

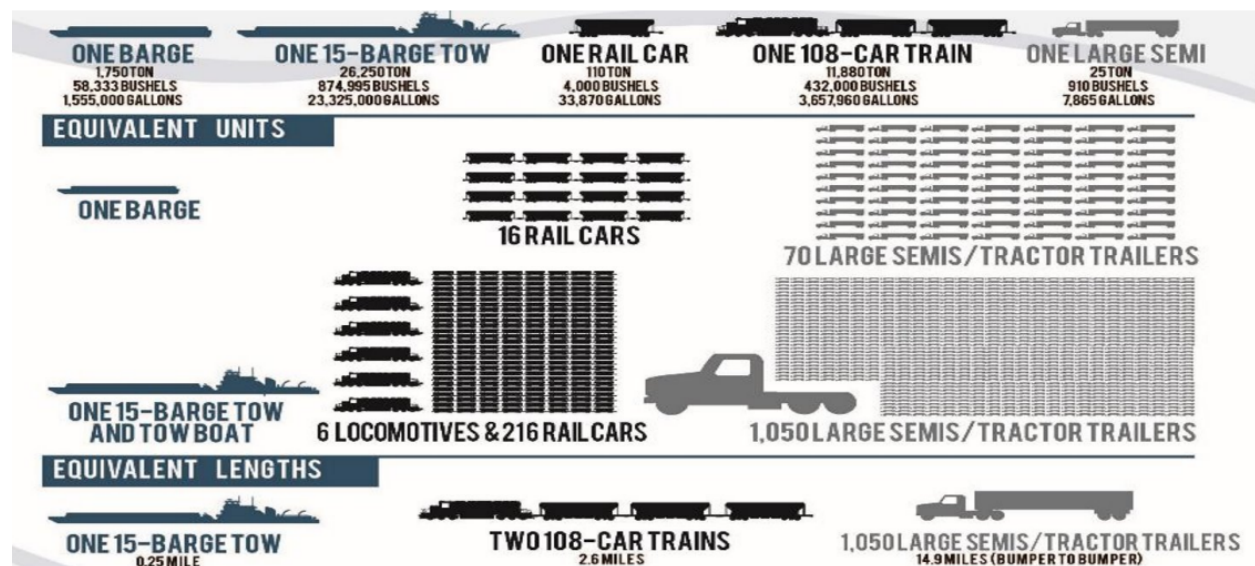
## 2. Kentucky Freight System

### 2.1. Multimodal Freight System

An efficient, multimodal freight transportation network is essential to the economic well-being of Kentucky. All modes play a role when moving goods, and the choice between modes is frequently related to the location, type of commodity, price of shipment, and connections to other modes. A comparison of modes, as shown in **Figure 2-1** illustrates the cargo carrying capacity by various modes. While modes may vary in terms of capacity, energy, safety, and environmental impacts, each mode serves an important role in the freight system. They must work together to create a connected and resilient network.

KYTC's 28,000 miles of state-maintained roadways provide critical connectivity to the commonwealth's rail, maritime, air cargo and pipeline facilities. This connectivity plays an integral part in the supply chain; therefore, it is essential that KYTC invest in ongoing maintenance, operational improvements, and ability to move freight efficiently and safely. While KYTC's formal jurisdiction is limited on rail, pipeline, and air cargo facilities – the Cabinet maintains strong relationships with private infrastructure providers to ensure the multimodal freight system works as one holistic system for the betterment of the Kentucky economy.

Figure 2-1. Comparison of Cargo Carrying Capacity by Mode



Source: Kentucky Transportation Cabinet, 2021.

Kentucky's multimodal freight system enables the commonwealth to capitalize on its geographically strategic location. Kentucky is located within 600 miles of over 60 percent of the nation's population, personal income, and manufacturing.

- **Highway** – The commonwealth is served by 6 major interstates and 10 state parkways, including more than 500 miles of the federally designated Primary Highway Freight System.
- **Rail** – Major freight rail networks—including five Class I railroads, one Class II railroad, and seven Class III railroads—operate across Kentucky.
- **Water** – Kentucky is bordered on three sides by navigable rivers. The Ohio River forms the 660-mile northern border and is the longest of the three border rivers. The Mississippi River forms the western border, and the eastern side of the commonwealth is bordered by the Big Sandy River and Tug Fork. There are approximately 1,600 miles of U.S. Army Corps of Engineers (USACE) designated navigable waterways in Kentucky, of which approximately 1,050 miles are commercially navigable.<sup>2</sup>
- **Air** – Kentucky has six commercial airports, including two major shipping hubs that are home to UPS Worldport (Louisville) and DHL Express/Amazon Air (Covington). In 2020, the Louisville International Airport was ranked third in the U.S. for annual air freight tonnage shipments.<sup>3</sup> Additionally, Kentucky has 26 other general aviation airports with runway lengths greater than 5,000 feet, making them capable of handling larger cargo planes. This versatile transportation network, further highlighted in the following sections, makes Kentucky a practical location for moving freight locally, regionally, and to all points of the globe.
- **Pipeline** – Kentucky’s pipeline network is approximately 41,000 total miles. This network plays a critical role in moving oil, natural gas, and other commodities throughout the commonwealth.

## 2.2. Highways

In 2018, Kentucky’s highway system was comprised of over 80,000 centerline miles of public roads. KYTC maintains 35 percent of this system, nearly 28,000 miles. The commonwealth has over 3,600 miles of federal/state truck network routes, with an average of 11 percent trucks on this network.<sup>4</sup> Kentucky also has over 14,000 bridges, of which approximately 9,000 are state maintained. According to the Freight Analysis Framework Version 5 (FAF5), more than 379,000,000 tons of freight were moved by truck on Kentucky’s highways in 2017. **Figure 2-2** illustrates the National Highway System (NHS) in Kentucky.

