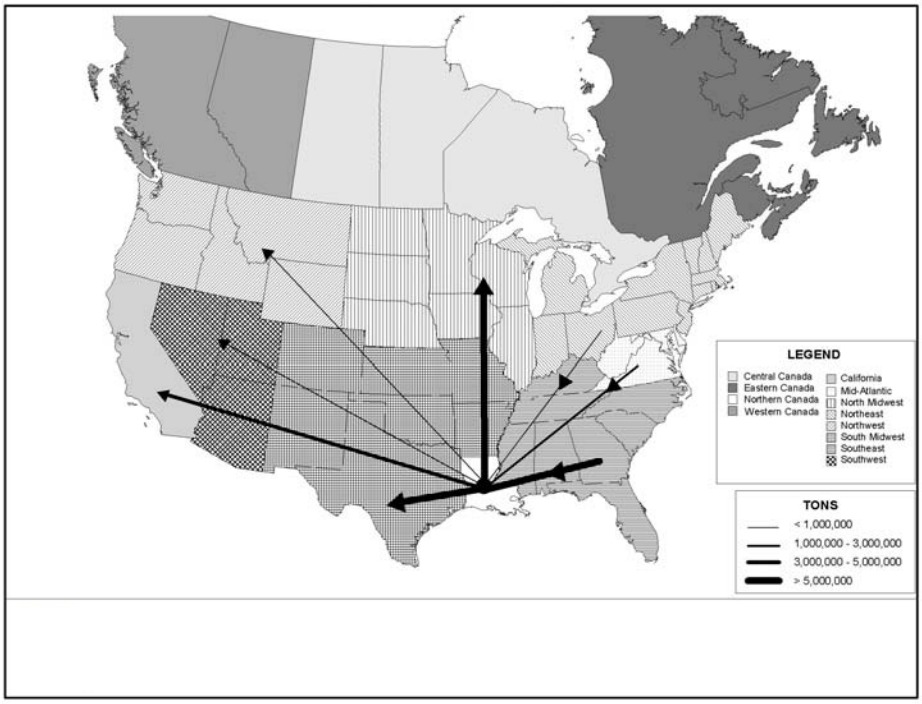
Figure 6.7
Interstate Louisiana Rail Tonnage By Region and Traffic Type



Source: TRANSEARCH 2000

Figures 6.8 (a) – 1999 Louisiana E-W Through Rail Tonnages and (b) – W-E Through Rail Tonnages

(a)

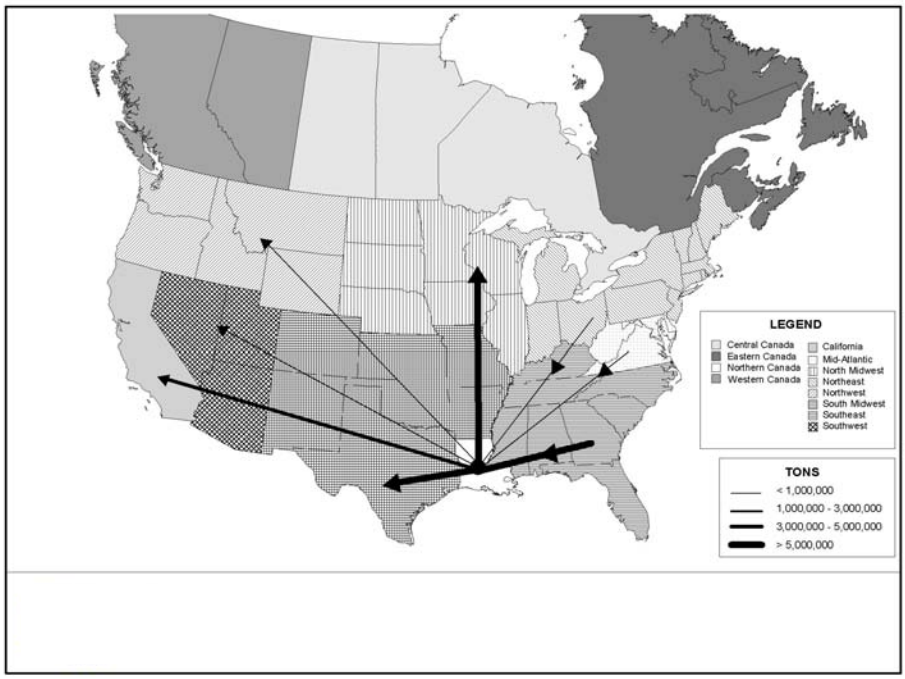


(b)

Sources: 1999 STB Waybill Sample

Figures 6.9 (a) – 2030 Louisiana E-W Through Rail Tonnages and (b) – W-E Through Rail Tonnages

(a)

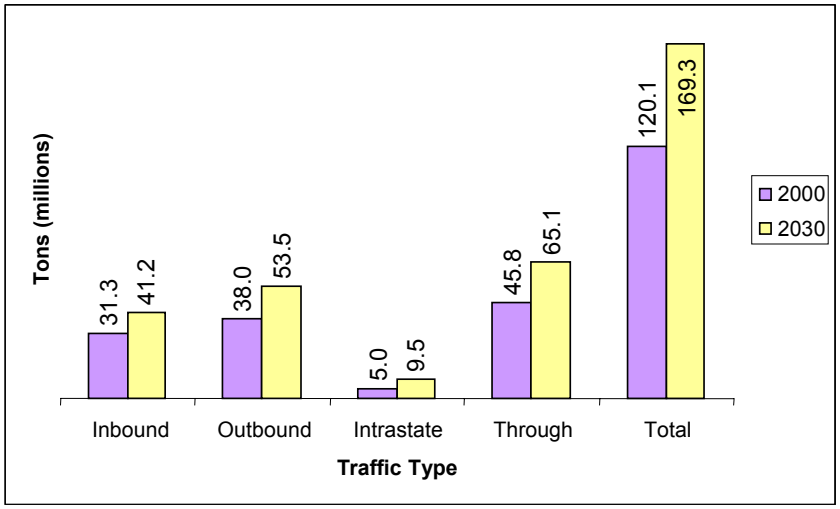


(b)

Sources: 1999 STB Waybill Sample, WSA

Figure 6.10 contains the forecasted rail tonnage for the Year 2030. Overall, rail is projected to grow by 40 percent, though there is a great variance across commodities and regions. Food is projected to grow by 130 percent, chemicals by 35 percent, miscellaneous mixed shipments by 23 percent, and clay/concrete/glass by 180 percent. Commodities moving by rail and expecting a decline from current volumes include farm products (-45%) and coal (-11%). The largest growth in inbound rail traffic is expected to come from Mississippi (112%), with growth in inbound also from New England (101%), East South Central (74%), and Arkansas (71%). A decline of 15 percent is anticipated from the West Central Region (IA, KS, MN, MO, NE, ND, OK, SD) due to a reduction in grain moves. Outbound growth is expected for all regions with Arkansas (103%), West Central (75%), Texas (70%), and Mountain (60%) being the fastest growing. Intrastate rail tonnage is forecast to grow by 91 percent.

