

CHAPTER 2: FREIGHT RAIL AND INTERMODAL

This chapter defines the Kentucky rail system by describing the major characteristics of each operating freight railroad and key system-wide trends and conditions.

I. KENTUCKY FREIGHT RAILROADS

The Kentucky rail system, as seen in **Figure 2-1**, is currently comprised of 18 freight railroads and one United States Government rail line. The carriers range in size from small short line railroads to members of large systems serving large parts of the U.S. and Canada. **Figure 2-2** displays the connection between Kentucky's rail system and the eastern United States Class I rail system.

Of the railroads operating within Kentucky, five are Class I carriers, one is a Class II carrier, and the 12 remaining are Class III carriers, or short lines. Class I Railroads, as defined by the Surface Transportation Board (STB) for 2001, are those having annual gross revenue of \$262 million or more. Class II Railroads, also referred to as regional railroads, are those having annual gross revenue greater than \$21 million but less than \$262 million. Class III railroads are those having annual gross revenue less than \$21 million. Railroad class is summarized to the right.

Class I	→	> \$262 Million
Class II	→	< \$262 Million > \$21 Million
Class III	→	< \$21 Million






As seen in **Table 2-1**, these railroads comprise a state rail system of just over 2,800 route miles. Of this total, the state's five Class I railroads represent approximately 2,300 miles, or 82 percent of the statewide rail system.

Within the freight railroad industry, railroads operate on track, based on four main categories. The first category is where a railroad is both operator and owner. The second category is where a railroad operates on line owned by a proprietary company. A proprietary company is a company owned by another railroad but independently operated. Next, a railroad may operate on a line of track under a lease or contract agreement. Within Kentucky, the largest example of a contract agreement would be the north-south Norfolk Southern line in central Kentucky owned by the City of Cincinnati. **Figure 2-3** displays rail line ownership. Last, a freight railroad may operate on line under a trackage rights agreement. In this case, a railroad operates on a line owned and operated by another railroad. Trackage rights are displayed on **Figure 2-1**. **Table 2-1** separates out trackage rights from total mileage.




Active Rail Lines of Kentucky

Class I Railroads

-  Burlington Northern Santa Fe Railway (BNSF) *
-  Canadian Pacific Railway (CP) *
-  CSX Transportation (CSXT) *
-  Illinois Central Railroad (IC) *
-  Norfolk Southern (NS) *

Class II Railroads

-  Paducah and Louisville Railway (PAL)

Class III Railroads

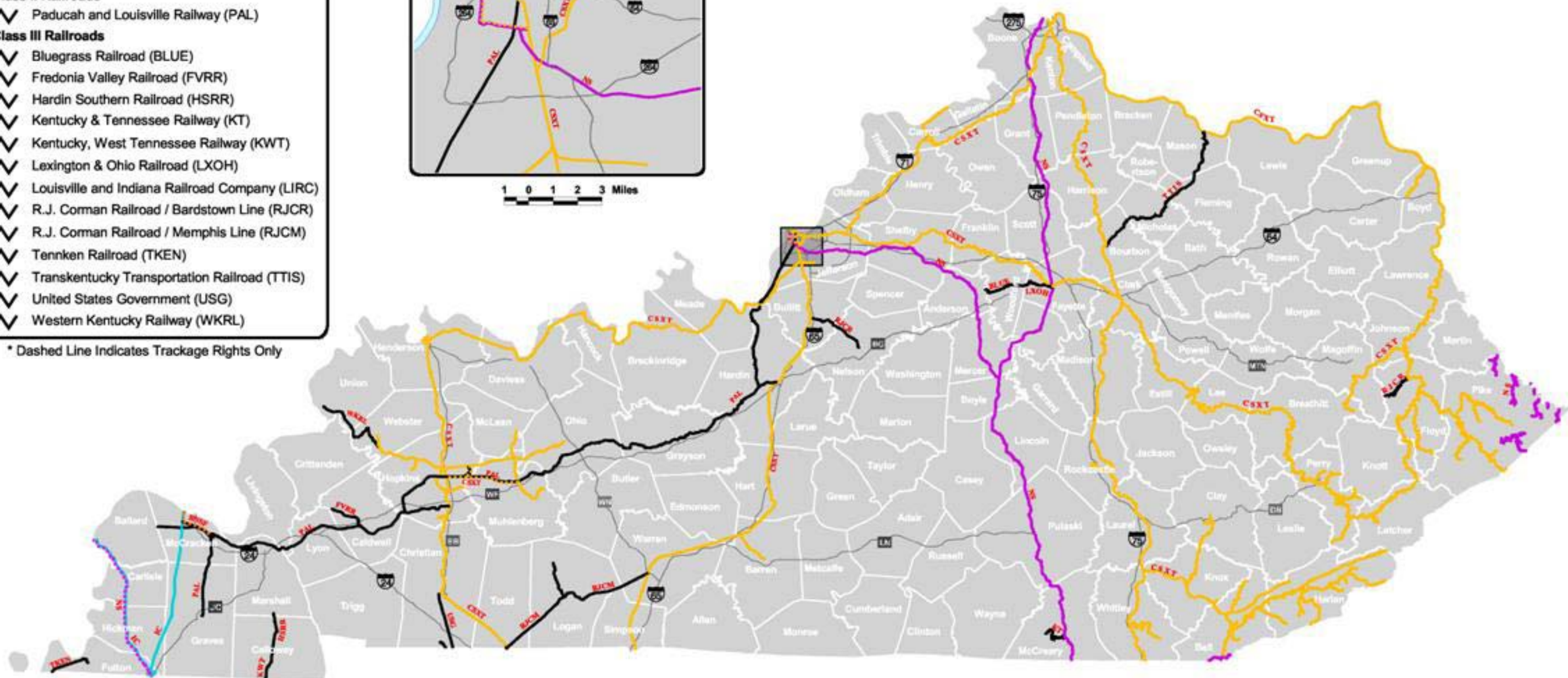
-  Bluegrass Railroad (BLUE)
-  Fredonia Valley Railroad (FVRR)
-  Hardin Southern Railroad (HSRR)
-  Kentucky & Tennessee Railway (KT)
-  Kentucky, West Tennessee Railway (KWT)
-  Lexington & Ohio Railroad (LXOH)
-  Louisville and Indiana Railroad Company (LIRC)
-  R.J. Corman Railroad / Bardstow Line (RJCR)
-  R.J. Corman Railroad / Memphis Line (RJCM)
-  Tennken Railroad (TKEN)
-  Transkentucky Transportation Railroad (TTIS)
-  United States Government (USG)
-  Western Kentucky Railway (WKRL)

* Dashed Line Indicates Trackage Rights Only

Louisville



1 0 1 2 3 Miles



20 0 20 40 60 Miles

Figure 2-1

2002 Kentucky Railroad System

2002 Kentucky Statewide Rail Plan



Source: Bureau of Transportation Statistics: 2000 National Transportation Atlas Database; Verified Using The Professional Railroad Atlas of North America, 2nd Edition, Railroad System Maps, and Railroad Internet Resources. Reviewed by Railroad Representatives and Other Project Stakeholders.



Legend

-  Amtrak
-  Burlington Northern Sante Fe
-  Canadian National Railway
-  Canadian Pacific Railway
-  CSX Transportation
-  Kansas City Southern
-  Norfolk Southern
-  Union Pacific

200 0 200 Miles



Source: 2002 National Transportation Atlas Database

Figure 2-2
2002 Eastern United States
Class I Rail System
 2002 Kentucky Statewide Rail Plan

Table 2-1			
Kentucky Freight Railroads Route Miles Operated in Kentucky			
2000			
Railroad	Route Miles Operated in Kentucky		Percent of Kentucky Rail System Owned/Leased
	Owned/Leased	Trackage Rights	
<i>Class I Railroads</i>			
Burlington Northern & Santa Fe Railway	0	13	0.0
Canadian Pacific Railway	0	1	0.0
CSX Transportation	1,827	53	64.9
Illinois Central Railroad	85	17	3.0
Norfolk Southern Railway	382	63	13.6
Total Class I Railroads	2,294	147	81.5
<i>Regional (Class II) Railroads</i>			
Paducah & Louisville Railway	272		9.7
Total Regional Railroad	272		9.7
<i>Short Line (Class III) Railroads</i>			
Bluegrass Railroad	6		0.2
Fredonia Valley Railroad	10		0.4
Hardin Southern Railroad	9		0.3
Kentucky & Tennessee Railway	11		0.4
Kentucky, West Tennessee Railroad	11		0.4
Lexington & Ohio Railroad	15		0.5
Louisville & Indiana Railroad	2		0.1
R.J. Corman RR / Bardstown Line	20		0.7
R.J. Corman RR / Memphis Line	62		2.2
Tennken Railroad	12		0.4
Transkentucky Transportation Railroad	49		1.7
Western Kentucky Railway	40		1.4
Total Short Line Railroads	247		8.8
System Totals	2,813	147	100.0
Source: Railroad Data			



Active Rail Lines of Kentucky

Class I Railroads

- CSX Transportation (CSXT)
- Illinois Central (IC)
- Norfolk Southern (NS)

Class II Railroads

- Paducah and Louisville Railway (PAL)

Class III Railroads

- Bluegrass Railroad (BLUE)
- Fredonia Valley Railroad (FVRR)
- Hardin Southern Railroad (HSRR)
- Kentucky and Tennessee Railway (KT)
- Kentucky, West Tennessee Railway (KWT)
- Lexington and Ohio Railroad Company (LXOH)
- Louisville and Indiana Railroad Company (LIRC)
- R.J. Corman Railroad / Bardstown Line (RJCR)
- R.J. Corman Railroad / Memphis Line (RJCM)
- Transkentucky Transportation Railroad (TTIS)
- United States Government (USG)
- Western Kentucky Railway (WKRL)

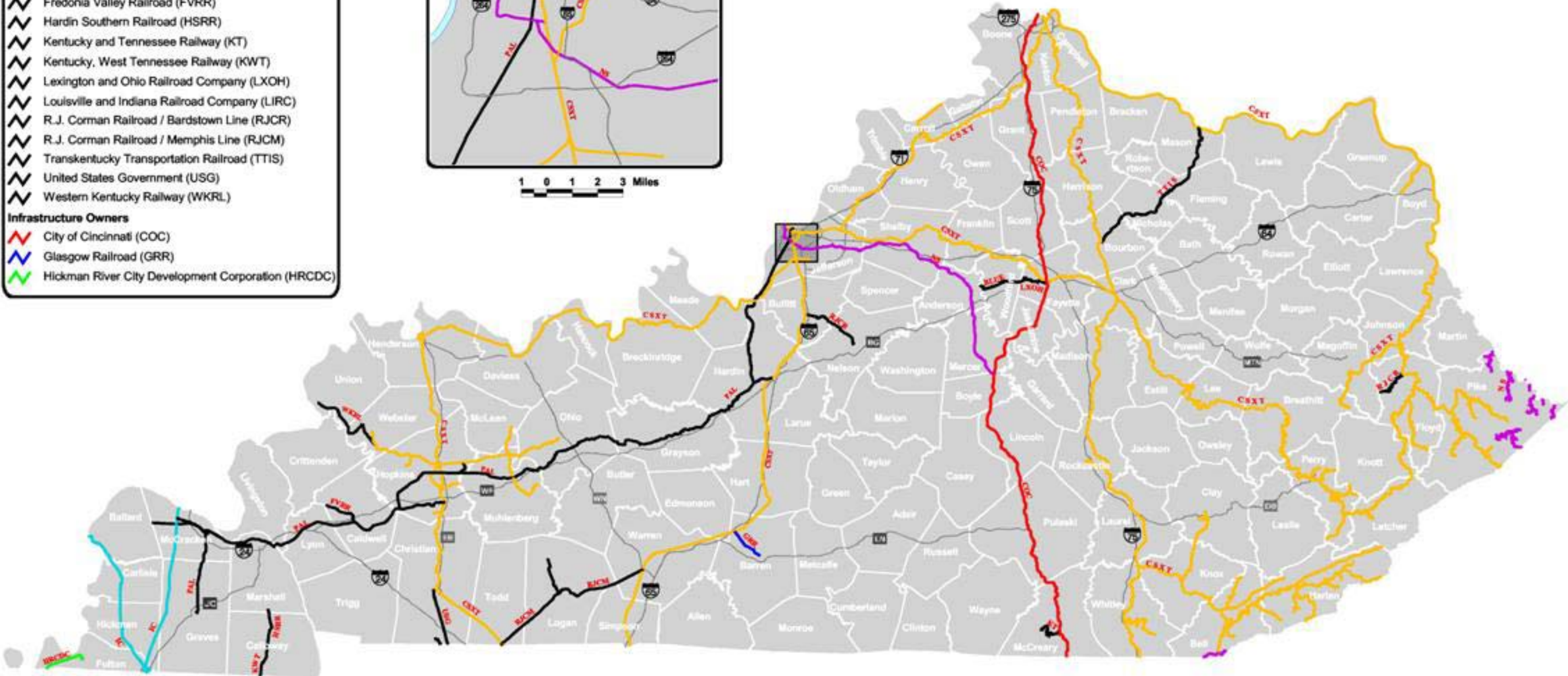
Infrastructure Owners

- City of Cincinnati (COC)
- Glasgow Railroad (GRR)
- Hickman River City Development Corporation (HRCDC)