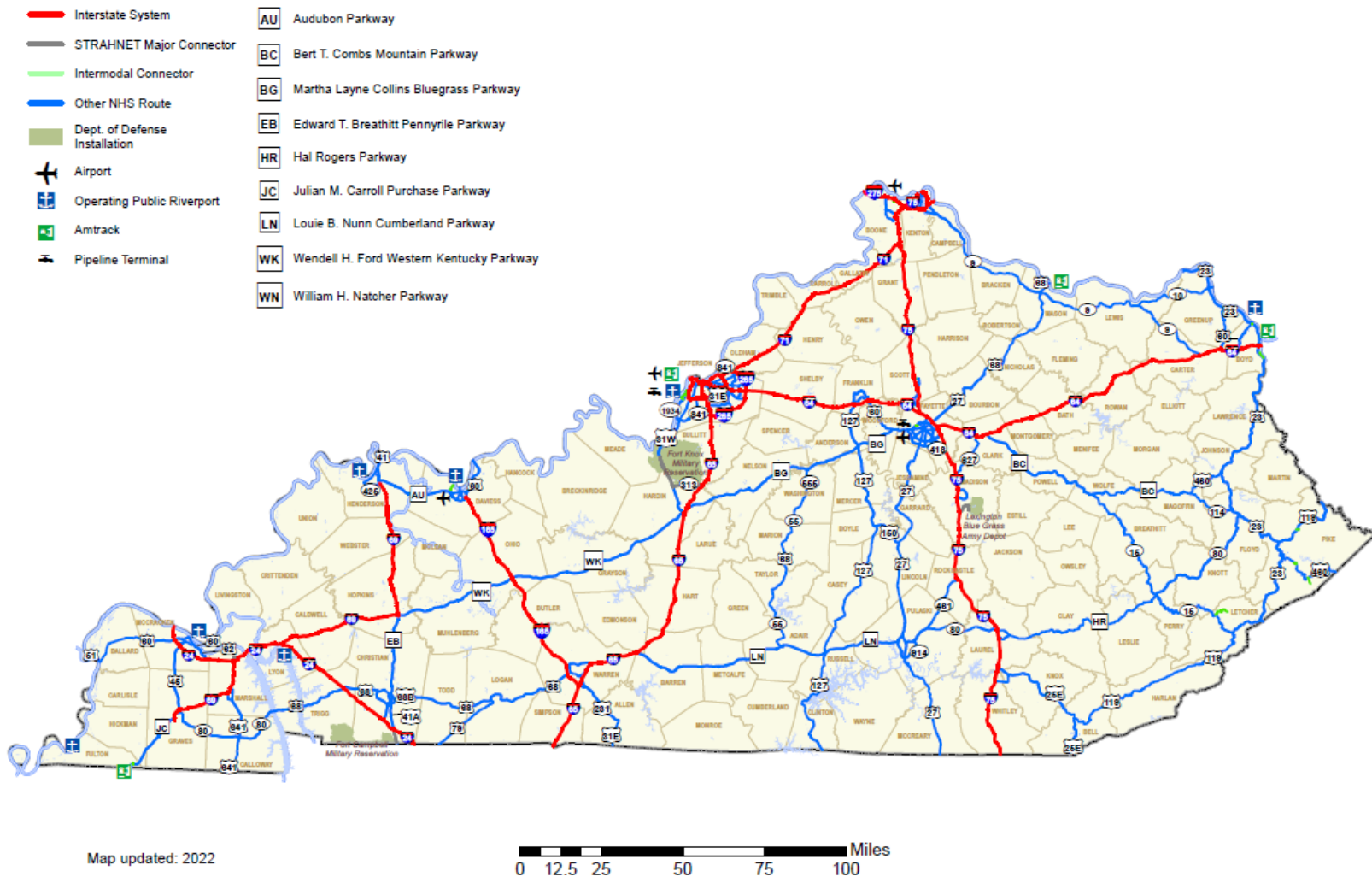
<sup>2</sup> Kentucky Transportation Cabinet, 2014 Long-Range Statewide Transportation Plan, 2022.

<sup>3</sup> Kentucky Cabinet for Economic Development, Kentucky Economic Development Guide, 2022.

<sup>4</sup> KYTC DataMart Traffic Data: (HIVEi) KYTC - Query.

Figure 2-2. Kentucky National Highway System

# KENTUCKY NATIONAL HIGHWAY SYSTEM (NHS)



Source: Kentucky Transportation Cabinet, 2022.

## 2.2.1. Highway Freight Network

### 2.2.1.1 Kentucky Highway Freight Network

KYTC developed a performance-based project selection process for the Kentucky Highway Plan. One of the key components for identifying criteria for the selection process was developing a state highway freight network that represents Kentucky's critical freight corridors. By creating this network, KYTC can identify and address freight system mobility issues. The Cabinet chose a 4-tier structure for the Kentucky Highway Freight Network. The following criteria were used to develop this network:

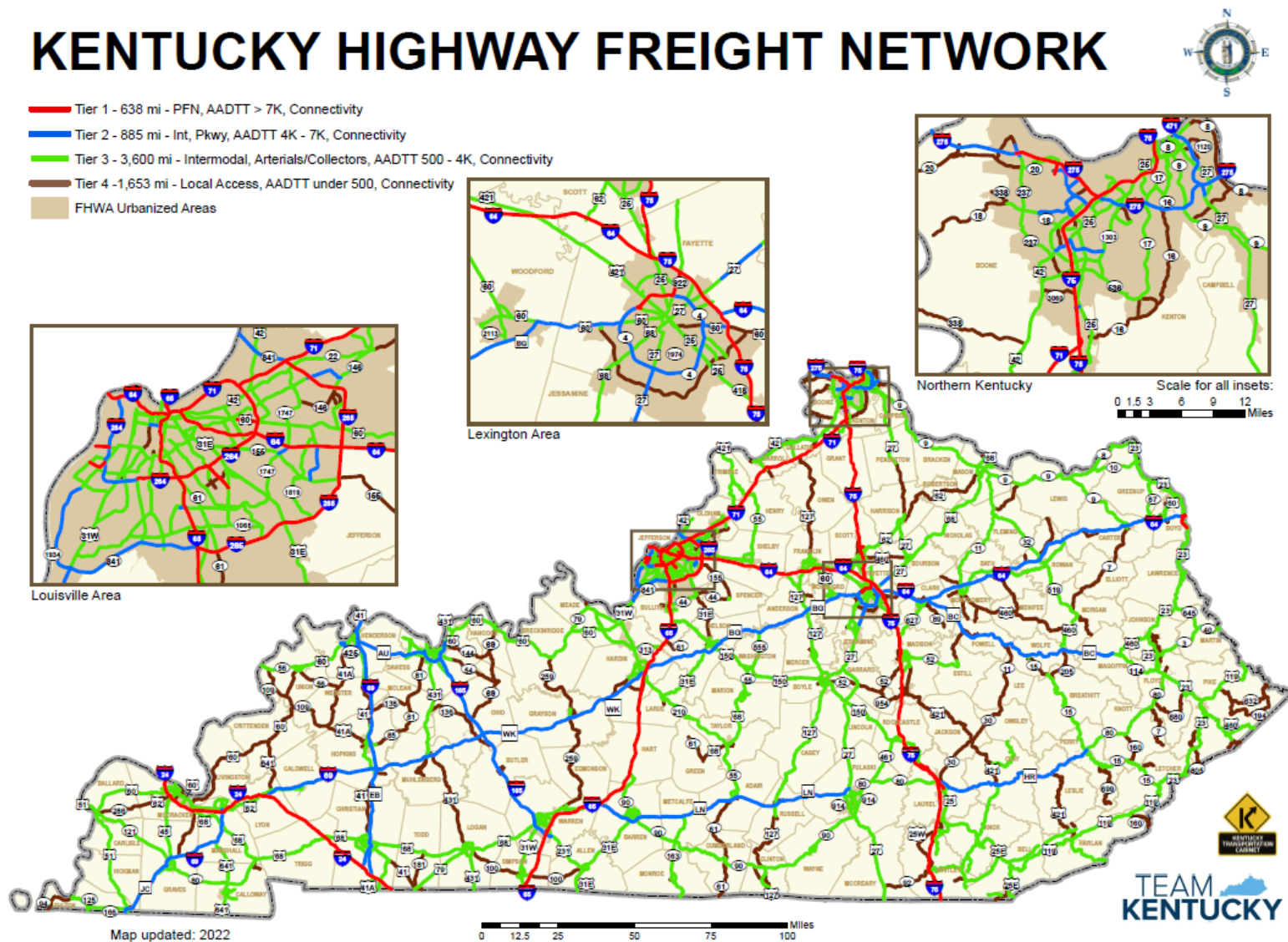
- Tier 1 – National Regional Significance
  - › USDOT designated Primary Freight Network (PFN)
  - › Any segment of road (regardless of functional class) that has over 7,000 vehicles in Average Annual Daily Truck Traffic (AADTT)
  - › Manual revisions to ensure freight network connectivity
- Tier 2 – Statewide Significance
  - › All remaining segments of interstate or parkway not on the PFN
  - › Any segment of road (regardless of functional class) with AADTT of 4,000 to 7,000
  - › Manual revisions to ensure freight network connectivity
- Tier 3 – Statewide Regional Significance
  - › NHS Intermodal connectors recognized by/filed with the Federal Highway Administration (FHWA)
  - › Arterials and collectors with AADTT of 500 to 4,000
  - › Manual revisions to ensure regional connectivity
- Tier 4 – Local Access Significance
  - › Access to major freight generators
  - › Local access for freight (first mile, last mile)
  - › Manual revisions to ensure network connectivity
  - › AADTT less than 500

The process began with a purely data-driven identification of the tiers. Each tier includes manual revisions necessary to ensure connectivity and limit to 50 miles between local Kentucky Highway Freight Network access points.