Figure 6.10
Forecasts of Louisiana Rail Tonnages by Traffic Type[6]



Source: TRANSEARCH 2000, DRI-WEFA Forecasts

WATERBORNE FREIGHT

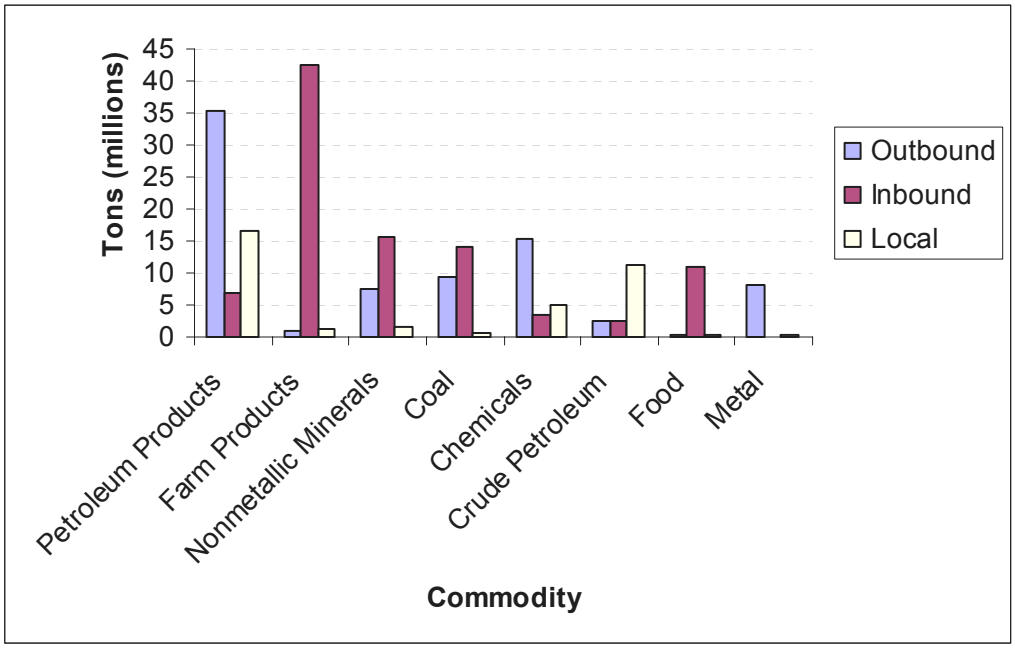
The Louisiana waterway network has two distinct components: domestic barge service on the inland waterway system and international shipping at Gulf Coast ports. Louisiana domestic barge tonnage totaled 281 million tons in the Year 2000[7]. Imports totaled 112 million tons and exports were 87 million tons in the Year 2001[8].

The domestic tonnage breaks down into 101 million tons inbound, 98 million tons outbound, and 37 million tons moving locally in Louisiana. As illustrated in **Figure 6.11**, the dominant

[6] As through rail tonnages were not provided through the TRANSEARCH database, the 2030 through tonnage shown in **Figure 6.10** were derived from applying the proportion of through to total tonnage in 1999 (the year of the STB Waybill sample [which does include through rail tonnage] used in the Louisiana Statewide Rail Plan) to total tonnage in 2030. A new total tonnage value for 2030 was then calculated, reflecting the addition of through tonnage.
[7] Domestic waterborne data are from Reebie Associates' 2000 TRANSEARCH database and are based on US Army Corps of Engineers data.
[8] International waterborne data are from the Journal of Commerce's Port Import Export Reporting Service (P.I.E.R.S.) for the most recent complete year available (2001).

domestic inbound commodity was agriculture/grains at 42 million tons, with nonmetallic minerals, coal, and food also being significant contributors. The primary outbound domestic commodity was petroleum products (35 million tons), with chemicals, coal, nonmetallic minerals, and metal generating more than 7.5 million tons each. Of the 37 million tons of waterborne traffic moving locally within Louisiana, 17 million tons was petroleum products, 11 million tons crude petroleum, and 5 million tons chemicals.

Figure 6.11
Louisiana Domestic Waterborne Tonnage by Commodity and Traffic Type



Source: TRANSEARCH 2000

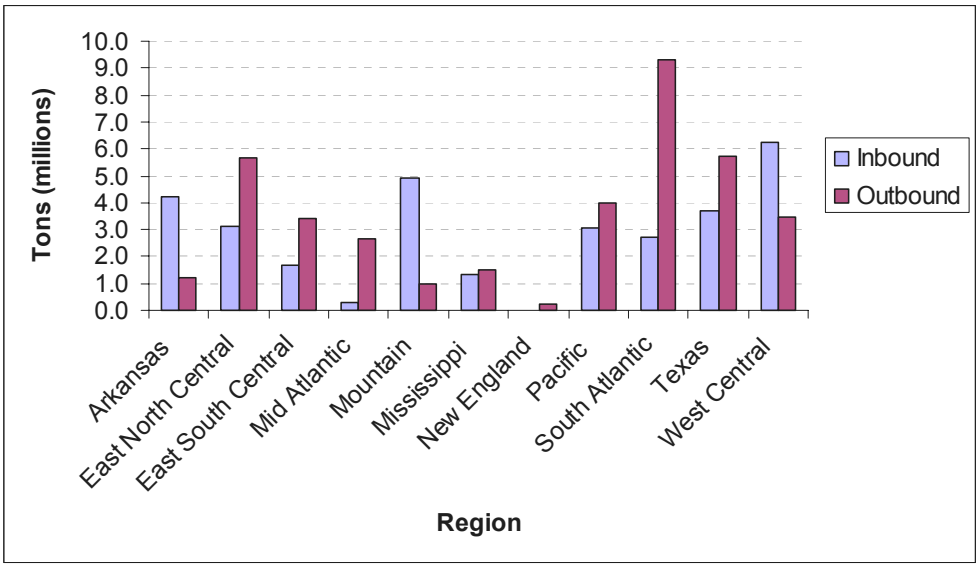
On a regional basis (**Figure 6.12)**, the principal suppliers of inbound domestic waterborne freight were the East North Central (IL, IN, MI, OH, WI) 24 million tons, East South Central (AL, KY, TN) 12 million tons, and West Central (IA, KS, MN, MO, NE, ND, OK, SD) 40 million tons Regions.