Louisville



1 0 1 2 3 Miles



20 0 20 40 60 Miles

Source: Various Data Provided by Railroads

Figure 2-3

2002 Kentucky Rail Ownership

2002 Kentucky Statewide Rail Plan



CSX Transportation (CSXT) is the largest carrier in terms of Kentucky route mileage, accounting for 1,880 miles, or 64.9 percent of the total route miles in the Commonwealth of Kentucky. The second largest railroad is the Norfolk Southern Railway (NS) with 382 miles, or 13.6 percent of the statewide rail system. The third largest carrier is the Paducah & Louisville Railway (PAL), which is Kentucky's only Class II, or regional railroad. The PAL operates 272 miles of railroad, or ten percent of the statewide rail system.

In comparison with the data contained in the *1978 Kentucky Rail Plan*, total route miles have dropped 20 percent from approximately 3,500 route miles to approximately 2,800 route miles. As reported in the *1978 Kentucky Rail Plan*, there were ten Class I railroads accounting for 98 percent of the system with Louisville and Nashville (a CSXT predecessor) being the largest carrier. As stated above this compares to the current system of five Class I carriers with CSXT as the largest carrier.

The following discussion will detail each freight railroad currently operating within Kentucky, divided by class of railroad.

A. Class I Railroads

Burlington Northern and Santa Fe Railway (BNSF) – The BNSF operates over 33,000 miles of track within the United States and two Canadian provinces. In the U.S., it predominantly serves the territory west of the Mississippi River, but it has short extensions into the Southeast. Within Kentucky, the BNSF operates on 13 miles of track owned by the PAL, running from the Kentucky-Illinois state line to a terminus in Paducah. The BNSF provides no local switching operations, only pick-up and delivery service. Major commodities hauled by the BNSF include chemicals or allied products, lumber or wood products, primary metal products, and farm products.

Canadian Pacific Railway (CP) – In 1990, the CP and the Soo Line Railroad were merged, providing CP access to Louisville, Kentucky. Operating now under the Canadian Pacific name, this Class I carrier currently operates 3,225 miles of track in the United States. Within Kentucky, Canadian Pacific operates on one mile of track owned by CSXT.

CSX Transportation (CSXT) – According to the 2000 CSX Annual Report, CSXT operates 23,000 route miles serving every major market east of the Mississippi. As Kentucky's largest railroad, it operates 1,880 route miles in Kentucky, geographically traversing the state. Of the 1,880 miles operated, CSXT currently owns more than 93 percent of this route mileage. In addition, CSXT owns a minority share of the Paducah and Louisville Railway and wholly owns the Transkentucky Transportation Railroad. Both operate as independent railroads. Principal commodities hauled by CSXT include coal,



Two CSXT engines at work in Eastern Kentucky

chemicals or allied products, farm products, food or kindred products, and primary metal products. Of these commodities, coal comprised over half of the tonnage hauled in Kentucky by CSXT for the year 2000.

Illinois Central Railroad (IC) – In 1999, Illinois Central merged with Canadian National, a major Canadian Class I carrier. Currently, the merged railroads operate approximately 18,000 route miles within the United States and Canada, running through 14 states and several provinces. In Kentucky, the IC operates 102 route miles of track located in far western Kentucky. Major commodities transported by the IC within Kentucky include coal, farm products, chemicals or allied products, pulp and paper, and food or kindred products.



Norfolk Southern Train passing through Lexington, Kentucky.

Norfolk Southern Railway (NS) – NS operates approximately 21,800 route miles system-wide and serves 22 states as well as one Canadian province. In Kentucky, the railroad operates 445 miles of track, which is the second highest amount of track operated within the state by a single railroad company. Two separate lines serve the Louisville and Cincinnati markets, merging at the Mercer/Boyle county line and continuing south to the Kentucky/Tennessee state line in McCreary County. NS also accesses coal fields in eastern Kentucky via main lines

through West Virginia. Major commodities hauled by NS include coal, farm products, chemicals or allied products, and primary metal products.

B. Class II Railroads

Paducah & Louisville Railway (PAL) – The PAL was created in 1986, having acquired the line from the Illinois Central Railroad. The PAL is the only Class II railroad within Kentucky. It operates 272 miles within the state, 223 miles of which comprise its mainline, from Paducah in the western portion of the state to Louisville. Branch lines connect Paducah to Kevil and Mayfield; also connected are Elizabethtown and Cecilia. In Paducah, the PAL connects to the BNSF and IC. Similarly, in Louisville, it connects to NS, CSXT, and CP.



PAL train crossing a PAL high trestle bridge near Muldraugh, KY, one of the longest curved truss bridges in Kentucky.

C. Class III Railroads

Bluegrass Railroad (BLUE) – The Bluegrass Railroad operates approximately six route miles of track in Woodford County, Kentucky. The track was formerly owned and operated by Norfolk Southern. The railroad's principal commodity is lumber products. In addition to serving as a freight railroad, the Bluegrass Railroad operates a recreational/tourist railroad. Additional information can be

found in Chapter 3 on this and other recreational/tourist railroads within Kentucky.

Fredonia Valley Railroad (FVRR) – The FVRR is a short line carrier that operates ten miles of track in western Kentucky. This Class III carrier serves a local market between Princeton and Fredonia, Kentucky interchanging with the PAL in Princeton.

Hardin Southern Railroad (HSRR) – The HSRR owns and operates nine route miles of track originating in Hardin, Kentucky. Although interested in the freight market, the HSRR is currently not used as a freight line. The railroad has the potential to interchange with the Kentucky, West Tennessee Railroad, but is a recreational/tourist railroad at this time.

Kentucky & Tennessee Railway (KT) – The KT is a Class III railroad that operates 11 miles of track within Kentucky. It is located in McCreary County, which is in the southern portion of the state. Similar to the HSRR, the Big South Fork Railroad, a recreational carrier, is the exclusive operator on this line.



Blue Heron Interpretive Center and Depot, one of two stops along the Big South Fork Scenic Railroad tour.

Kentucky, West Tennessee Railroad (KWT) – The KWT is a short line that operates 62 miles of track in two states. Of these 62 miles, 11 miles of track are located in the western portion of Kentucky. In the

Commonwealth, the KWT Railroad begins at the Tennessee state line and terminates in Murray, Kentucky, where it connects with the Hardin Southern Railroad. Major commodities handled by the KWT Railroad include food and consumer products, chemicals and plastics, clay, and transportation equipment.

Lexington & Ohio Railroad (LXOH) – This short line operates 15 miles of track within the state of Kentucky. A division of Gulf and Ohio Railways, the LXOH is located in Fayette and Woodford Counties in the central portion of the state.

Louisville & Indiana Railroad (LIRC) – The LIRC railroad operates 113 miles in two states; however, only two route miles are located in Kentucky. The LIRC crosses the Ohio River from Louisville into southern Indiana continuing toward Indianapolis. Within Kentucky the LIRC interchanges with the PAL.

R. J. Corman Railroad Company / Bardstown Line (RJCR) – The RJCR consists of approximately 20 route miles of track within Nelson and Bullitt Counties and 35 route miles in Floyd County. The section within Nelson and Bullitt Counties begins in the east near Bardstown and travels west to a termination point on a CSXT line midway between Louisville and Elizabethtown. Principal commodities include plate steel, plastics, lumber, building supplies, brick, and distiller's grain. My Old Kentucky Home Dinner Train also operates along this track and is further described in the following chapter. The second section of track in Floyd County

interchanges with CSXT and the principal commodity hauled along this line is coal.



Two R.J. Corman trains sitting outside their distribution facility in South Union, Kentucky

R. J. Corman Railroad Company / Memphis Line (RJCM) – The RJCM was purchased from CSX Transportation and operates a total of 100 miles in both Kentucky and Tennessee. Of these 100 miles, 62 miles of track are located in Kentucky, running between the Tennessee border and Bowling Green in Western Kentucky. Also included as part of the 62 route miles is a branch line that runs between Russellville and Lewisburg. The line connects with CSXT in Bowling Green and Guthrie. Major commodities hauled by the railroad include aluminum can stock, grain, fertilizer, steel, lumber, paper, chemicals, wallboard, and zinc.

Tennken Railroad (TKEN) – The TKEN operates 51 miles of track in Tennessee and Kentucky. The 12 miles of track within Kentucky are operated under lease with the Hickman River City Development Corporation, which owns the line. It connects Dyersburg, Tennessee and Hickman, Kentucky. Primary commodities handled by this railroad include coke, pitch, and steel products.

Transkentucky Transportation Railroad (TTI) - This short line railroad operates as a proprietary company of CSXT owning 49 route miles of track between Paris and Maysville interchanging with CSXT at each end and operating the TTI River Terminal in Maysville. The primary commodity shipped along the railroad is coal.

Western Kentucky Railway (WKRL) – This short line operates 40 miles within Kentucky. Located in the western portion of the state, this railroad currently operates within Union and Webster Counties. The principal commodity shipped along this railroad is coal.

United States Government (USG) – Serving Fort Campbell in southern Kentucky, the United States Government operates 18 route miles of track. The United States Government’s track interchanges with CSXT in Hopkinsville, providing this facility connection to the national rail network.

II. FREIGHT TRAFFIC

The Surface Transportation Board (STB), described below, provided Waybill Sample data for years 1990 through 1999. This data was used to conduct the following commodity and traffic density analyses.

A. Surface Transportation Board

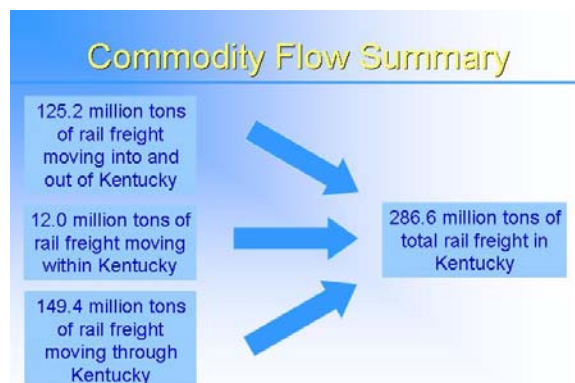
The Surface Transportation Board was established in 1996 as the successor to the Interstate Commerce Commission. Its mission is to “ensure that competitive, efficient, and safe transportation services are provided to meet the needs of

shippers, receivers, and consumers.”¹ The STB is an adjudicatory body organizationally housed with the United States Department of Transportation, but decisionally independent, responsible for certain surface transportation economic regulatory matters. As this relates to rail, the STB’s jurisdiction includes railroad rates and service issues, rail restructuring transactions, labor matters, and data collection and oversight. For additional information on the Surface Transportation Board, the following website can be referenced: www.stb.dot.gov/.