After the Kentucky Highway Freight Network was determined, KYTC shared the methodology and maps of the network with attendees of the Kentuckians for Better Transportation 2015 Annual Conference, all 12 highway district offices, and each of the commonwealth's MPO and ADD offices for review and comment. The 2022 network, made up of 7,130 centerline miles, is shown in **Figure 2-3**, with a breakdown of mileage for each tier. The Kentucky Highway Freight Network is updated on January 1<sup>st</sup> of each year to reflect changes to the road network.



Figure 2-3. Kentucky Highway Freight Network



Source: Kentucky Transportation Cabinet, 2022.

### 2.2.1.2 National Highway Freight Network

The National Highway Freight Network (NHFN) is a network of strategically important highway corridors for the movement of freight across the country. This network was designed to assist different states in strategically directing resources toward improved system performance for efficient movement of freight on highways, including the national highway system, freight intermodal connectors and air cargo transportation systems. The NHFN is composed of the following four roadway sub-systems:

- **Primary Highway Freight System (PHFS):** The network of highways identified as most critical to freight movements based on an FHWA assessment of heavy commercial average daily traffic volumes. This network consists of 37,436 centerline miles of Interstate highways and 4,082 centerline miles of non-Interstate highways.
- **Other Interstate Highways:** All other segments of Interstate not included in the PHFS are also included in the NHFN.
- **Critical Urban and Rural Freight Corridors (CUFC, CRFC):** These highways provide critical connections between the PHFS, Interstate highway system and freight intensive areas.

**Table 2-1** lists the PHFS routes in Kentucky, as designated by FHWA. The rest of the Kentucky portion of the NHFN, including the PHFS intermodal connectors, can be viewed on the [FHWA Freight Management and Operations' National Highway Freight Network webpage](#).

Table 2-1. Primary Highway Freight System (PHFS) Routes

State	Route	Start Point Intersection	End Point Intersection	Length (Miles)
KY	I-24	IL/KY Line	KY/TN Line	93.33
KY	I-264	I64	I71	22.88
KY	I-265	I64	4.51 Miles North of I64	4.51
KY	I-275	KY 212	I-275 / I-71 / I-75	3.98
KY	I-64	IN/KY Line	I-65	5.14
KY	I-64	I-264	I-75	62.22
KY	I-64	US-23	KY/WV Line	0.71
KY	I-65	TN/KY Line	KY/IN Line	137.46
KY	I-71	I-65	I-75	96.81
KY	I-75	TN/KY Line	I-71	172.83
KY	KY 1934	Kramers Lane (K5L)	I-264	0.52
KY	KY 4	KY 1682 (K12L)	KY 922	3.03
KY	KY 757	US 23	End at Coal Terminal	1.52
KY	KY 922	KY 4	I-75	1.79
KY	US 23	Former KY 757	I64	0.38
<b>Total</b>				<b>607.11</b>

Source: USDOT Federal Highways Administration, 2017.

In Kentucky, 776 miles of highways were initially designated by FHWA to the NHFN. KYTC is limited to 75 miles of Critical Urban Freight Corridors and 150 miles of Critical Rural Freight Corridors. In the months that followed the initial NHFN designation, KYTC shared information about the network with MPOs, Area Development Districts (ADDs), Highway District Offices (HDOs), the Kentucky Freight

Advisory Committee for Transportation, and other stakeholder groups. KYTC requested MPOs designate routes to the Critical Urban Freight Corridor (CUFC) component of the network. A combined total exceeding 105 miles had been requested from four MPOs. KYTC reviewed the submittals internally (in collaboration with the MPOs) to reach the 75-mile limit. The IIJA included additional mileage of roadway for CUFC, and KYTC will begin to identify additional segments when guidance is provided by USDOT.

The Kentucky CUFC network is listed below in **Table 2-2** and shown in **Figure 2-4**. The CUFC\_ID refers to a route facility type descriptor defined by FHWA and may be viewed [here](#).

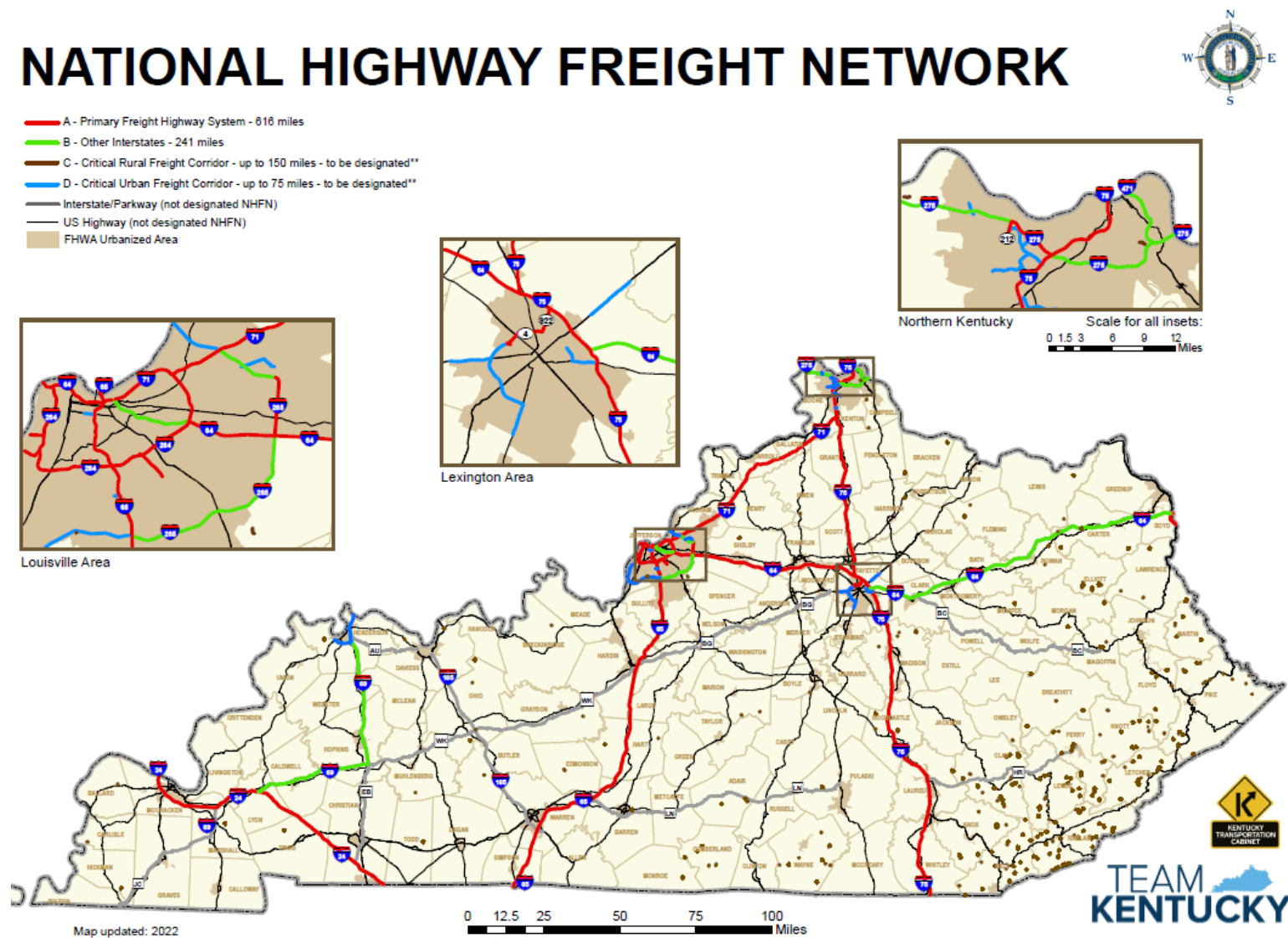
Table 2-2. Critical Urban Freight Corridors