The East North Central tonnage included 17 million tons of agriculture/grain and 5 million tons of food, while the East South Central originated 6 million tons of nonmetallic minerals and 3 million tons of food. The West Central Region (IA, KS, MN, MO, NE, ND, OK, SD) sent 20 million tons of agriculture/grain and 10 million tons of coal by barge to Louisiana. Outbound movements included 18 million tons of petroleum products, 8 million tons of coal, and a total of 28 million tons of freight to the South Atlantic Region (FL, GA, NC, SC, VA).

There were 14 million tons of outbound moves each to the East North Central (IL, IN, MI, OH, WI) including 2 million tons nonmetallic minerals, 3 million tons chemicals, 3 million tons

petroleum, and 2 million tons metal and East South Central (AL, KY, TN) including 2 million tons metallic ores, 2 million tons chemicals, 5 million tons petroleum products, and 2 million tons metals Regions. Plaquemines Parish accounted for over 40 percent of the originations and terminations of domestic waterborne traffic.

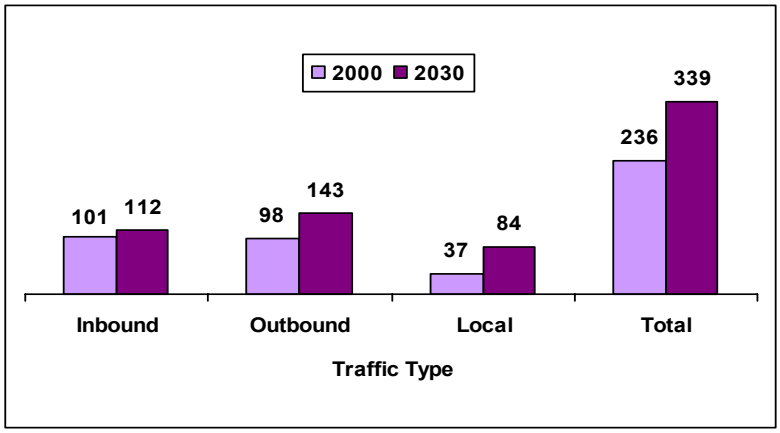
Figure 6.12
Louisiana Domestic Waterborne Tonnage by Region



Source: TRANSEARCH 2000

The forecasts for domestic waterborne freight are contained in **Figure 6.13**. Overall, tonnage is projected to grow by 44 percent between 2000 and 2030. This includes growth of 11 percent for inbound, 46 percent for outbound, and 124 percent for intrastate. Intrastate growth is fueled by a projected 97 percent growth in petroleum tonnage. Inbound and outbound growth is slowed by a 2 percent projected increase in agriculture/grain and an 11 percent increase in coal.

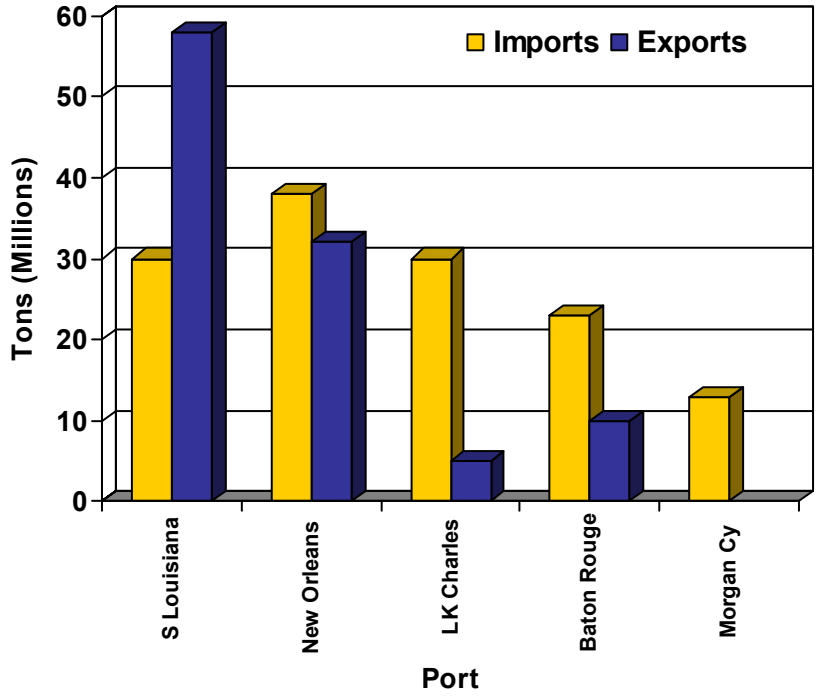
Figure 6.13
Forecasts of Louisiana Domestic Waterborne Tonnages



Source:TRANSEARCH 2000, DRI-WEFA Forecasts

Figure 6.14 displays the international waterborne traffic by Louisiana port of entry or exit, while **Tables 6.2** and **6.3** contain the top movements by commodity. The largest imported commodity is fuels/oil, which is more than an order of magnitude larger, both in tonnages and value, than the next commodity. The largest exports are cereals and grains.