One example of a database maintained by the STB is the Carload Waybill Sample. A waybill is a contract between railroads moving a particular shipment and contains some of the following information: car initial and number, date, origin and destination, shipper, route, commodity code, weight, rate, and associated charges. The overall sampling rate for 1999 was close to three percent. Although a small sample, the Waybill Sample is regularly used for judicial and regulatory uses, market research and analysis, utilization studies, car cycle analyses, and hazardous material flow and risk cost assessment.

B. Commodities and Flows

In 1999 total rail freight traffic in Kentucky exceeded 286 million tons. Out of this total, 95.5 million tons originated in Kentucky with destinations outside the state, far outweighing the 29.7 million tons terminating in Kentucky from other states. Nearly 12.0 million tons of rail freight traffic both originated and terminated within the state (intrastate traffic). Traffic moving through Kentucky (neither originating nor terminating in the state) accounted for 149.4 million tons of rail freight traffic. **Table 2-2** displays 1999 freight tonnage by commodity and by type of movement for Kentucky and is also summarized above.



Originating Traffic

Coal makes up 88 percent of the 95.5 million tons of traffic originating by rail in Kentucky, and terminating outside the state. Transportation Equipment (three percent) and Primary Metal Products (three percent) follow, but are minor in comparison to coal traffic.

Rail freight originating in Kentucky predominantly terminates within Georgia, North Carolina, Florida, and South Carolina. Combined, the four states account for over 54 million tons or 57 percent of originating Kentucky volumes. This tonnage is predominantly coal being transported to southern power plants. **Figure 2-4** shows out-of-state destinations.

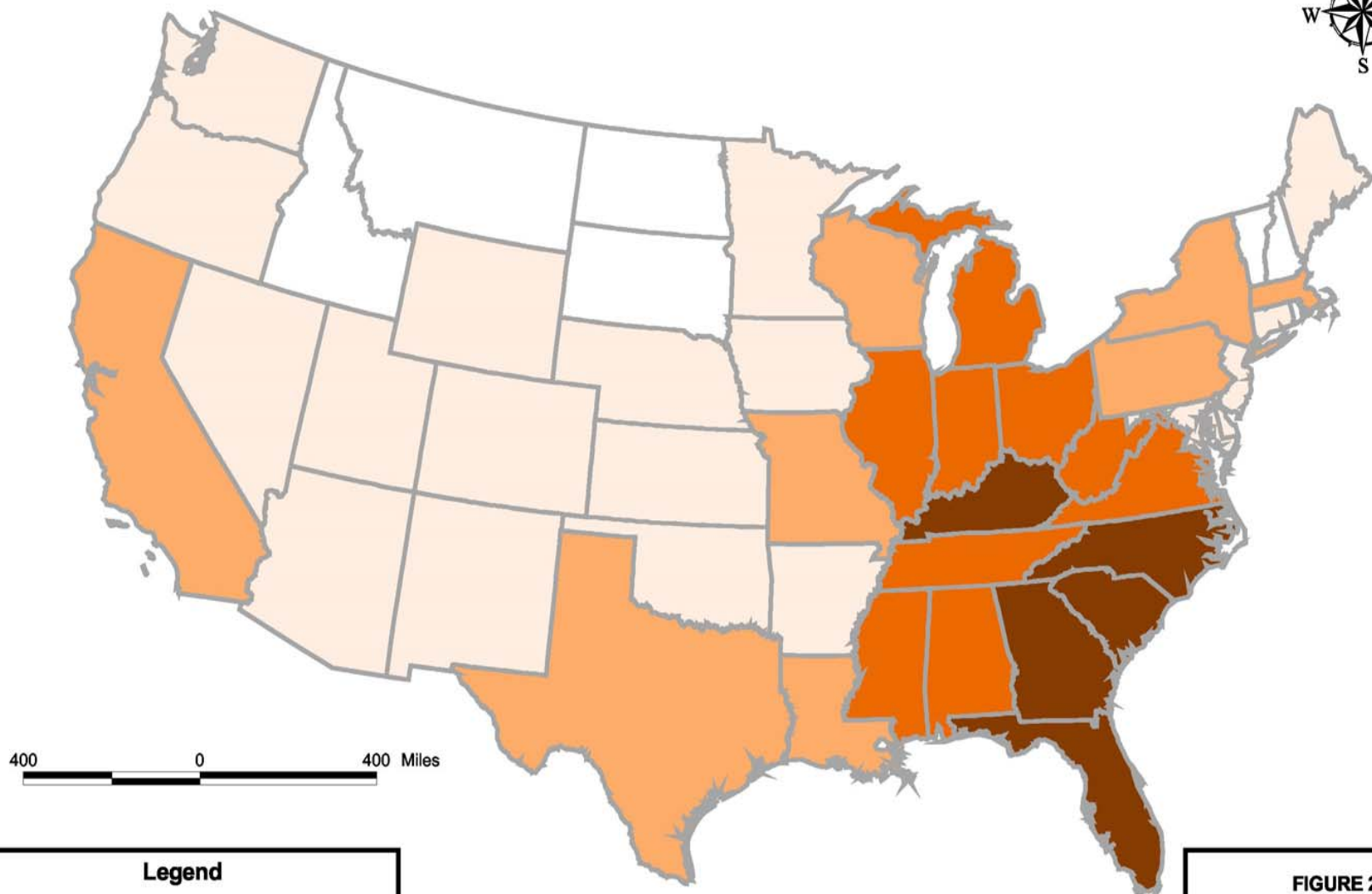
¹ Surface Transportation Board. <http://www.stb.dot.gov/organization/people.htm>. March 6, 2003.

Table 2-2
Kentucky Freight Traffic, by Commodity
1999

Commodity		Tonnage (thousands)					
STCC ¹	Description	Originating	Terminating	Intrastate	Through	Total	% of Total
1	Farm Products	659	362	8	26,413	27,442	9.6
10	Metallic Ores	81	2,300	211	2,528	5,120	1.8
11	Coal	83,817	16,313	9,954	53,815	163,899	57.2
14	Nonmettalic Minerals	377	345	650	937	2,310	0.8
20	Food or Kindred Products	287	824	59	11,070	12,240	4.3
24	Lumber or Wood Products	216	1,174	228	4,499	6,117	2.1
26	Pulp, Paper, or Allied Products	687	1,285	61	7,943	9,976	3.5
28	Chemicals or Allied Products	1,083	1,522	179	11,429	14,212	5.0
29	Petroleum or Coal Products	432	371	6	2,458	3,268	1.1
32	Clay, Concrete, Glass, or Stone	524	515	22	4,581	5,642	2.0
33	Primary Metal Product	2,841	1,353	78	6,534	10,806	3.8
37	Transportation Equipment	3,075	1,647	104	5,545	10,371	3.6
40	Waste or Scrap Materials	620	1,131	341	1,899	3,992	1.4
46	Misc. Mixed Shipments	456	433	0	7,363	8,252	2.9
	All Others	392	176	3	2,350	2,921	1.0
Totals		95,547	29,750	11,903	149,367	286,566	100.0

Source: Surface Transportation Board's Waybill Sample

Notes: 1) Waybill Statistics utilize two-digit Standard Transportation Commodity Codes (STCC) and are categorized accordingly.



400 0 400 Miles

Legend
Freight Tonnage

	None		250,000 - 999,999
	1 - 249,999		1,000,000 - 9,999,999
			> 10,000,000



Source: STB Waybill Sample

FIGURE 2-4
1999 Termination, by State, of Rail Freight Tonnage Originating in Kentucky
2002 Kentucky Statewide Rail Plan

Terminating Traffic

Coal makes up 55 percent of the approximately 30 million tons of rail traffic terminating in Kentucky. Metallic Ores and Transportation Equipment are next with eight percent and six percent, respectively.

Much of the rail freight traffic terminating in Kentucky originates in Illinois, Colorado, West Virginia, and Wyoming. These four states account for 19 million tons (67 percent) of all rail traffic terminating in Kentucky from non-Kentucky sources. **Figure 2-5** illustrates these out-of-state origins.

Intrastate Traffic

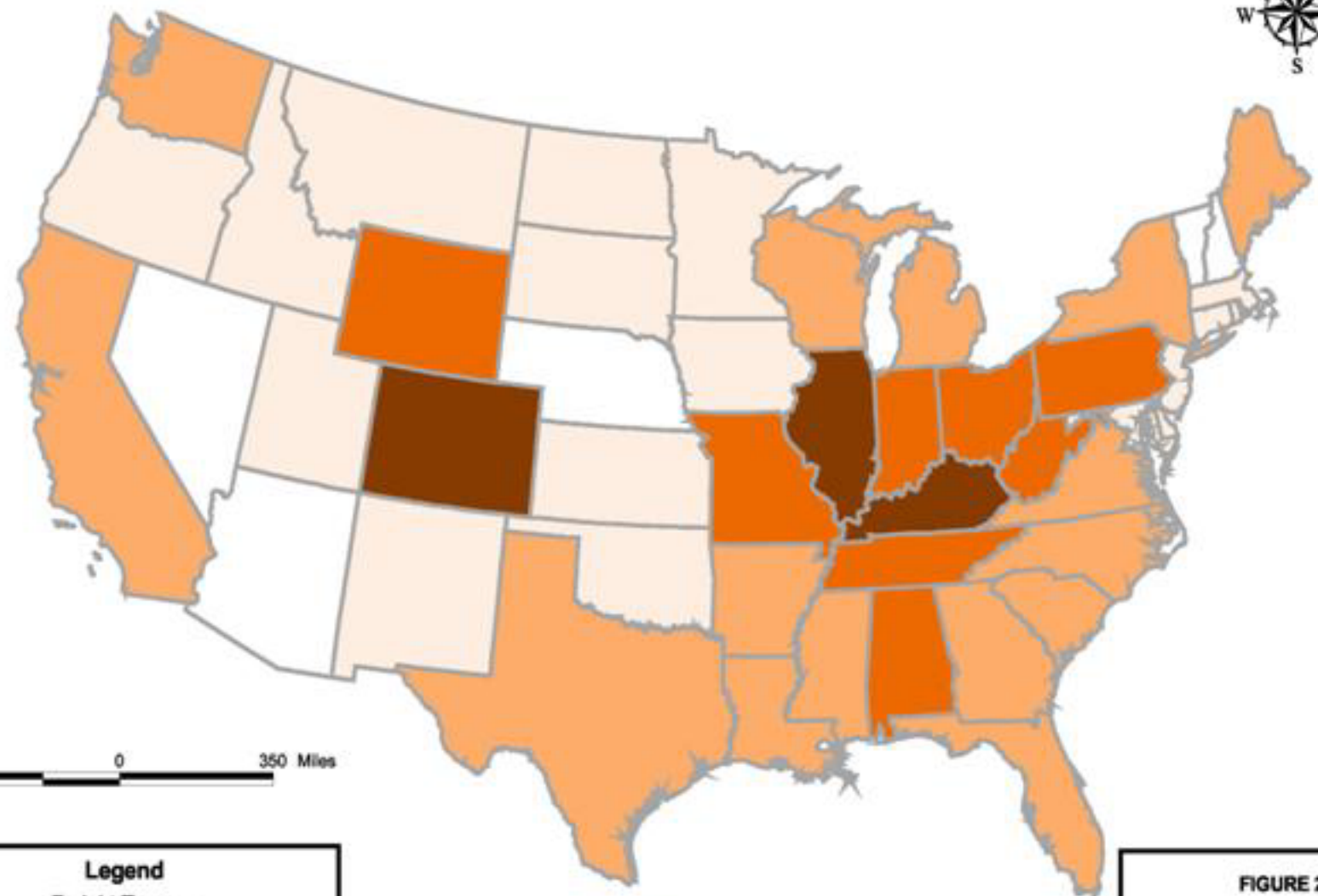
Kentucky intrastate rail traffic at 12 million tons accounts for only 4 percent of 1999 total rail freight traffic in the Commonwealth. Coal is the principal intrastate commodity, making up 84 percent of all intrastate rail traffic.