MPO	County	RTE_UNIQ	Route No	Start Point	End Point	Length	CUFC_ID
Louisville	Jefferson	056-KY-0841 -000	KY 841	0.000	10.250	10.250	K
Louisville	Jefferson	056-KY-0841 -000	KY 841	34.727	38.881	4.154	K
Louisville	Jefferson	056-KY-1447 -000	KY 1447	6.470	9.242	2.772	J
Louisville	Jefferson	056-KY-1747 -000	KY 1747	0.347	0.837	0.490	H
Louisville	Jefferson	056-KY-1934 -000	KY 1934	0.000	7.182	7.182	J
Louisville	Jefferson	056-US-0150 -000	US 150	1.930	2.730	0.800	J
OKI	Boone	008-KY-0236 -000	KY 236	0.000	3.600	3.600	J
OKI	Boone	008-KY-0237 -000	KY 237	10.300	11.200	0.900	J
OKI	Boone	008-KY-0338 -000	KY 338	0.000	0.360	0.360	J
OKI	Boone	008-KY-0717 -000	KY 717	0.000	1.729	1.729	K
OKI	Boone	008-KY-1017 -000	KY 1017	0.000	3.210	3.210	K
OKI	Boone	008-KY-1829 -000	KY 1829	0.000	1.930	1.930	J
OKI	Boone	008-KY-3076 -000	KY 3076	0.000	1.148	1.148	J
OKI	Boone	008-US-0042 -000	US 42	13.910	14.384	0.474	J
OKI	Kenton	059-KY-0236 -000	KY 236	2.277	2.801	0.524	J
OKI	Kenton	059-KY-1829 -000	KY 1829	0.000	1.024	1.024	J
Lexington	Fayette	034-KY-0004 -000	KY 4	0.000	6.336	6.336	K
Lexington	Fayette	034-KY-0004 -000	KY 4	11.603	12.554	0.951	K
Lexington	Fayette	034-US-0027 -000	US 27	0.000	2.412	2.412	J
Lexington	Fayette	034-US-0027 -000	US 27	11.417	15.278	3.861	J
Lexington	Fayette	034-US-0060 -000	US 60	1.536	4.693	3.157	K
Lexington	Fayette	034-US-0060 -000	US 60	10.176	12.040	1.864	K
Henderson	Henderson	051-KY-0136 -000	KY 136	18.650	19.548	0.898	H
Henderson	Henderson	051-KY-0425 -000	KY 425	0.000	4.747	4.747	I
Henderson	Henderson	051-US-0041 -000	US 41	10.750	20.977	10.227	K

Source: Kentucky Transportation Cabinet. 2017.

KYTC has identified nearly 87 miles of Critical Rural Freight Corridors (CRFC) along the Kentucky Highway Freight Network and were approved by FHWA in October 2017. The Kentucky Highway Freight Network was designated primarily using a data-driven process supplemented by connectivity to known major freight generators in the state. As such, the CRFC network in Kentucky is derived from routes with very high average daily truck traffic and that provide first mile / last mile access to freight facilities. KYTC will amend the Kentucky Freight Plan when guidance is received from FHWA on new mileage thresholds.

Figure 2-4. Kentucky Routes on the National Highway Freight Network



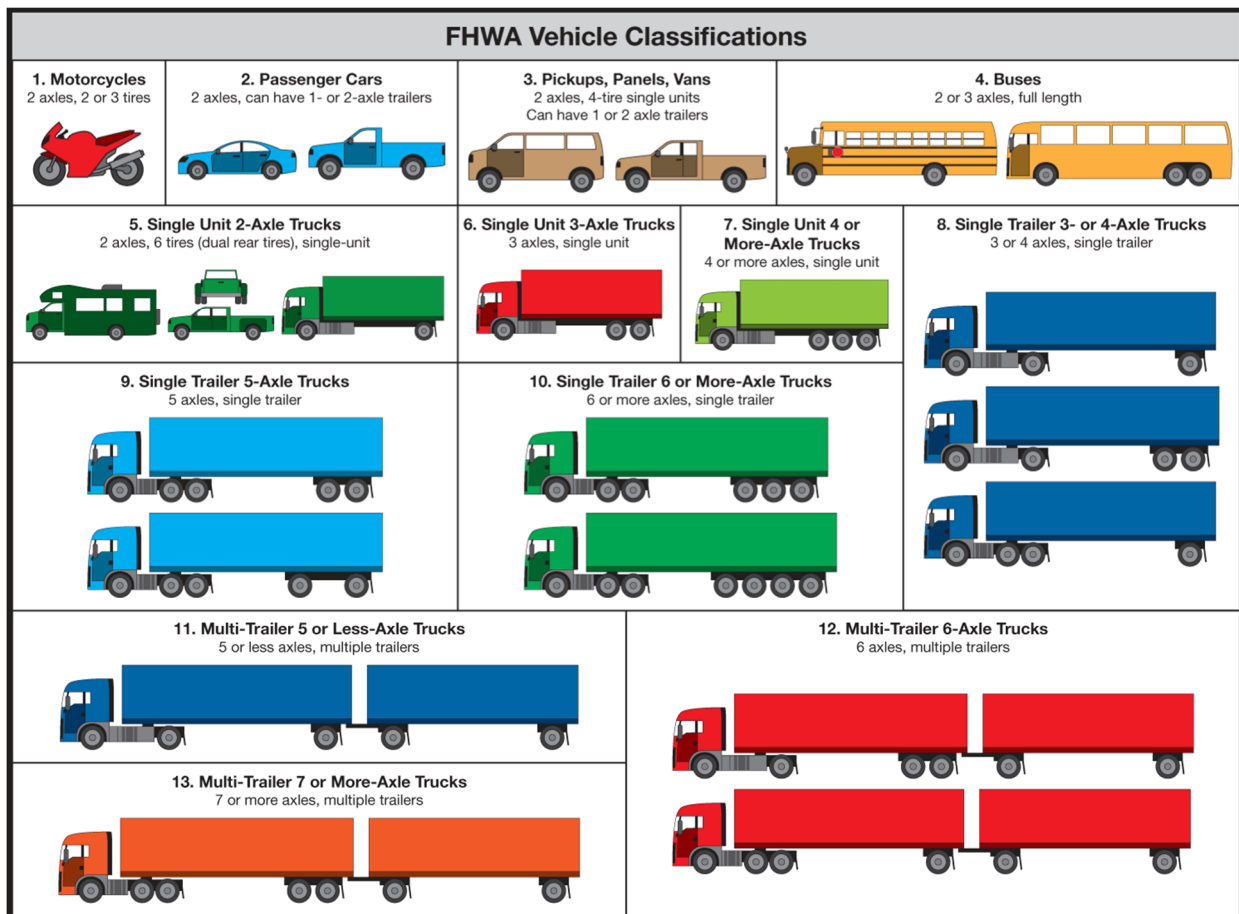
Source: Kentucky Transportation Cabinet, 2022.