Figure 6.14
International Louisiana Waterborne Tonnages



Source: P.I.E.R.S. 2001

Table 6.2
Top Ten Imports Through Louisiana Ports

HSCODE2	HSABBR	2001 Tons	2001 Value
27	Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax	92,088,441	$11,973,068,878
26	Ores, Slag and Ash	8,850,750	$1,109,168,300
25	Salt; Sulfur; Earth & Stone; Lime & Cement Plaster	7,786,439	$1,070,041,997
72	Iron and Steel	6,788,516	$2,403,910,816
31	Fertilizers	5,968,046	$689,732,066
28	Inorg Chem; Prec & Rare-Earth Met & Radioact Compd	3,294,607	$1,198,123,075
29	Organic Chemicals	2,273,854	$622,113,626
27	Coal	2,149,530	$67,522,710
15	Animal or Vegetable Fats, Oils etc., & Waxes	655,951	$491,029,394
73	Articles of Iron or Steel	555,228	$930,970,246

Source: P.I.E.R.S. 2001

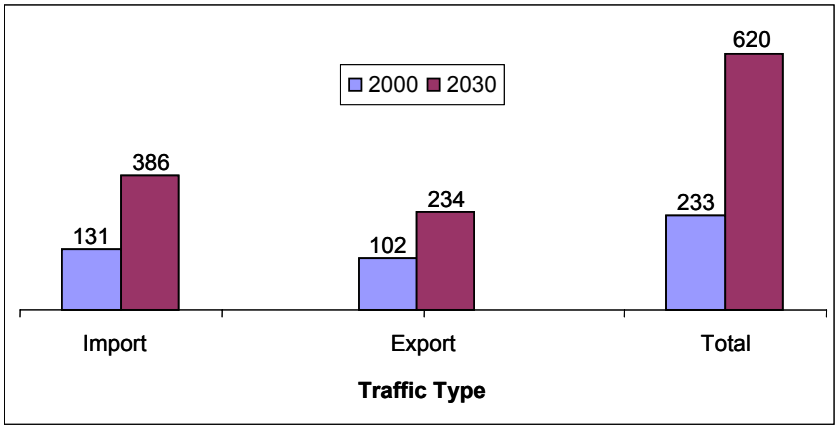
Table 6.3
Top Ten Exports Through Louisiana Ports

HSCODE2	HSABBR	2001 Tons	2001 Value
10	Cereals	50,493,504	$8,104,569,008
12	Oil Seeds etc.,; Misc Grain, Seed, Fruit, Plant etc.	25,728,610	$8,116,099,362
27	Mineral Fuel, Oil etc.; Bitumin Subst; Mineral Wax	12,220,363	$1,427,392,874
23	Food Industry Residues & Waste; Prep Animal Feed	6,816,348	$1,085,466,392
15	Animal or Vegetable Fats, Oils etc., & Waxes	1,689,574	$952,259,592
28	Inorg Chem; Prec & Rare-Earth Met & Radioact Compd	1,126,497	$1,900,244,251
11	Milling Products; Malt; Starch; Inullin; Wht Gluten	1,113,410	$416,884,768
27	Coal	1,099,065	$72,802,736
29	Organic Chemicals	1,090,111	$727,117,949
31	Fertilizers	645,344	$240,708,739

Source: P.I.E.R.S. 2001

The forecasts for international traffic are given in **Figure 6.15**. A very robust increase in international trade is projected, with imports increasing by 195 percent and exports growing by 129 percent.

Figure 6.15
Forecasts of Louisiana International Waterborne Tonnages



Source: P.I.E.R.S. 2001, LATTS[9]

[9] The international forecasts factors were taken from the Latin America Trade and Transportation Study (LATTS).

AIR CARGO

Current Domestic Air Cargo

Louisiana air cargo volume, defined as air freight, express traffic, and mail traffic enplaned or deplaned at a Louisiana airport, consists overwhelmingly of domestic traffic. Over 99.5 percent of total Louisiana air cargo volume is inbound from or outbound to another U.S. airport. Note that some of the air cargo volume classified as domestic may be international material that will enter or exit the U.S. through a primary international gateway airport such as Los Angeles International, JFK International, or Miami International. However, since the first leg from Louisiana or last leg into Louisiana of this international air cargo involves a stop at a U.S. airport, it is considered a domestic movement relative to Louisiana airport operations. **Table 6.4** details 2000 tonnage by direction (inbound versus outbound) of the seven airports providing air cargo service in Louisiana.

Table 6.4
2000 Domestic Tonnage by Direction
Louisiana Cargo Airports - Freight and Mail
(Metric Tons)

Airport	Code	Inbound	Outbound	Total Volume
New Orleans International Airport	MSY	55,655	30,160	85,815
Shreveport Regional Airport	SHV	10,672	19,348	30,020
Baton Rouge Metropolitan Airport	BTR	2,001	1,105	3,106
Lafayette Regional Airport	LFT	780	431	1,211
Lake Charles Regional Airport	LCH	109	52	161
Monroe Regional Airport	MLU	38	41	79
Alexandria International Airport	AEX	44	27	71
Total Louisiana Volume:		69,299	51,164	120,463

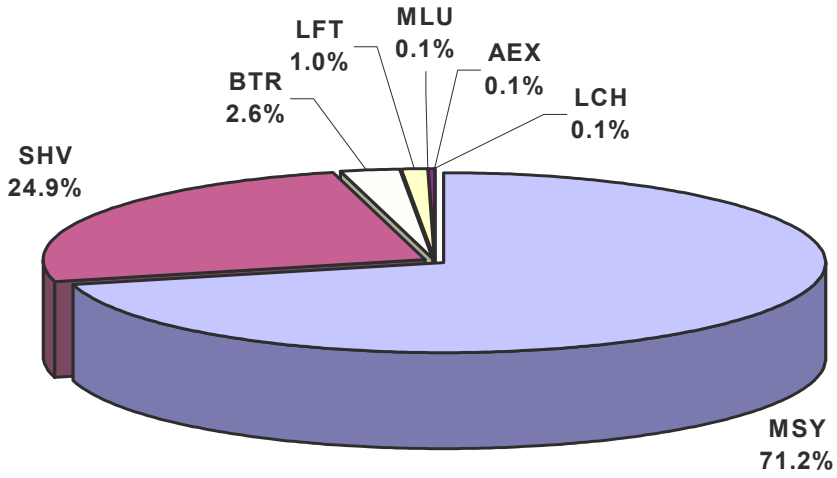
Source: 2000 Reebie TransSearch, ACI, and WSA

Just over 96 percent of Louisiana's air cargo tonnage moves via two airports. Louis Armstrong New Orleans International Airport (MSY) alone accounts for over 71 percent of the state's total volume, while Shreveport Regional Airport accounts for another 25 percent. **Figure 6.16** details the market share (in terms of total tonnage) of the seven Louisiana air cargo airports. (Louisiana air cargo airports are simply defined as any Louisiana airport with recorded air cargo volume; they need not be dedicated air cargo facilities.)