Through Commodities

Rail traffic passing through Kentucky, neither originating nor terminating within the state, comprises the largest rail traffic movement at 149.4 million tons. Four commodities, Coal (36 percent), Farm Products (18 percent), Chemicals or Allied Products (8 percent), and Food or Kindred Products (7 percent), make up almost three-fourths of rail traffic moving through Kentucky. The largest originator of through traffic is the State of West Virginia with over 37 million tons, with the majority of this tonnage being coal shipments. The largest point of termination is Ohio with over 20 million tons of rail freight. More than half of this tonnage is coal shipments from West Virginia.

C. Historical Trends

Figure 2-6 presents rail tonnage amounts from 1990 through 1999 as derived from the STB's Waybill Sample. The same data are presented in a tabular format in **Table 2-3**. It is evident that total rail freight tonnage increased during the period. Originating traffic varied in tonnage during the period, peaking in 1996, an increase of 13 percent, but returned to the 1990 level by the year 1999. There was a seven million ton (30 percent) increase in terminating traffic, and intrastate traffic declined by 43 percent throughout the period. Through traffic showed a 30 million ton increase in traffic, or a 25 percent rise. Overall, traffic between 1990 and 1999 increased by approximately 11 percent. This increase largely reflects increases in the movement of rail freight through the state.



350 0 350 Miles

Legend
Freight Tonnage

	None		100,000 - 499,999
	1 - 99,999		500,000 - 4,999,999
			> 5,000,000



Source: STB Waybill Sample

FIGURE 2-5
1999 Origination, by State, of Rail Freight Tonnage Terminating in Kentucky
2002 Kentucky Statewide Rail Plan

Figure 2-6
Kentucky Freight Traffic, by Origin/Destination
1990-1999

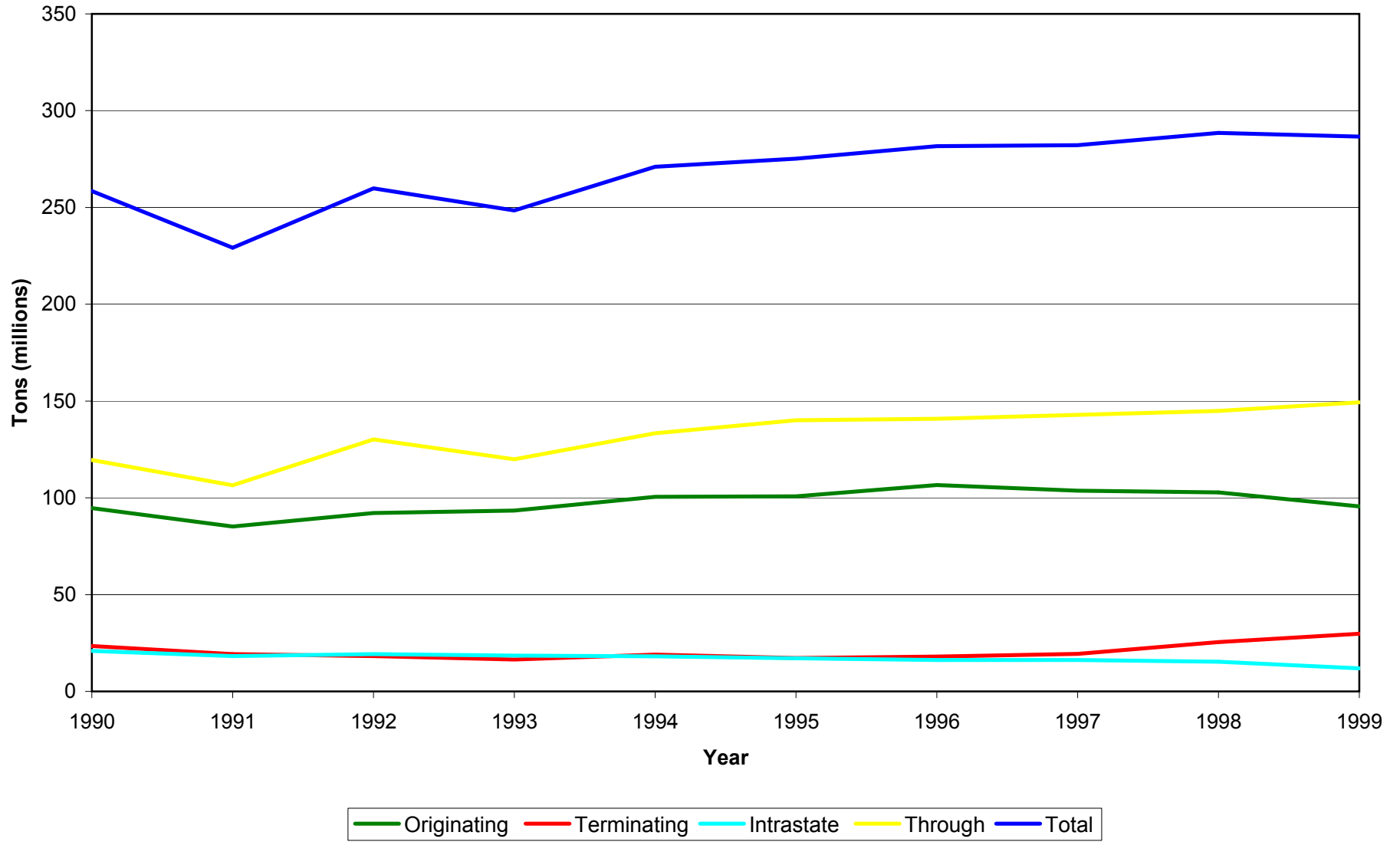


Table 2-3
Kentucky Freight Rail Traffic 1990-1999,
by Origin/Destination Type
Tonnage (millions)

Year	Originating	Terminating	Intrastate	Through	Total
1990	95	23	21	119	259
1991	85	19	18	107	229
1992	92	18	19	130	260
1993	93	17	19	120	248
1994	101	19	18	133	271
1995	101	17	17	140	275
1996	107	18	16	141	282
1997	104	19	16	143	282
1998	103	25	15	145	288
1999	96	30	12	149	287

Source: Surface Transportation Board's Waybill Sample

D. Kentucky's Principal Rail Commodities

Coal is the principal Kentucky rail commodity, leading in originating, terminating, intrastate, and through commodity tonnage. Coal comprises 57 percent of all Kentucky rail freight traffic, and 80 percent of all originating and terminating traffic. Looking further at originating and terminating traffic, transportation equipment, primary metal product and chemical or allied products follow with four, three and two percent, respectively. In terms of total commodity tonnage, farm products account for 10 percent, but this is mostly attributable to through commodity tonnage.

Coal Traffic

Coal makes up a significant portion of all commodities shipped in Kentucky, whether it originates or terminates in the state, is shipped intrastate, or passes through Kentucky. Data were compiled for the rail movement of coal traffic for the years 1990 through 1999. For each of these years, the coal originating in Kentucky comprised the majority of total freight traffic. Through traffic also made up an important, although smaller, portion of the total coal traffic. Coal traffic terminating in Kentucky comprised the smallest portion of total coal traffic.

As seen in **Table 2-4**, with the exception of a decrease in traffic between 1990 and 1991, state-originating coal traffic increased until 1996 and

decreased in the following years largely due to a downturn in the export market and an increase in the movement of Powder River Basin coal west to east. State-terminating coal traffic generally decreased until 1996, at which point it began to increase steadily. Intrastate coal traffic has shown a general decrease, while through coal traffic movements have fluctuated.

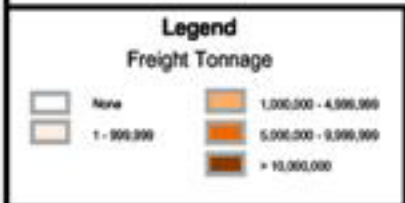
Table 2-4
Kentucky Coal Rail Traffic 1990 to 1999,
by Origin/Destination Type
Tonnage (millions)

Year	Originating	Terminating	Intrastate	Through	Total
1990	88.4	13.8	19.5	51.0	172.7
1991	78.3	10.7	17.1	39.1	145.2
1992	84.6	9.7	18.2	56.3	168.8
1993	85.5	8.4	17.4	46.3	157.5
1994	91.6	8.9	16.8	51.3	168.5
1995	91.6	6.4	15.5	52.7	166.2
1996	96.9	6.5	14.7	57.9	176.0
1997	93.5	7.2	14.5	55.2	170.5
1998	91.5	12.0	13.6	51.6	168.7
1999	83.8	16.3	10.0	53.8	163.9

Source: Surface Transportation Board's Waybill Sample

As a percentage of all freight rail traffic in Kentucky, coal traffic was highest (67 percent) in 1990. Coal comprised only 57 percent of all freight traffic in 1999, the lowest percentage for all years tabulated.

Data were compiled for the years 1990, 1993, 1996, and 1999 regarding the origin and destination of coal traffic in Kentucky. As shown in **Figure 2-7**, when originating in Kentucky, the principal destination state in 1990 and 1993 was Kentucky. Other major destinations were Georgia, Virginia, and North Carolina. However, in 1999, Florida was a major destination, while both Kentucky and Virginia held a much smaller percentage. When terminating in Kentucky, the principal point of origin was also Kentucky for all years for which data were compiled, as can be seen in **Figure 2-8**. Other major points of origin were Illinois, West Virginia, Wyoming, and Colorado.



Source: STB Waybill Sample

Figure 2-7
Termination, by State, of Coal Freight Tonnage Originating in Kentucky
2002 Kentucky Statewide Rail Plan