## 2.2.2. Trucks (Commercial Vehicles)

In the purview of the KFP, trucks are regarded as commercial vehicles. Trucking is the predominant mode of freight transportation in Kentucky—trucks serve most markets, from long-distance interstate commerce to the “last mile” of intermodal goods.

The FHWA classification system recognizes nine types of trucks, as shown in **Figure 2-5**. FHWA classes 5 through 7 are medium-duty trucks, while classes 8 through 13 are heavy-duty trucks. Tractor-trailer vehicles combine a tractor with a semitrailer, trailer, or both and have four or more axles (also known as “semis” or “18-wheelers”). Medium-duty trucks typically transport freight through the region, while heavy-duty trucks are for long-hauls across a state or to national destinations.

Figure 2-5. FHWA Vehicle Classification



Source: TxDOT Traffic Recorder Instruction Manual, 2012.

Freight movements by truck in Kentucky rely heavily on the Interstate Highway System. Because trucks perform the initial pickup and delivery for most goods and commodities moved by air, rail, and water, the connector routes between the freight transportation modes are a critical link to facilitate the smooth movement of freight. Often these connectors or “last mile” segments are under local jurisdiction.

As shown in **Figure 2-4**, I-64 and I-24 provide much of the east-west movement for trucks, while I-69, I-75, I-65, and I-71 facilitate north-south truck freight movements. Along these six main interstate



highways are 17 static weigh station facilities (see **Figure 2-8**) with six located in pairs at three locations on either side of the highway median. Seven of the weigh stations also have rest havens, which provide overnight parking spaces and restroom facilities for trucks drivers. These state-controlled sites are needed to ensure compliance with federal and state regulations and laws. Recent technology—including weigh-in-motion (WIM) devices, the Pre-Pass system, enhanced sign lighting, and advanced traveler information—have enhanced the safety and efficiency of freight travel in Kentucky.

#### 2.2.2.1 Truck Parking

For over a decade, parking availability has been among the trucking industry’s top concerns. Increasing freight volumes and regulatory changes have also intensified the demand for truck parking. The primary drivers behind this increase include:

- **Hours of Service:** The Federal Motor Carrier Safety Administration (FMCSA) made regulatory changes that reduced the number of consecutive hours a truck driver can drive. While these changes have been since modified, they still significantly impact the utilization of demand for truck parking facilities.
- **Electronic Logging Devices:** Federal law mandated that trucking operations shift from a paper to an electronic logbook that automatically tracks a driver’s activities based on the truck’s operations. The mandate has led to stricter enforcement of the hours of service (HOS) regulations.
- **Productivity Expectations:** Rising customer expectations for shorter delivery times and an increasingly cost competitive marketplace have placed pressure on truck drivers to maximize their driving time.

Truck drivers that cannot find available parking are forced to park on highway ramps, empty lots, and even residential areas. This creates safety challenges for truck drivers and the traveling public. Long distance drivers often face the issue of deciding to stop early at a nearby available spot or continue to their federal time limit and risk not finding a safe parking spot later.

To help address these challenges, the Kentucky Transportation Cabinet (KYTC) developed a [Truck Parking Assessment and Action Plan](#). The Plan is designed to:

- Identify truck parking supply and demand across the state and on major corridors;
- Focus on safety and in particular unauthorized parking on highway ramps;
- Leverage existing KYTC right-of way to identify low cost/high impact opportunities to increase truck parking capacity; and
- Act now by completing preliminary conceptual design of new/upgrade parking facilities.

### 2.2.2.2 Truck Parking Supply and Unmet Demand

To estimate the areas with the highest levels of unmet demand, parking locations were grouped into clusters, typically located in and around highway interchanges. Clusters were established such that all authorized (rest areas, truck stops, etc.) or unauthorized parking locations (highway ramps) within a one-mile distance were clustered together.

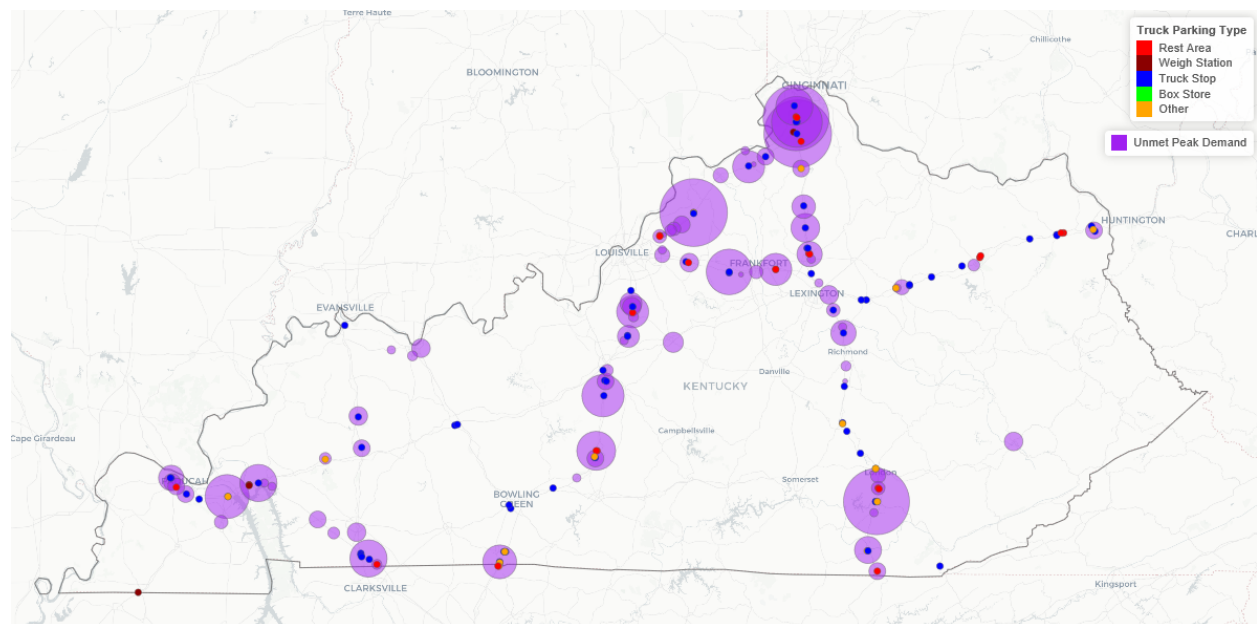
An overview of these locations is shown in **Figure 2-6**. The purple circles represent unmet demand for each cluster.

#### STATEWIDE TRUCK PARKING FACTS

- On an average night, 9,000 trucks compete for 7,196 parking spots.
- Wednesday is the busiest night.
- 82% of truck parking is provided by private sector truck stops.
- 18% of truck parking is provided by KYTC's rest areas, rest havens and weigh stations.

For this assessment, unmet demand is defined as the count of trucks parked for 4+ hour parking events at 1:00 AM, minus the estimated capacity of the facilities at each cluster. The figure shows high levels of unmet demand in northern Kentucky, and the Louisville and Lexington Areas. Additional areas of high unmet demand include I-75 near the Tennessee border, and along I-24 in Western Kentucky.