Overall, Louisiana air cargo volume is heavier on the inbound side by a 58 percent inbound to 42 percent outbound imbalance. The ratio differs by specific airport, with the Shreveport and Monroe Regional Airports as the only Louisiana airports with heavier outbound than inbound air cargo volume.

Figure 6.16

2000 DomesticTonnage by Airport
Percent of Statewide Total - Freight and Mail



Current International Air Cargo

In 2000, International air cargo traffic transiting Louisiana airports accounted for less than one percent of the total Louisiana air cargo tonnage for the year. This limited percent of the total Louisiana air cargo market is not expected to change significantly in any future volume projections. Louis Armstrong New Orleans International Airport handled all Louisiana international air cargo traffic in 2000. Alexandria International Airport has customs clearing capability, yet lacks any scheduled international flights; thus any international air cargo arriving or departing Alexandria International would need to be via international charter flights. **Table 6.5** details the primary origin and destination international airports (trade partner), by airport and tonnage, served by Louis Armstrong New Orleans International Airport.

Table 6.5

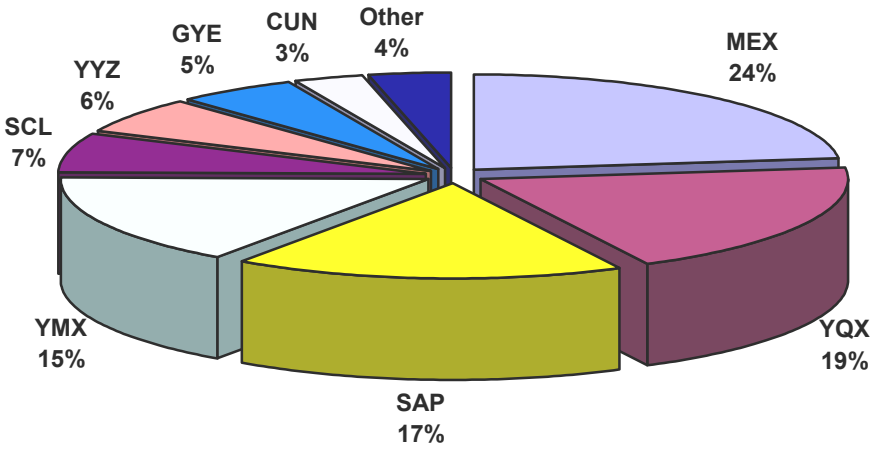
2000 International Annual Tonnage by Airport*
Louis Armstrong International - Freight Only
(Metric Tons)

Trade Partner Airport	Code	Tons
Mexico City, Mexico	MEX	115
Gander, Canada	YQX	96
San Pedro Sula, Honduras	SAP	87
Montreal, Canada	YMX	77
Santiago, Chile	SCL	33
Toronto, Canada	YYZ	30
Guayaquil, Ecuador	GYE	27
Cancun, Mexico	CUN	15
Other	Other	18
Total International:		**498**

Source: U.S. DOT International T-100 Segment Data
*Data is bi-directional - reported tons include both inbound and outbound freight.

Figure 6.17 depicts the primary origin and destination international airports served by MSY, sorted by percent of total international tonnage.

Figure 6.17
2000 International MSY Trade Partners by Airport
(Percent of Total)
Total 2000 Tons: 498



In **Table 6.6**, the specific international airports (trade partners) listed in Exhibit 3 are consolidated into their respective countries and/or geographic regions to identify Louisiana's primary international trading partners. This regional designation of tonnage will also assist in forecasting functions for determining international air cargo growth.

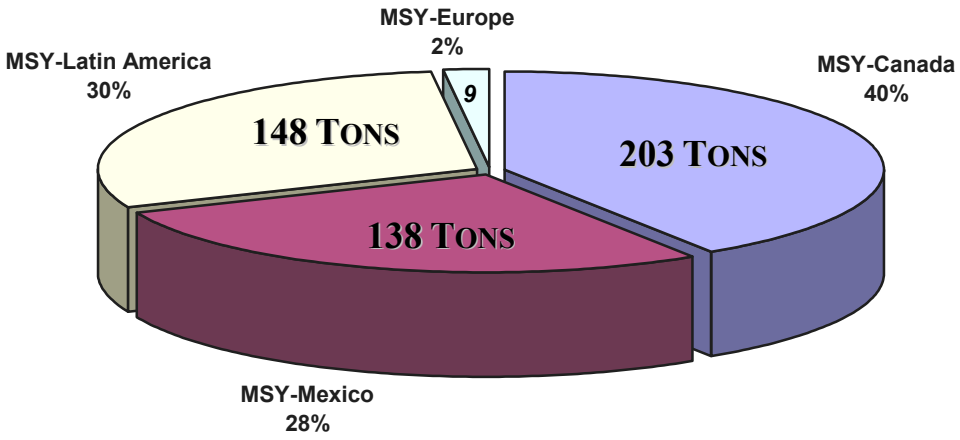
Table 6.6
2000 International Tonnage by Region
Inbound versus Outbound
(Metric Tons)

Trade Partner	Tons Inbound	Tons Outbound	Tons Total
Louisiana-Canada	51	152	203
Louisiana-Mexico	84	54	138
Louisiana-Latin America	90	58	148
Louisiana-Europe	5	4	9
Total:	**229**	**269**	**498**

Source: U.S. DOT International T-100 Segment Data, MergeGlobal Airflow Model

Figure 6.18 further details Louisiana's primary international trading partners, sorting regions by both tonnage and percent of total international tonnage.