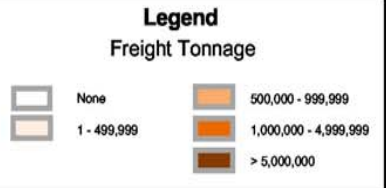
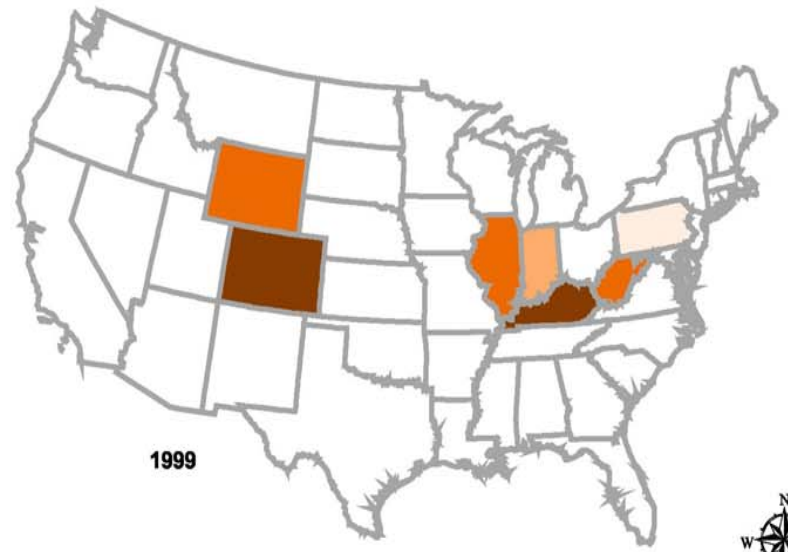
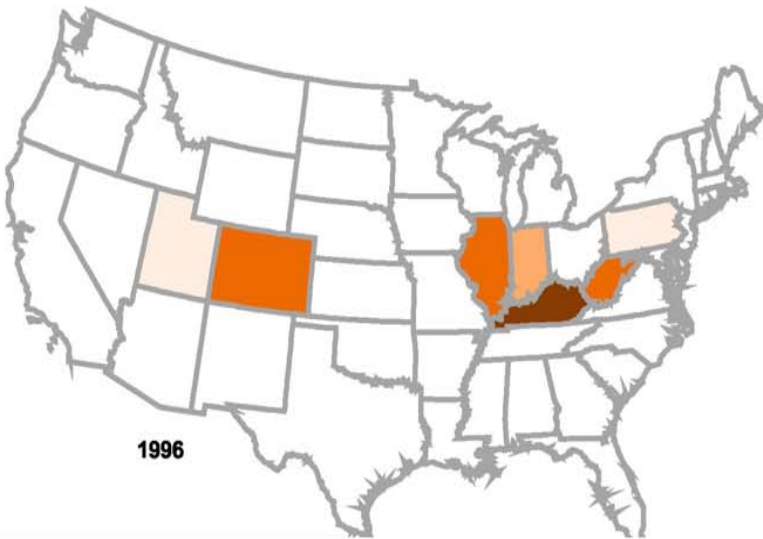
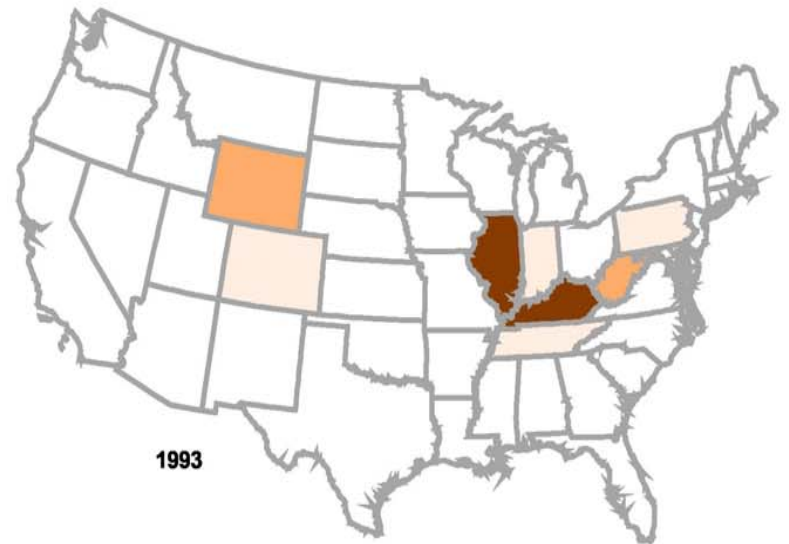
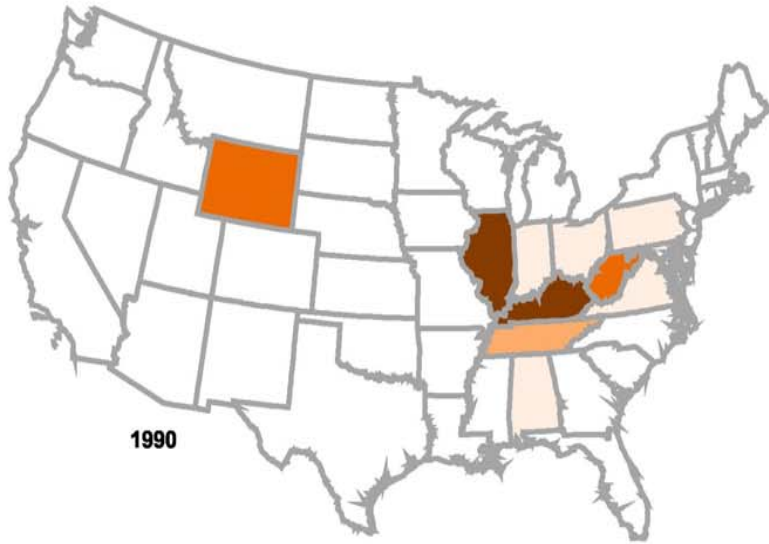


FIGURE 2-8
Origination, by State, of Coal Freight Tonnage Terminating in Kentucky
2002 Kentucky Statewide Rail Plan

Source: STB Waybill Sample

Transportation Equipment

The movement of transportation equipment has shown significant increases since 1990. Powered by continued production growth at the Ford, Toyota and Chevrolet manufacturing plants, originating traffic increased approximately 400 percent while terminating traffic increased approximately 500 percent. Currently, the Ford Explorer, Ford F-150, Toyota Camry, and Chevrolet Corvette, among others, are manufactured in Kentucky, yielding a high volume of automobiles produced within the state. In addition to finished goods, large volumes of parts are produced within Kentucky bound to both Kentucky and other out-of-state manufacturing facilities. Parts not produced in Kentucky must be shipped to Kentucky, accounting for additional flows. **Table 2-5** displays the overall growth in Kentucky transportation equipment.

Table 2-5
Kentucky Transportation Equipment Rail Traffic 1990 to 1999
Tonnage (millions)

Year	Originating	Terminating	Intrastate	Through	Total
1990	0.8	0.3	0.1	3.8	4.9
1991	0.8	0.4	0.0	3.2	4.3
1992	1.0	0.3	0.0	3.8	5.1
1993	0.9	0.3	0.0	3.6	4.7
1994	1.0	0.5	0.1	5.0	6.6
1995	1.2	0.7	0.2	5.2	7.3
1996	1.5	0.6	0.0	6.2	8.4
1997	1.4	0.6	0.0	6.5	8.6
1998	2.8	1.6	0.1	5.1	9.6
1999	3.1	1.6	0.1	5.5	10.4

Source: Surface Transportation Board's Waybill Sample

Primary Metal Products

In 1999, primary metal products accounted for a little over three percent of all originating and terminating traffic. Kentucky's originating tonnage between 1990 and 1999 has grown from 1.2 to 2.8 million tons, while terminating tonnage for the same period has grown from 0.7 to 1.4 million tons.

Chemical or Allied Products

Between 1990 and 1999, Kentucky rail transport of chemical or allied products have shown a trend of continued growth. Over these years, such commodities have remained the third largest component of all the

commodities moved on Kentucky’s rails and the fourth largest when only considering originating and terminating traffic. Chemical or allied products were from three to five percent of all goods shipped by rail in Kentucky each year.

As represented in **Table 2-6**, the Kentucky rail system primarily acts as a through movement mechanism for such products, with the majority of tons simply passing from one state to another. It should be noted, though, that originating, terminating, and intrastate rail transport of these products have nearly doubled over the 1990-1999 time period. While these numbers are not significant in terms of total tonnage they do show a growth rate much higher than that of through tonnage.

Table 2-6
Kentucky Chemicals/Allied Products Rail Traffic 1990 to 1999, by
Origination/Destination Type
Tonnage (millions)

Year	Originating	Terminating	Intrastate	Through	Total
1990	0.6	0.9	0.1	8.0	9.5
1991	0.8	1.0	0.0	7.6	9.4
1992	0.7	1.1	0.0	7.9	9.8
1993	0.8	0.8	0.1	8.2	9.9
1994	0.7	1.0	0.0	9.6	11.3
1995	0.7	1.1	0.0	9.2	11.0
1996	0.9	1.2	0.1	9.9	12.1
1997	1.0	1.1	0.2	10.3	12.6
1998	1.1	1.4	0.2	11.0	13.7
1999	1.1	1.5	0.2	11.4	14.2

Source: Surface Transportation Board's Waybill Sample

Farm Products

From 1990 to 1999, farm products were the second largest commodity group by percentage of total rail commodity tonnage. In regard to farm products, the Kentucky rail system is used mainly as a means for a through movement of goods from and to locales outside of the state’s boundaries. Between 1990 and 1999, farm commodities transported by rail in Kentucky have grown from approximately 22 million tons to 27 million tons; however, only one million tons or less per year actually originated or terminated within the state. Even less is seen in intrastate transport for that same time period.

Over this period the through and total tonnage moved by rail has fluctuated, but has remained positive. Originating, terminating, and intrastate rail movements for farm commodities have remained relatively constant, with only minor losses and gains over this time frame.

Hazardous Materials

According to the U.S. Department of Transportation, materials that fall into one of the following nine hazard classes are classified as hazardous materials²:

- Explosives;
- Gases;
- Flammable Liquids;
- Flammable Solids;
- Oxidizers and Organic Peroxides;
- Toxic Materials and Infectious Substances;
- Radioactive Materials;
- Corrosive Materials; and
- Miscellaneous and Dangerous Goods.

Data compiled from the Waybill Sample for the 1990-1999 period shows that hazardous materials comprised four to five percent of total commodities shipped from, into, and through the Commonwealth of Kentucky. As shown in **Table 2-7**, intrastate hazardous material traffic is the lowest of these origin/destination types, rising slightly in volume from 1990 until 1995 when the tonnage was 0.4 million tons and decreasing after that until 1999, when the tonnage was 0.1 million tons.

Hazardous material shipped through Kentucky but not originating or terminating in the state had the highest tonnage over the ten-year period. With the exception of reductions in 1993 and 1996, the volume of this commodity group has steadily increased from 7.1 million tons in 1990 to 11.8 million tons.

Volumes of hazardous materials either originating or terminating in Kentucky remained relatively unchanged or varied slightly over the ten-year period. For hazardous traffic originating in Kentucky, the volume varied from 1.1 million tons to 1.6 millions tons. For hazardous traffic terminating in Kentucky, the volume varied from 1.5 millions tons to 2.7 million tons, with little uniformity in pattern.

² US Census Bureau. "Hazardous Materials, Transportation, 1997 Commodity Flow Survey." 1997 *Economic Census*. U.S. Department of Transportation, Bureau of Transportation Statistics and U.S. Department of Commerce, Economic and Statistics Administration, U.S. Census Bureau, December 1999.

Table 2-7
Kentucky Hazardous Rail Traffic 1990 to 1999, by Origin/Destination Type
Tonnage (millions)

Year	Originating	Terminating	Intrastate	Through	Total
1990	1.4	2.0	0.3	7.1	10.9
1991	1.5	2.1	0.2	7.9	11.6
1992	1.2	1.9	0.3	8.6	12.0
1993	1.1	1.5	0.3	7.6	10.5
1994	1.2	1.9	0.3	9.6	13.0
1995	1.3	1.9	0.4	9.8	13.4
1996	1.6	2.2	0.2	9.2	13.1
1997	1.4	2.5	0.2	10.0	14.2
1998	1.3	2.7	0.2	10.8	14.9
1999	1.3	2.5	0.1	11.8	15.6

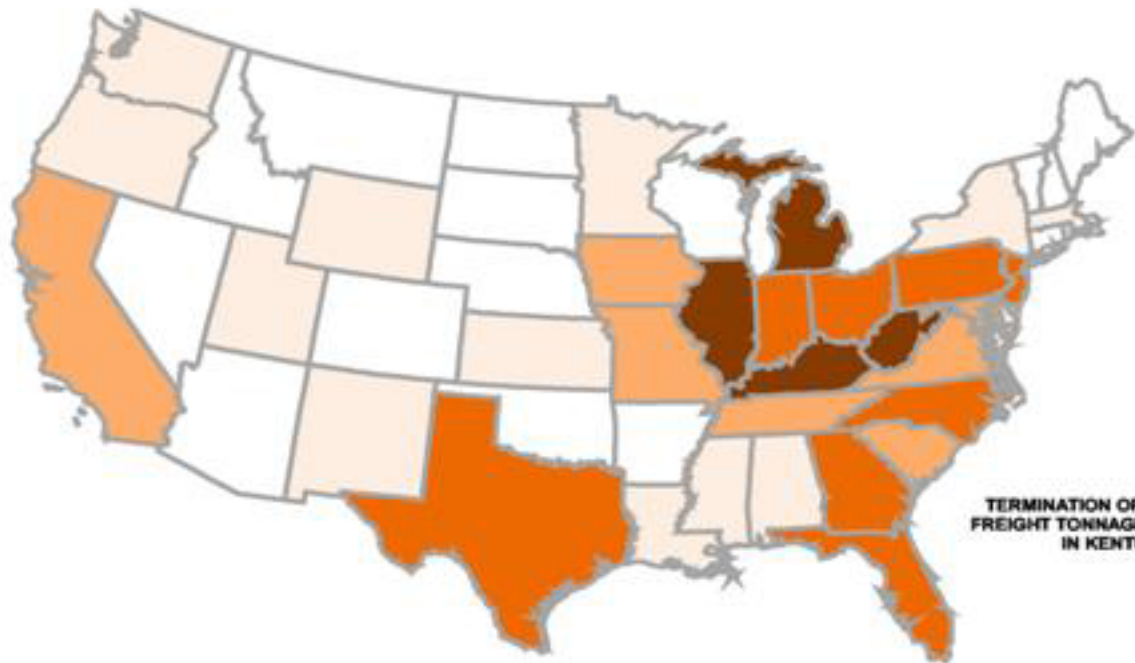
Source: Surface Transportation Board's Waybill Sample

As shown in **Figure 2-9**, Illinois, Michigan, and Kentucky originate and terminate the highest tonnage of hazardous materials. Other states originating high volumes of hazardous materials include Texas, Louisiana, and Tennessee. Much of Kentucky's transported hazardous materials terminate in West Virginia.