Figure 2-6. Unmet Peak Demand



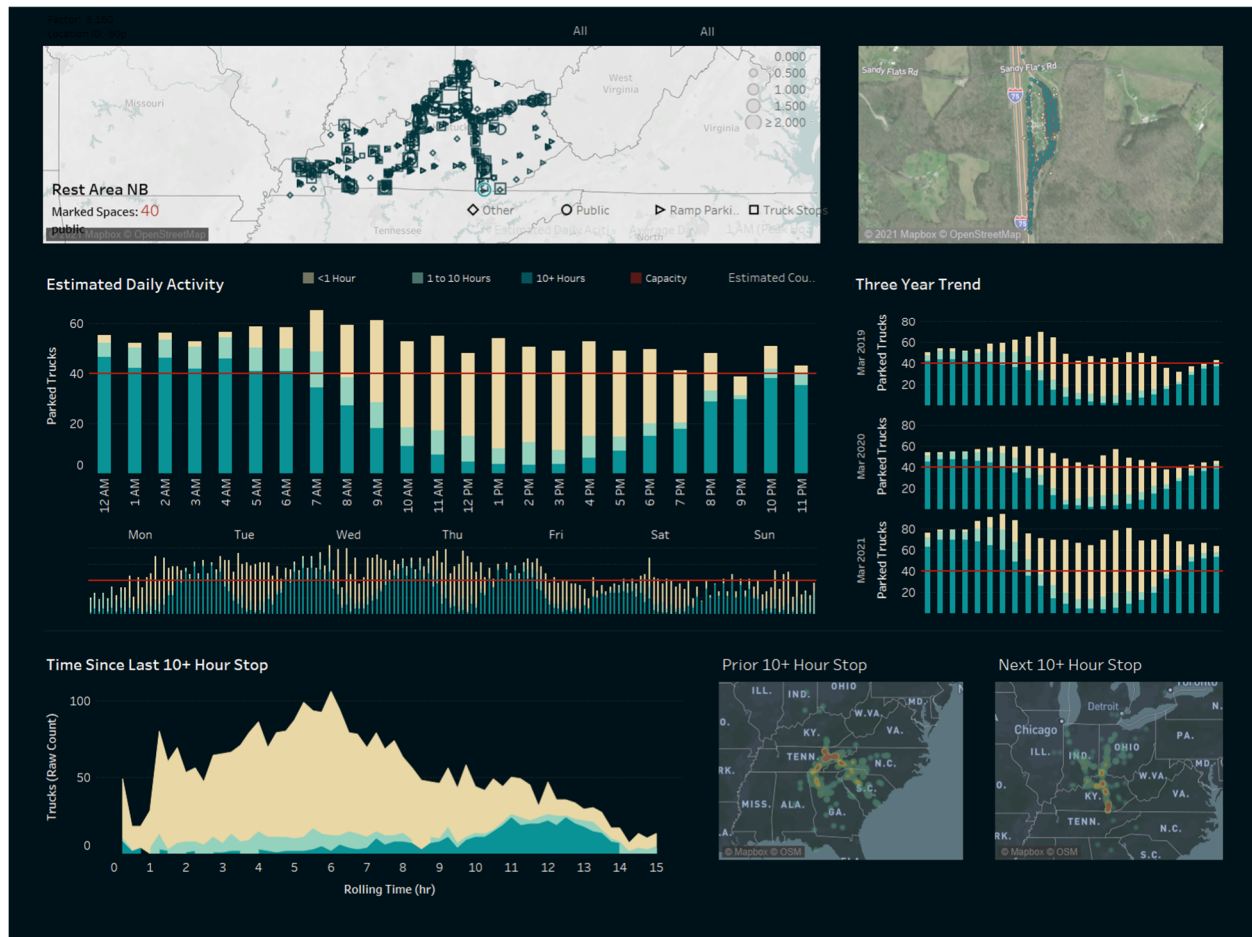
Source: KYTC Truck Parking Study, 2022

One of the primary tools developed to summarize and review the results of the parking demand analysis was a web-based Tableau dashboard. This platform allows for an interactive display of the results in both map and chart form. The results update automatically based on the selection of one or more parking locations. In total, the dashboard in **Figure 2-7** summarizes activity at:

- 23 Public Rest Areas
- 4 Public Weigh Stations
- 74 Privately Operated Truck Stops

- 39 Box Store Parking Lots (e.g., Walmart, Lowes)
- 73 Highway Exit/Entry Ramps
- 15 Other Lots with Unclear Ownership

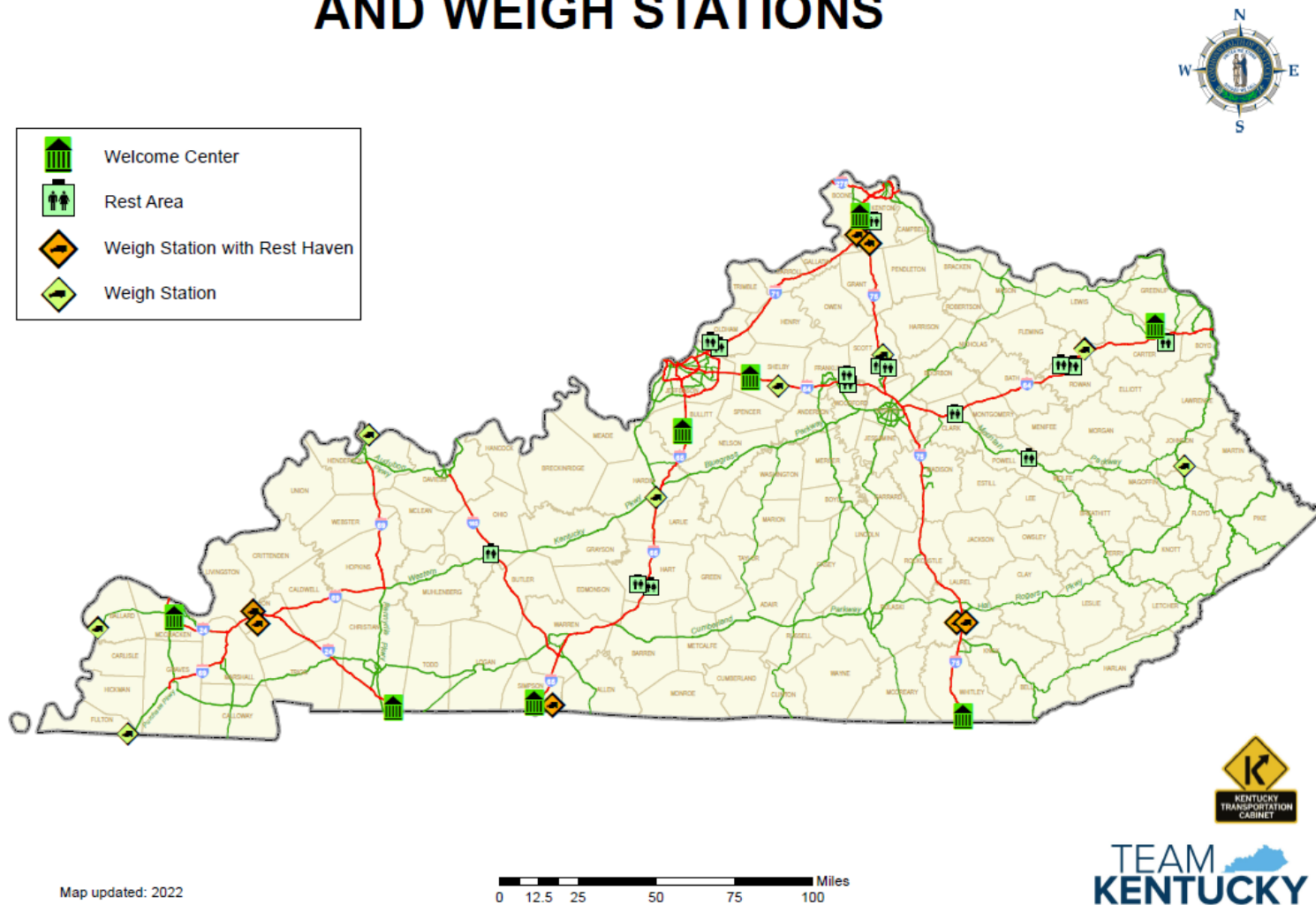
Figure 2-7. Dashboard Results for I-75 NB Welcome Center Whitley County



Source: KYTC Truck Parking Study, 2022

Figure 2-8. Welcome Centers, Rest Areas, and Weigh Stations

# KENTUCKY WELCOME CENTERS, REST AREAS, AND WEIGH STATIONS



Source: Kentucky Transportation Cabinet, 2022.