Figure 6.18
2000 International Trade Partners by Region
(Percent of Total)
Total 2000 Metric Tons: 498



Air Cargo Commodity Mix

Industries using air cargo services are those that will benefit both from increasing their speed of inventory movements/stock turns and from improving their stock availability. These companies have inventories such as high-value products, short life cycle products, and time-critical spare part requirements that benefit from increased speed of distribution or better stock availability of commodities being shipped via air cargo. Examples include the following:

- Aeronautics - Equipment & Parts
- Automotive - Equipment & Parts
- Pharmaceuticals
- Computers & Computer Components
- Diagnostic Equipment
- Medical Equipment
- Software
- Textiles - Garments
- Perishables - Flowers, Fruit, Vegetables & Fish
- Economic perishables - Printed material
- Telecommunications Equipment - Cell Phones, Pagers
- Photographic Film

All of the commodities identified are high in value, relatively lightweight, and time-critical. However, not all of these attributes need to apply to one shipment. For example, several containers of fresh fish will be heavy and bulky; but due to the perishable nature of the product and its high value, it is necessary to transport the fish via air cargo. Printed material, such as newspapers (i.e. The Wall Street Journal is commonly shipped via air), is lower in value per pound than most air cargo shipments; but due to the time-sensitivity of the newspapers and the high expectations by customers, shipping via air cargo may be warranted.

Table 6.7 lists Louisiana's air cargo commodity mix by direction, tonnage, and percent of total. Note that express/contract traffic (a category often inclusive of USPS mail) accounts for over 34 percent of Louisiana's total air cargo. This is not an unreasonably high percentage – the express category includes parcel and small package traffic from carriers such as FedEx and UPS. Business-to-consumer shipments, fueled by Internet and catalog sales, help drive this category to the top position.

Table 6.7
2000 Domestic Tonnage by Commodity (STC Classification)
Louisiana Cargo Airports
(Metric Tons)

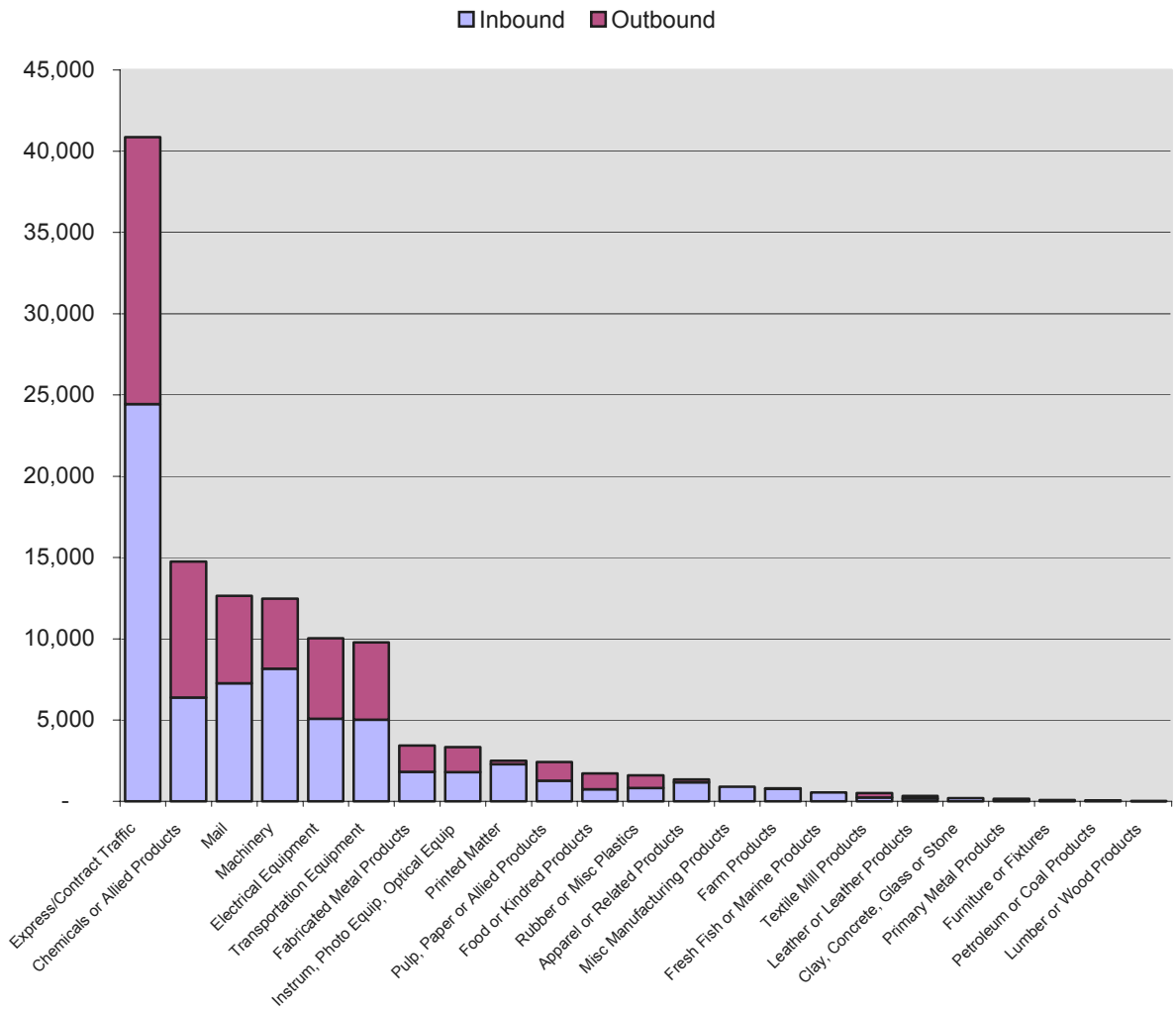
STCC2 Code	Description	Inbound	Outbound	Total	Percent of Total
43	Express/Contract Traffic	24,430	16,434	40,864	33.9%
28	Chemicals or Allied Products	6,400	8,346	14,746	12.2%
43	Mail	7,277	5,372	12,649	10.5%
35	Machinery	8,157	4,313	12,470	10.4%
36	Electrical Equipment	5,086	4,955	10,041	8.3%
37	Transportation Equipment	5,026	4,758	9,784	8.1%
34	Fabricated Metal Products	1,806	1,616	3,421	2.8%
38	Instrum, Photo Equip, Optical Equip	1,789	1,547	3,336	2.8%
27	Printed Matter	2,280	220	2,500	2.1%
26	Pulp, Paper or Allied Products	1,275	1,143	2,417	2.0%
20	Food or Kindred Products	736	985	1,721	1.4%
30	Rubber or Misc Plastics	813	780	1,594	1.3%
23	Apparel or Related Products	1,169	178	1,347	1.1%
39	Misc Manufacturing Products	888	6	894	0.7%
01	Farm Products	789	4	793	0.7%
09	Fresh Fish or Marine Products	540	1	541	0.4%
22	Textile Mill Products	237	262	498	0.4%
31	Leather or Leather Products	175	161	335	0.3%
32	Clay, Concrete, Glass or Stone	196	-	196	0.2%
33	Primary Metal Products	85	66	151	0.1%
25	Furniture or Fixtures	73	13	86	0.1%
29	Petroleum or Coal Products	58	-	58	0.0%
24	Lumber or Wood Products	18	2	20	0.02%
	Total Tonnage:	**69,300**	**51,163**	**120,463**	**100.0%**