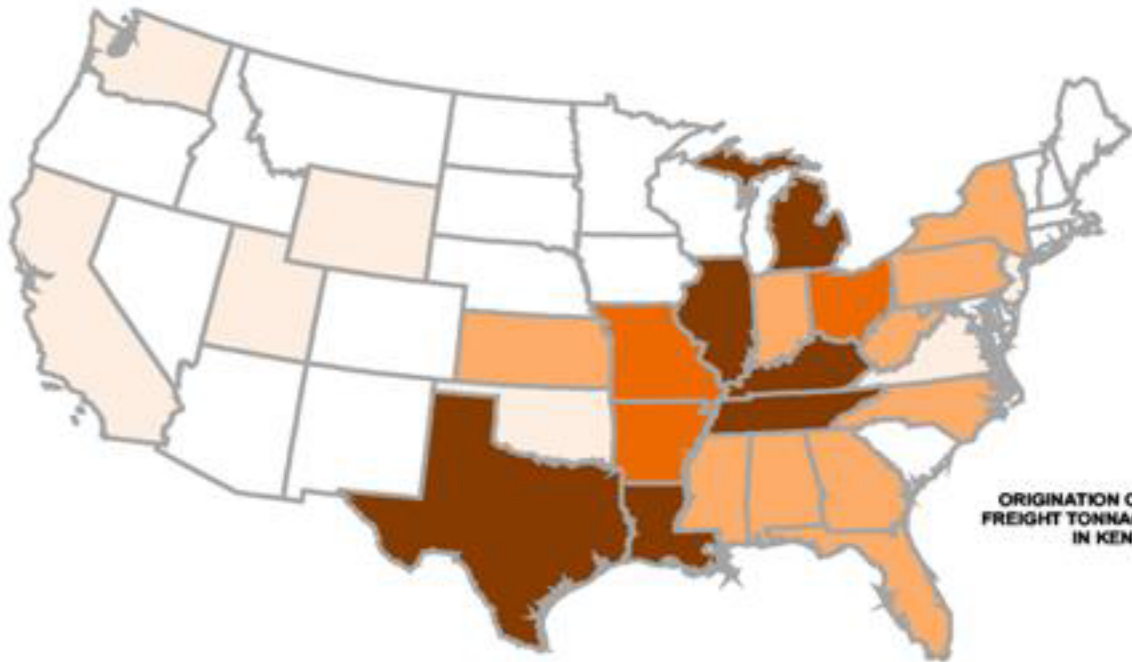
E. Traffic Density

Figure 2-10 shows the freight traffic density of each rail line of the Kentucky rail system in 2000. The densities are estimated or computed on a line-by-line basis depending on availability of data. The traffic density is measured in terms of annual million gross ton-miles per mile (MGT-M/M). Gross tons are comprised of the weight of locomotives, rolling stock, and the commodities hauled. Traffic density is the principal indicator of the use of a line – the higher the density, the more heavily used the line.

Examination of **Figure 2-10** reveals the most heavily used lines in the state. CSX Transportation and Norfolk Southern mainlines are handling large volumes of through traffic. The first key corridor is the north-south CSXT rail line between Evansville, Indiana, and Nashville, Tennessee. To the south, CSXT transports large volumes of freight to Alabama and on into New Orleans for export. To the north, CSXT is transporting commodities to Chicago and then onto several key northeast cities, including Pittsburgh and New York.



TERMINATION OF HAZARDOUS FREIGHT TONNAGE ORIGINATING IN KENTUCKY



ORIGINATION OF HAZARDOUS FREIGHT TONNAGE TERMINATING IN KENTUCKY



500 0 500 Miles

Legend
Freight Tonnage

	None		20,000 - 49,999
	1 - 19,999		50,000 - 99,999
			> 100,000

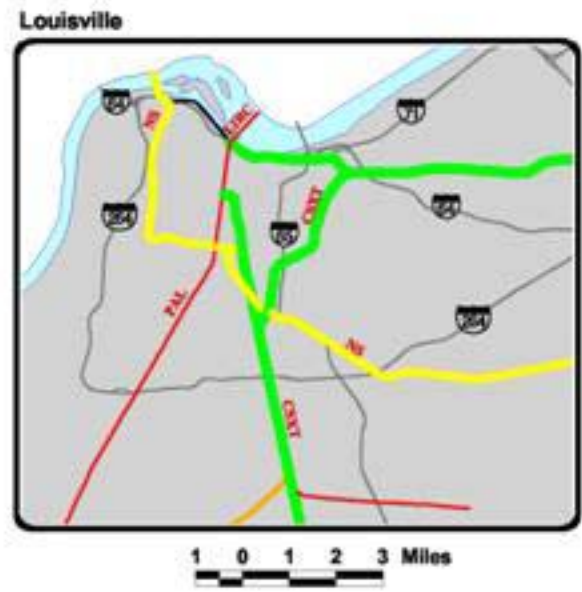


Source: STB Waybill Sample

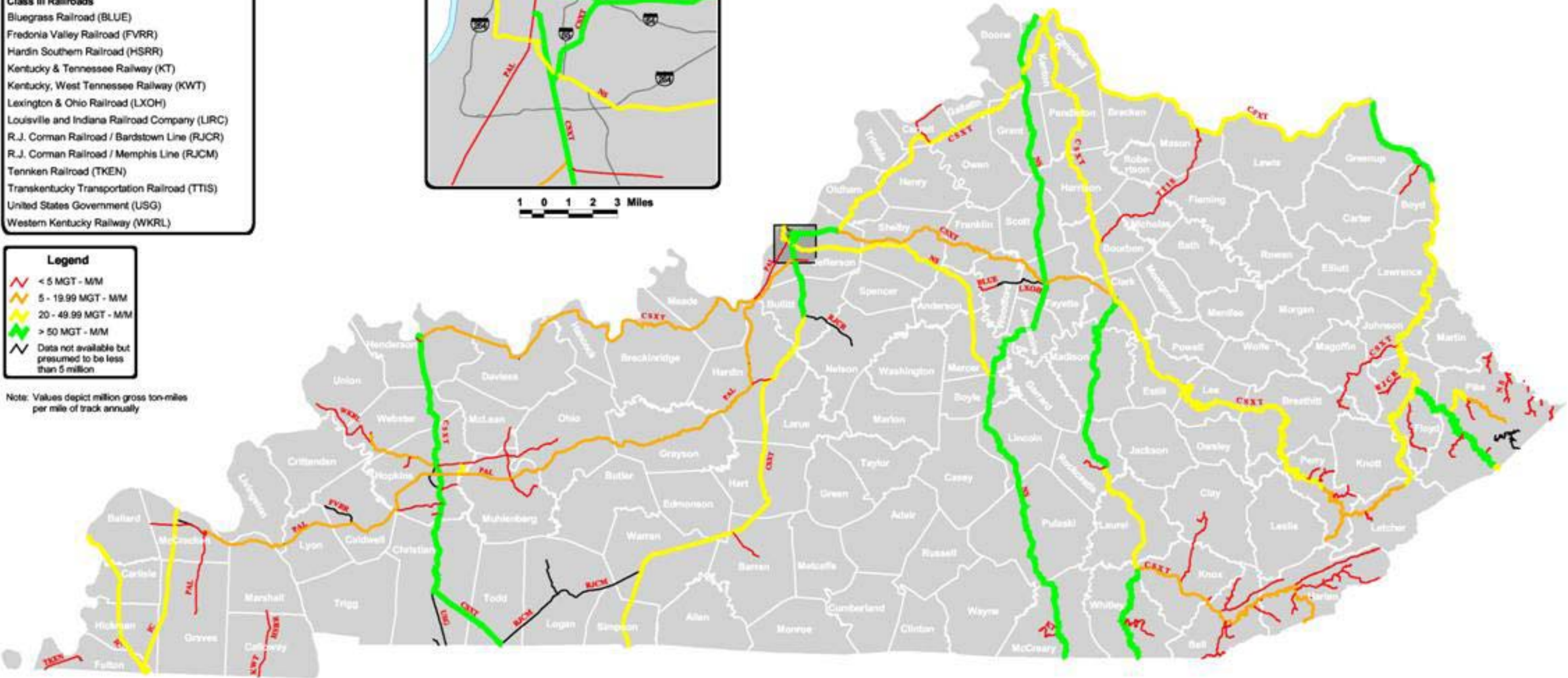
Figure 2-9
1999 Hazardous Freight Tonnage,
by State and Origination/Destination
2002 Kentucky Statewide Rail Plan



- Active Rail Lines of Kentucky**
- Class I Railroads**
 Burlington Northern Santa Fe (BNSF)
 Canadian Pacific Railway (CP)
 CSX Transportation (CSXT)
 Illinois Central (IC)
 Norfolk Southern (NS)
- Class II Railroads**
 Paducah and Louisville Railway (PAL)
- Class III Railroads**
 Bluegrass Railroad (BLUE)
 Fredonia Valley Railroad (FVRR)
 Hardin Southern Railroad (HSRR)
 Kentucky & Tennessee Railway (KT)
 Kentucky, West Tennessee Railway (KWT)
 Lexington & Ohio Railroad (LXOR)
 Louisville and Indiana Railroad Company (LIRC)
 R.J. Coman Railroad / Bardstow Line (RJCR)
 R.J. Coman Railroad / Memphis Line (RJCM)
 Tennessean Railroad (TKEN)
 Transkentucky Transportation Railroad (TTIS)
 United States Government (USG)
 Western Kentucky Railway (WKRL)



Note: Values depict million gross ton-miles per mile of track annually



Source: Railroad Traffic Density Maps and Railroad State Statistics

Figure 2-10
2000 Kentucky Railroad
Traffic Density
 2002 Kentucky Statewide Rail Plan



In eastern Kentucky, high traffic density is attributed to the large coal movements in this area, including West Virginia. As mentioned previously, the largest through movement is between West Virginia and Ohio. The northeastern CSXT rail line bordering Ohio is one route responsible for the transfer of coal product between these two neighboring states. Other heavily utilized CSXT routes are for the shipment of coal found in eastern Kentucky and include lines in Floyd, Pike, Greenup, and Boyd County along with Perry, Breathitt, Lee, Estill, and Madison Counties. Coal shipments through Madison County are shipped, north and south to Cincinnati and Atlanta, respectively. From these cities, shipments are dispersed to predominantly Jacksonville, Florida, Chicago, and various northeastern cities.

The key NS corridor runs between Chattanooga and Cincinnati. From Chattanooga, commodities are shipped to Memphis, Atlanta, Jacksonville, and New Orleans. From Cincinnati, shipments predominantly travel to the major east-west rail lines between Chicago and New York. This east-west corridor is one of the most heavily utilized corridors on the NS system. The other key route for Norfolk Southern splits from the line previously described at Danville and travels west to Louisville, continuing to St. Louis, Missouri, and Kansas City, where traffic can interchange with other western carriers.