## 2.3. Inland Waterway Network

Kentucky lies in the heart of the nation at the confluence of the nation's inland waterways, as shown in **Figure 2-9**, centrally located to move goods to two-thirds of the U.S. population. With the Ohio River, Mississippi River, Big Sandy River, and Tug Fork bordering the commonwealth, this location offers unique advantages for efficient year-round freight transport of bulk materials, agricultural products, chemicals, minerals, metals, wood, manufactured goods, and containerized freight. Kentucky's well-developed terminals and riverports—supported by enterprise zones, warehouse facilities, ports of entry, and foreign trade zones—link with an intermodal transportation system that forms a network with the world. Containing approximately 1,020 miles of USACE commercially navigable waterways, as listed in **Table 2-3** and shown in **Figure 2-13**, Kentucky is the linchpin between the Great Lakes, Canada, and Mexico, as well as the deep-draft ports of New Orleans, LA, and Mobile, AL, for shipments overseas.<sup>5</sup>

Table 2-3. Commercially Navigable Waterways

River	Commercially Navigable Miles
<b>Ohio</b>	669
<b>Green</b>	108
<b>Tennessee</b>	65
<b>Cumberland</b>	77
<b>Mississippi</b>	82
<b>Licking</b>	7
<b>Big Sandy</b>	12
<b>Total</b>	<b>1,020</b>

Source: USACE, River Mile point Dataset, 2022.

The Ohio River accounts for over 30 percent of these miles on Kentucky's navigable waterways. Five of the waterways have one or more locks and dams. The USACE owns and/or operates the locks and dams on the Ohio River, Green River, Cumberland River, and Tennessee River. The locks and dams on the Kentucky River are owned and operated by the Kentucky River Authority. Most of the locks and dams are over 50 years old, and the seven built in the 1930s and 1940s need major rehabilitation or replacement. The Locks and Dams 52 and 53, known as the Olmsted Locks and Dam, were demolished, and new locks and dams were in place by 2022. These were Ohio River's oldest locks and dams, put into operation in 1928 and 1929, respectively. A new Olmsted lock and dam a mile downstream from and lock and dam 53 was completed in 2018 to eliminate the bottleneck that resulted from the antiquated locks and dams 52 and 53. With the new facility complete, the demolition of the old dams is key to ensure ease of passage for the largest commercial vessels. In January 2022, the modernization of the Kentucky Lock received funding for completion from USACE. This project consists in building a new, modernized 1,200-foot lock to work in conjunction with the current 600-foot lock. Upon completion, it is expected that there would be virtually no wait time to lock through.

The Licking River, which connects to the Ohio River, is a navigable waterway that supports the ports in the Cincinnati and Northern Kentucky region. The most northern 7 miles of the Licking River can

<sup>5</sup> Kentucky Transportation Cabinet. Kentucky Riverport Improvement Project. January 22, 2008.



accommodate moving heavy cargo and barge storage. This segment has no locks or dams and can support commercial development. The Tennessee River also connects to the Gulf of Mexico. It leaves Paducah, connects to the Tennessee-Tombigbee Waterway, then to the Tombigbee River to Mobile.

Figure 2-9. Inland River System



Source: Kentucky Riverport Improvement Project, 2008.

### 2.3.1. Riverports

Kentucky has 10 public riverports, seven of which are operating ports, and three of which are developing ports. Each public riverport has unique characteristics, needs, and visions. The ports largely do not compete with one another, and each is at a different level of development and has different capabilities and strengths, and the ability to stimulate economic development in the surrounding region. Some of the most common commodities handled by the public riverports in Kentucky are fertilizer, grain, sand, aluminum, and steel.<sup>6</sup>

Kentucky's riverports play an important role in facilitating access to the commonwealth's freight transportation system. For example, rail is a vital part of riverport operations for transferring large bulk commodities from one mode to another. The 2021 USACE Port Facility Spreadsheet lists 87 rail-accessed riverport terminals in Kentucky.<sup>7</sup>

<sup>6</sup> Kentucky Transportation Cabinet, Kentucky Riverport Improvement Project, 2008.

<sup>7</sup> U.S. Army Corps of Engineers, Port Facility Spreadsheet, August 2021.

**Table 2-4** and **Figure 2-10** provide status and locations of Kentucky’s public riverports and existing multimodal network. There are four active riverports in MPO areas and three active riverports in rural or small urban areas. Each of Kentucky’s active public riverports, and many of the private river terminals, are critical multimodal freight facilities, providing vital opportunities to improve the efficient movement of freight of importance to the economy of the State. For a more detailed account of the commonwealth’s public riverports, see the [Kentucky Riverports, Highway & Rail Freight Study](#) on the [Kentucky Riverports, Highway and Rail Freight Study webpage](#).