Source: 2000 Reebie TransSearch Data and WSA

For forecasting and analysis purposes STCC2 Code 43, Mail/Contract Traffic (Express), is divided into separate categories – Express/Contract Traffic and Mail. This is designed to segregate US Postal Service mail volume, which is expected to drastically decline through 2004, from integrated express traffic (i.e., FedEx, UPS), whose volume is expected to increase. This distinction allows for a more accurate forecast of total Louisiana air cargo traffic.

Figure 6.19 illustrates Louisiana's air cargo commodity mix by tonnage and direction.

Figure 6.19
2000 Louisiana Non-Mail Air Cago Tonnage
by Commodity Type and Direction



Air Cargo Forecast

The primary objective of a forecasting effort is to define the magnitude of change that can be expected over time. Because of the cyclical nature of the economy, it is virtually impossible to

predict with certainty year-to-year fluctuations in activity when looking 20 years into the future. However, a trend can be established that characterizes long-term growth potential. While a single line is often used to express the anticipated growth, it is important to remember that actual growth may fluctuate above and below this line. The point to remember about forecasts is that they serve only as guidelines and planning must remain flexible to respond to unforeseen air cargo facility needs. It should also be noted that the air cargo industry is in continuous change and evolution. For example, an air cargo "merger deal" during the planning period could have implications on the industry's operation in any given Louisiana market.

Prior to forecasting the demand for air cargo, several assumptions were developed based on historic air cargo trends and recent developments in the industry. These trends reflect the recent current logistics modes used by integrated express operators. The following assumptions were used when forecasting Louisiana air cargo volumes:

- Integrated express carriers will generally operate using the same mode of transport throughout the planning period. The ratio of trucks-to-aircraft used to serve the Louisiana air cargo market by the major integrators (FedEx, UPS, Airborne, Emery, DHL) will not change over the forecast period.
- The FedEx/USPS mail contract continues throughout the 20-year period.
- The types of air cargo aircraft operating by the end of the planning period will generally be the same as are currently operating in the air cargo fleet today.
- Louisiana airports will maintain constant relative market share throughout the forecast period.

A combination of growth rates, depending on market origin and destination, is applied to Louisiana's 2000 baseline air cargo tonnage. Source data for the applied growth rates include FAA Aerospace Forecasts 2002-2013, Boeing World Air Cargo Forecast 2000/2001, and MergeGlobal 2002 Air Freight Forecast. **Table 6.8** details total air cargo tonnage forecasted though 2020 by Louisiana airport. These projections include domestic, international, freight, and mail traffic, each having been calculated using distinct growth factors based upon market (domestic, international, and specific region) and material type freight or mail).

Table 6.8
Louisiana Air Cargo Forecast 2000-2020 by Airport*
Freight and Mail, Domestic and International
(Metric Tons)

Airport	Code	2000	2001	2002	2003	2004	2005	2010	2015	2020
Louis Armstrong International Airport	MSY	86,313	82,683	79,930	81,809	85,457	89,271	111,090	138,337	172,362
Shreveport Regional Airport	SHV	30,020	28,763	27,800	28,448	29,715	31,039	38,610	48,054	59,838
Baton Rouge Metropolitan Airport	BTR	3,106	2,976	2,876	2,943	3,074	3,211	3,995	4,972	6,191
Lafayette Regional Airport	LFT	1,211	1,160	1,121	1,148	1,199	1,252	1,558	1,938	2,414
Lake Charles Regional Airport	LCH	79	76	73	75	78	82	102	126	157
Monroe Regional Airport	MLU	71	68	66	67	70	73	91	114	142
Alexandria International Airport	AEX	161	154	149	153	159	166	207	258	321
Louisiana Air Cargo Total:		**120,961**	**115,881**	**112,016**	**114,643**	**119,753**	**125,095**	**155,652**	**193,799**	**241,424**

Source: Reebie Transearch, FAA Aerospach Forecast 2002, Boeing Air Cargo Forecast 2001/2002, MergeGlobal and WSA
*Assumes constsnt market share per airport through forecast period.

Figure 6.20 depicts the forecasted Louisiana air cargo growth detailed in **Table 6.8** while illustrating the relative market share of each Louisiana air cargo airport. Note that the top two airports, Louis Armstrong New Orleans International and Shreveport Regional, account for roughly 96 percent of Louisiana's air cargo volume throughout the forecast period.