F. Modal Comparison

The mode used to move commodities is of importance to highway planning, urban traffic congestion, air quality, and both local and national economies. The modes available for transport utilize infrastructures centered on roadways, waterways, rails, and air. Many shippers rely upon a combination of these to move their commodities from and to their desired locales. Several sources can be used to examine and make comparisons between the various Kentucky transport modes. The primary resources are as follow:

1997 Kentucky Commodity Flow Survey³

The Commodity Flow Survey is released at four-year intervals by the United States Departments of Transportation and Commerce. This functions as a primary source of facts regarding freight goods transport detailed by mode and commodity. This resource is relied upon by policy-making entities of federal and state governments, as well as businesses, trade associations, and consulting organizations. This data is limited in that it only identifies originating freight traffic. As such, commodities transported through and into Kentucky are not accounted for in terms of value and tonnage.

The *1997 Commodity Flow Survey* indicates that originating rail transport in Kentucky ranks second behind trucking for tons of all commodities moved. However, looking at the previous survey, taken four years earlier, it can be

³ US Census Bureau. "Kentucky, Transportation, 1997 Commodity Flow Survey." *1997 Economic Census*. U.S. Department of Transportation, Bureau of Transportation Statistics and U.S. Department of Commerce, Economic and Statistics Administration, U.S. Census Bureau, December 1999.

seen that rail transport in tons has experienced a sharp decline, suffering a 14.2 percent loss.

When looking at total value of originating goods shipped, rail transport ranks fourth overall, behind trucking, trucking/rail, and parcel/postal services. While rail transport has experienced a sizable decrease in tons moved, the value of the goods shipped via rail has only decreased slightly (1.8 percent loss). This indicates that heavy inexpensive items (such as crude resources) that were once shipped are getting replaced by commodities that carry a higher price per ton (intermodal shipments, chemicals, etc.). Again, this reinforces the concept of changing national economies, where crude resources that used to fuel heavy manufacturing are now declining in demand.

Freight Commodity Flow in Kentucky, 1999⁴

This research report was conducted through the Kentucky Transportation Center and the University of Kentucky's Department of Civil Engineering by engineering faculty and scholars. The report provides another source of information on Kentucky's statewide freight commodity flow. Based on data provided by Reebie Associates, researchers identified the types of commodities originating, terminating, and passing through Kentucky - aggregated to a three-digit zip code level. With this data, comparisons were made between the various modes of transport.

The Reebie data is based on the Transearch database developed and maintained by Reebie Associates. This database utilizes several domestic traffic flow sources and product and shipment sources to represent commodity flows. Examples of primary domestic traffic flow sources include proprietary shipment data, Railroad Waybill Sample, Corp of Engineers waterborne commerce statistics, Federal Aviation Administration airport activity statistics, import/export trade statistics, and Inland Traffic Survey. Examples of primary production and shipment sources include Bureau of Mines commodity reports, motor carrier industry financial and operating statistics, railroad freight commodity statistics, trade association production and shipment reports and state economic output by industry. Resources available and the project goals typically dictate the commodity and geographic detail of the data. For further information on Reebie Associates or the Transearch database, please refer to www.reebie.com.







Transportation in America, 2000⁵

This information summarizes all freight transport within the nation and makes comparisons between various modes. The data, however, is limited to national freight traffic and does not provide information on a state level.

⁴ Aultman-Hall, Lisa, Brad Johnson, and Brian Aldridge. "Freight Movement and Intermodal Access in Kentucky." *Freight Commodity Flow in Kentucky*. KTC Report 99-65. Lexington: Department of Civil Engineering and the Kentucky Transportation Center, University of Kentucky, July 1999.

⁵ Wilson, Rosalyn A. *Transportation in America 2000*. 18th Edition. 2001.

Legend

-  STRACNET
-  STRACNET Connectors
-  Class I, Regional and Short Line Railroads
-  Military Base
-  Interstate Highway
-  Parkway

- Active Rail Lines of Kentucky**
- Class I Railroads**
- Burlington Northern Santa Fe (BNSF)
 - Canadian Pacific Railway (CP)
 - CSX Transportation (CSXT)
 - Illinois Central (IC)
 - Norfolk Southern (NS)
- Class II Railroads**
- Paducah and Louisville Railway (PAL)
- Class III Railroads**
- Bluegrass Railroad (BLUE)
 - Fredonia Valley Railroad (FVRR)
 - Hardin Southern Railroad (HSRR)
 - Kentucky & Tennessee Railway (KT)
 - Kentucky, West Tennessee Railway (KWT)
 - Lexington & Ohio Railroad (LXOH)
 - Louisville and Indiana Railroad Company (LIRC)
 - R.J. Corman Railroad / Bardstow Line (RJCR)
 - R.J. Corman Railroad / Memphis Line (RJCM)
 - Tennken Railroad (TKEN)
 - Transkentucky Transportation Railroad (TTIS)
 - United States Government (USG)
 - Western Kentucky Railway (WKRL)

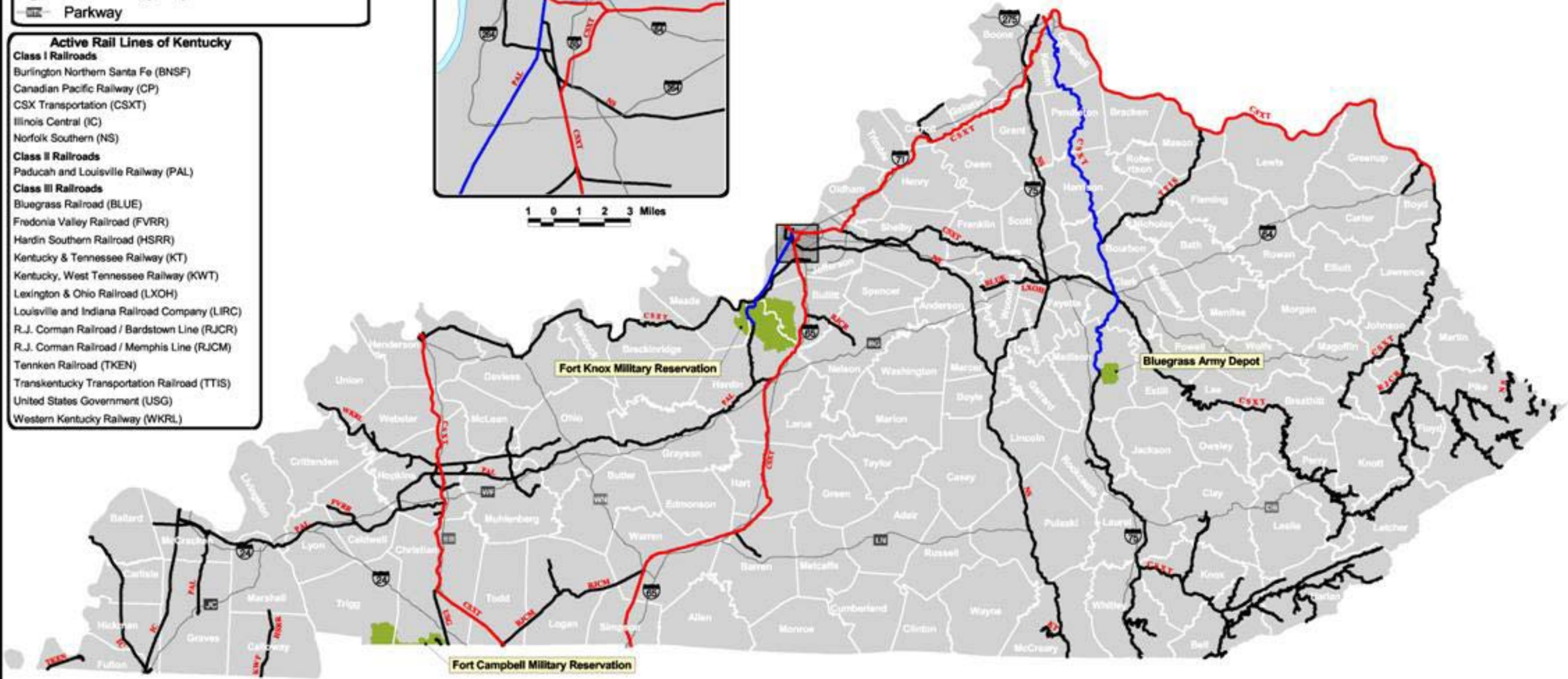
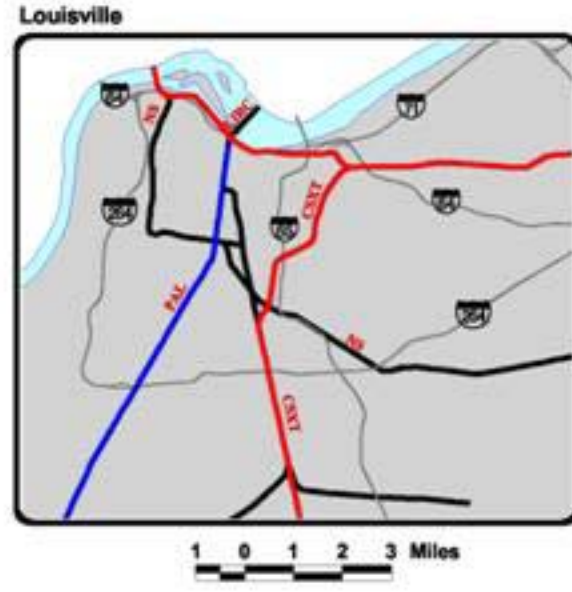


Figure 2-11
2001 Strategic Rail Corridor Network (STRACNET)
 2002 Kentucky Statewide Rail Plan



According to *Transportation in America*, at a national level, rail transport is responsible for the second largest amount of freight revenue, at 6.4 percent of all freight revenue. This is a distant second behind trucking which has 81.3 percent of the share. However, rail transport leads in ton-miles, carrying 40.3 percent of all tons moved on the national transport system (consisting of rails, roads, waterways, pipelines, and air). Rail carries this tonnage using the second smallest system size, with approximately 122,000 miles of rail compared to 832,000 miles of roadway and 177,000 miles of pipeline.

III. STRATEGIC RAIL CORRIDOR NETWORK

The Department of Defense (DOD) has designated a Strategic Rail Corridor Network (STRACNET) with connector lines between STRACNET and military installations and activities requiring rail service. The network follows along predominantly CSXT rail lines within the Commonwealth. It provides strategic movement in all directions, along with providing connection to key military facilities such as the Bluegrass Army Depot, Fort Knox Military Reservation, and Fort Campbell Military Reservation.

FRA periodically reviews the designated corridors, typically every three years, to ensure they meet defense readiness requirements for maintenance condition, clearance for oversize shipments, and weight-bearing capacity. The designated STRACNET and connector lines are illustrated in **Figure 2-11**.

IV. INTERMODAL FREIGHT

Intermodal transport is not only a system of using multiple forms of transportation for higher efficiencies, but it is an entire approach to planning, building, and operating a transportation system enhanced by existing technology. This enhanced system occurs through establishing good connections between transportation modes that carry freight, as well as people. It is this linkage that determines the quality and performance of intermodal transportation. These interconnections can have significant impacts upon economies, industries, metropolitan areas, states, and regions. The mode is irrelevant from the perspective of the public, the provider, or the shipper. What is important is the end result of the quality, cost, timeliness, and safety of the transportation.

The concept of intermodal transportation offers the potential of lowering transportation costs, increasing economic productivity and efficiency, reducing congestion, increasing returns from private/public infrastructure investments, improving mobility of all sectors of the population, and reducing energy consumption. Congress recognized the importance of the intermodal approach to transportation decision-making and the transportation system in the Intermodal Surface Transportation Efficiency Act (ISTEA). This act states “it is the policy of the United States to develop a National Intermodal Transportation System that is economically efficient and environmentally sound, provides the foundation for the Nation to compete in the global economy and will move people and goods in an energy efficient manner.” This policy continued in the Transportation Equity Act for the 21st Century (TEA-21).