Figure 6.20
Louisiana Air Cargo Forecast 2000-2020 by Airport
Freight and Mail, Domestic and International
(Metric Tons)

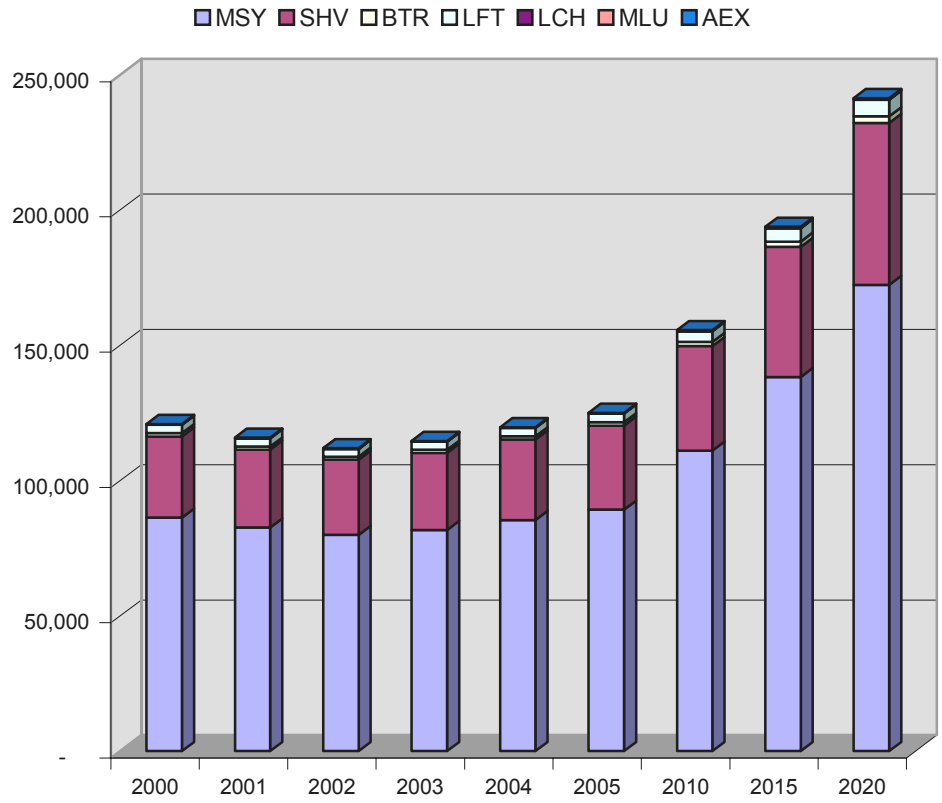


Table 6.9 examines the forecasted Louisiana air cargo volumes in terms of domestic and international traffic. Domestic traffic is forecasted by freight/express volume versus mail volume, while international traffic is broken down in terms of geographic region. International traffic is expected to increase at the highest growth rate, with Canadian traffic leading the group in terms of both volume and growth rates. Domestic mail will experience the slowest growth over the forecast period, with volumes expected to decrease through 2003 before mounting a modest recovery in 2004.

Table 6.9
Louisiana Air Freight Forecast
Annual Tonnage 2000 - 2020
(Metric Tons)

	2000	2001	2002	2003	2004	2005	2010	2015	2020
Domestic Freight[1]	107,762	104,421	102,229	105,295	110,139	115,205	144,255	180,630	226,177
Domestic Mail[1]	12,701	10,999	9,327	8,861	9,100	9,346	10,677	12,199	13,937
Domestic Total	120,463	115,420	111,556	114,156	119,239	124,551	154,933	192,829	240,114
Louisiana-Canada[2]	203	188	188	200	213	227	312	440	620
Louisiana-Mexico[3]	138	128	128	134	142	149	195	261	350
Louisiana-Latin America[3]	148	137	137	143	150	158	201	255	324
Louisiana-Europe[3]	9	8	8	9	9	10	12	14	17
International Total	498	460	460	487	514	544	720	970	1,310
Lousiana Air Cargo Total	**120,961**	**115,881**	**112,016**	**114,643**	**119,753**	**125,095**	**155,652**	**193,799**	**241,424**

[1]Growth rate based on FAA Aerospace Forecasts 2002
[2]Growth rate based on Boeing World Air Cargo Forecast 2000/2001

Figure 6.21 illustrates the growth rates detailed in **Table 6.9**, depicting domestic volume growth by freight and mail categories. **Figure 6.22** depicts the growth of Louisiana international air cargo by region.

Figure 6.21
Louisiana Domestic Air Cargo Forecast
2000-2020 Annual Tons by Freight and Mail

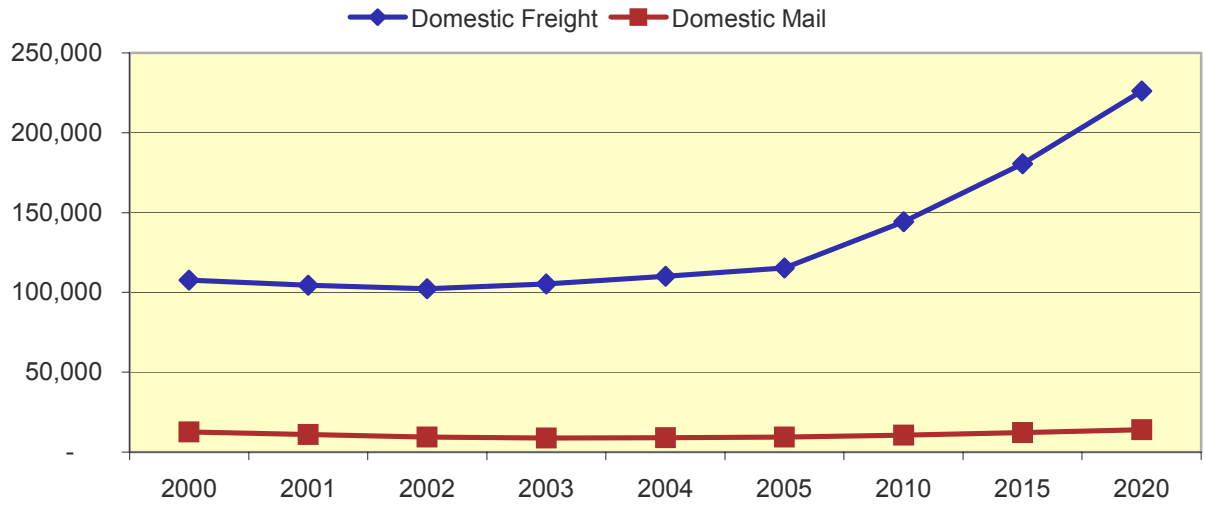


Figure 6.22
Louisiana International Air Cargo Forecast
2000-2020 Annual Tons by Region