A. TOFC/COFC

Many of these rail connections are related to TOFC (trailer on flat car) / COFC (container on flat car) intermodal facilities. Rail-highway intermodal facilities were once more common when the focus was on the movement of trailers (TOFC) and only a ramp was needed for loading and unloading. A combination of a greater use of containers, requiring more investment in loading equipment, and overall operating efficiency, has led to the creation of hub centers consolidating many former facilities and increasing trucking distance. The creation of the double-stack car and its cost savings has spurred the use of containers, the number of which surpassed the number of trailers in intermodal facilities for the first time in 1992.

A complement to TOFC/COFC hub centers is rural intermodal terminals. Although not presently utilized within Kentucky, these rural intermodal terminals offer the potential to connect the entire Commonwealth with a network of intermodal facilities and provide access for rural areas of the state a more direct access to the national transportation system.

B. Bulk Transfer Facilities

Another form of intermodal terminal used by the railroads is the bulk transfer facility. These facilities permit the transfer of bulk materials between rail and truck for those businesses that do not have direct rail service. These transfer stations have the necessary equipment to transfer all types of products efficiently and safely. However, all products are not handled at all terminals. Some terminals are owned by railroads, although usually operated under contract by an outside party, while others are privately owned and operated, many of which are associated with trucking companies.



The RJ Corman Distribution Center in South Union, Kentucky is an example of a bulk transfer facility.

An inventory of Kentucky's intermodal infrastructure and facilities can be seen in **Figure 2-12**. Most rail facilities are located near urban areas, with concentrations in Louisville, Kentucky, and near Cincinnati, Ohio. In addition to rail owned and/or operated intermodal facilities, **Figure 2-12** displays rail served coal tipples and riverports, commercial airports, and bus terminals.

Legend

- Rail Facility
- Amtrak Station / Stop
- Coal Tipple
- Private Riverport Location
- Public Riverport Location
- Commercial Airport
- Major Greyhound Bus Terminal
- Navigable River
- Class I, Regional and Short Line Railroad
- Interstate Highway
- Parkway

Active Rail Lines of Kentucky

Class I Railroads

- Burlington Northern Santa Fe (BNSF)
- Canadian Pacific Railway (CP)
- CSX Transportation (CSXT)
- Illinois Central (IC)
- Norfolk Southern (NS)

Class II Railroads

- Paducah and Louisville Railway (PAL)

Class III Railroads

- Bluegrass Railroad (BLUE)
- Fredonia Valley Railroad (FVRR)
- Hardin Southern Railroad (HSRR)
- Kentucky & Tennessee Railway (KT)
- Kentucky, West Tennessee Railway (KWT)
- Lexington & Ohio Railroad (LXOH)
- Louisville and Indiana Railroad Company (LIRC)
- R.J. Corman Railroad / Bardstown Line (RJCR)
- R.J. Corman Railroad / Memphis Line (RJCM)
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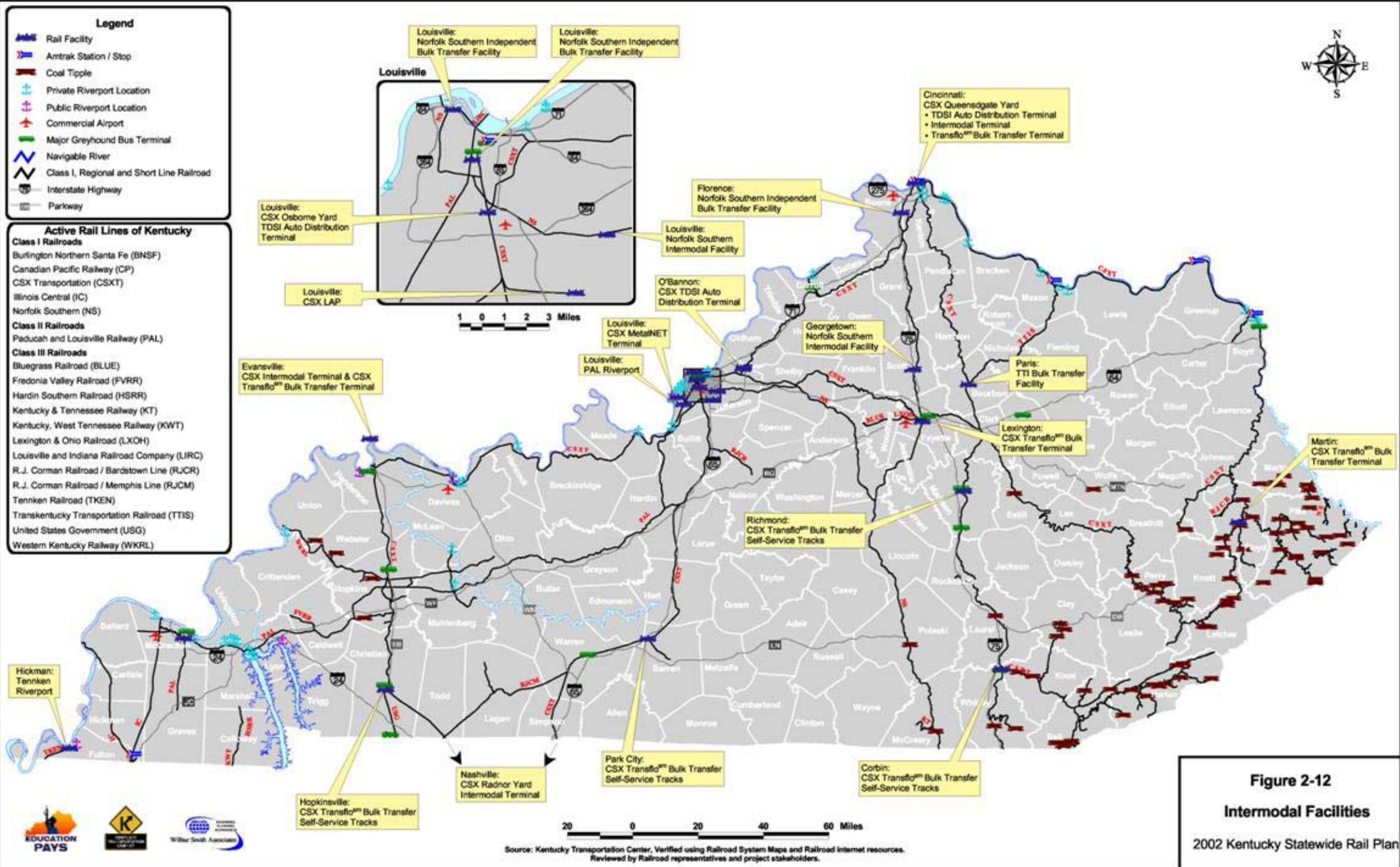


Figure 2-12
Intermodal Facilities
 2002 Kentucky Statewide Rail Plan

Source: Kentucky Transportation Center, Verified using Railroad System Maps and Railroad internet resources.
 Reviewed by Railroad representatives and project stakeholders.



V. RELEVANT FREIGHT AND INTERMODAL STUDIES

A number of freight and intermodal studies have been identified as part of this rail plan and are described below:

A. *Kentucky Water Transportation Corridors Public Riverport Development and Intermodal Access, 2000*⁶

This study was commissioned by the Kentucky Transportation Cabinet to determine the development and intermodal access needs of Kentucky's public riverports. Ports studied included Henderson County Riverport, Hickman-Fulton County Riverport, Jefferson Riverport, Lyon County Riverport, and Paducah-McCracken County Riverport. Since general cargo facilities and infrastructure exist at each of these ports, improvements and developments will have a direct effect on the efficiency of commodity flow shipments.

B. *Kentucky Appalachian Regional Intermodal Airpark Study, 2001*⁷

This study was conducted to examine the various opportunities that might be afforded by the development of improved cargo distribution systems in Eastern Kentucky and the role that aviation system improvements have in supporting this effort. This study identified existing infrastructures and facilities throughout Appalachian Kentucky identifying candidate airports qualifying for future enhancements.

C. *Final Summary Report on "Truck Route Access Evaluation," Freight Movement Intermodal Access in Kentucky*⁸

This report conducted by the Kentucky Transportation Center and University of Kentucky Department of Civil Engineering evaluates truck route access between the National Highway System and 46 truck generating facilities. These include several intermodal sites throughout Kentucky. Studied were 81 routes and 800 miles of highway. Routes were evaluated, assigned an overall rating and recommendations made. Recommended improvements varied from routine maintenance to the need for complete reconstruction. Routes were prioritized by length and amount of truck traffic to recommend the most critical routes for improvement.

D. *An Assessment of Intermodal Transportation Plans, Systems, and Activities in the Appalachian Region, 1999*⁹

This report is a general overview of all modes of transit within the multistate Appalachian Region. Summaries of economic, transit, and developmental trends

⁶ *Kentucky Water Transportation Corridors Public Riverport Development and Intermodal Access*. Prepared by Wilbur Smith Associates. Prepared for the Kentucky Transportation Cabinet, February 2000.

⁷ *Kentucky Appalachian Regional Intermodal Airpark Study*. Prepared by Wilbur Smith Associates. Prepared for the Kentucky Transportation Cabinet, 2001.

⁸ Aultman-Hall, Lisa. *Final Summary Report on "Truck Route Access Evaluation," Freight Movement Intermodal Access in Kentucky*. KTC Report 99-48. Lexington: Department of Civil Engineering and the Kentucky Transportation Center, University of Kentucky, 1998.

⁹ *An Assessment of Intermodal Transportation Plans, Systems, and Activities in the Appalachian Region*. Prepared by Wilbur Smith Associates. Prepared for the Appalachian Regional Commission, May 1999.

are given to identify the current transit climate, as well as future possibilities. Rail networks and services are covered.

E. Latin America Trade and Transportation Study, 2001¹⁰

This study explores the ever-growing trade relationship between the United States and Latin American countries. Much of the notable trade increase has been Mexican cross border trade resulting from the North American Free Trade Agreement (NAFTA). Other trade agreements such as the Caribbean Basin and the emerging Western Hemisphere free trade initiatives are expected to enhance Latin America's standing as a United States trade partner. Given the previous sustained growth trend of the United States economy, the emerging and strengthening economies throughout Latin America, and the aforementioned factors, the intermodal trade routes between the two are crucial for sustained growth, job creation, and the continued improvement of developing nations.

Although the study is centered on multi-modal transport, it does call out several key factors that deal with the Midwest, and rail transport. Since Latin American trade represents a broad cross section of commodities, it is expected that this growth in trade will impact all sectors of the economies involved. Grain exports from the Midwest states to Latin America are expected to grow. Additionally, there is an increasing demand for consumer durables such as autos, electronics, and machinery. As Kentucky industries continue to shift toward finished products and higher end consumer goods (cars, electronics, etc.), the rail network will be essential in keeping the state linked to this ever-growing trade system. This study points out that reinvesting in, and keeping rail transport viable is a necessity for the continued expansion of those economies involved in this trade network.

F. Small Urban Area Transportation Studies

The Kentucky Transportation Cabinet funds these studies annually. From these studies local and county level transportation needs are identified. In some instances, these studies identify rail and other multimodal needs. The reports are made on an individual county or urban area basis, and as such are site and need specific. For example, the *Madisonville Urban Area Transportation Study*¹¹ identifies a rail line relocation through Madisonville, Kentucky as one of several recommended projects.

¹⁰ *Latin America Trade and Transportation Study*. Prepared by Wilbur Smith Associates. Prepared for the Southeastern Transportation Alliance, March 2001.

¹¹ *Madisonville Urban Area Transportation Study*. Prepared by Wilbur Smith Associates. Prepared for the Kentucky Transportation Cabinet, August 2002.