Table 2-4. Kentucky Public Riverports

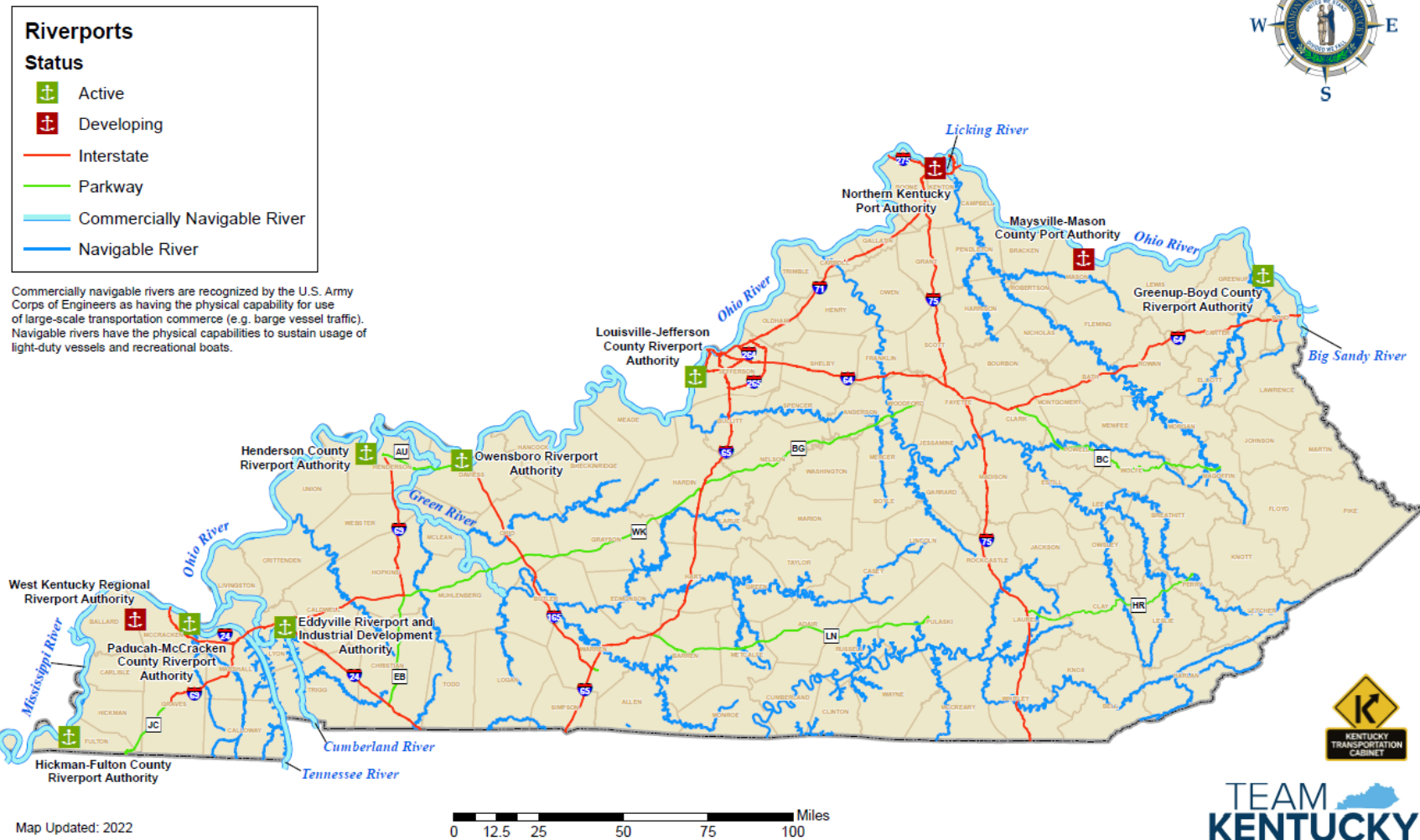
Riverport Name	KYTC District	Riverport Status
Eddyville Riverport and Industrial Development	1	Active
Greenup-Boyd County Riverport	9	Active
Henderson County Riverport	2	Active
Hickman-Fulton County Riverport	1	Active
Louisville-Jefferson County Riverport	5	Active
Maysville-Mason County Riverport	9	Developing
Northern Kentucky Riverport <sup>8</sup>	6	Developing
Owensboro Riverport	2	Active
Paducah-McCracken County Riverport	1	Active
West Kentucky Regional Riverport	1	Developing

Source: Kentucky Transportation Cabinet, 2022.

<sup>8</sup> In a 2012 joint request to the USACE, the Port of Greater Cincinnati Development Authority and the Northern Kentucky Riverport Authority proposed combining the two ports under a single, expanded port boundary. USACE granted the request, thereby redesignating the then 26-mile Port of Greater Cincinnati boundary to a 226.5-mile boundary that includes the Northern Kentucky Riverport, 7 miles of the Licking River, and stretches from Louisville to Huntington. There are no active land-side facilities or properties held by the Northern Kentucky Riverport. Thus, the status remains “developing.”

Figure 2-10. Kentucky Public Riverports

# KENTUCKY RIVERPORTS



Source: Kentucky Transportation Cabinet, 2022.

## 2.3.2. Inland Waterway Governance

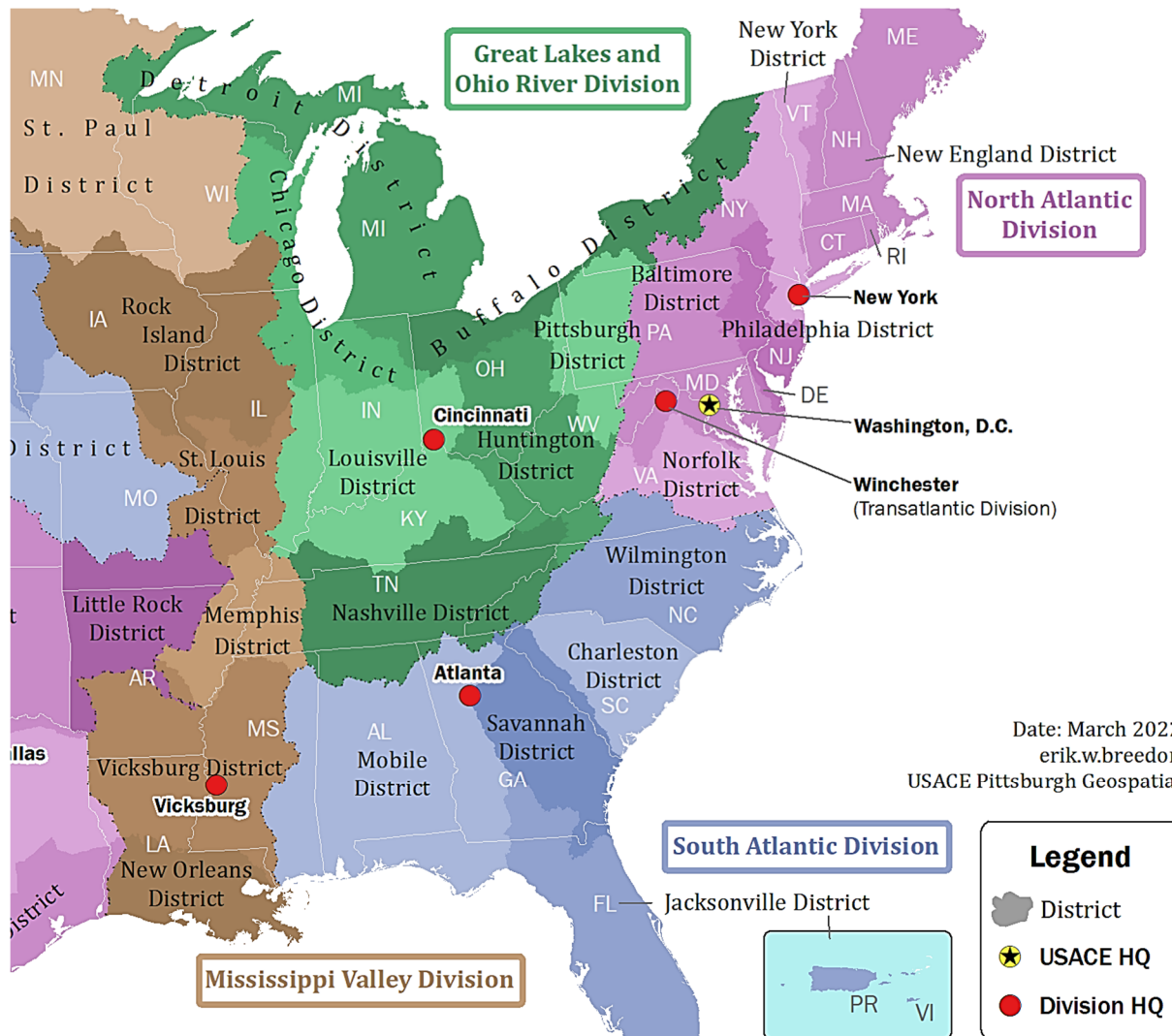
The riverports and inland waterway network in Kentucky are overseen in varying capacities by the USACE, U.S. Coast Guard (USCG), Maritime Administration (MARAD), various port authorities, Kentucky River Authority, and guided by Water Transportation Advisory Board (WTAB). A brief description of each entity's role is described below.

### 2.3.2.1 U.S. Army Corps of Engineers

There are two divisions and four districts of the USACE with operations in Kentucky. The Louisville, Huntington, and Nashville districts, under the Great Lakes & Ohio River Division, and the Memphis District, under the Mississippi Valley Division (**Figure 2-11**), own and operate the locks and dams on rivers in Kentucky, and they operate and maintain the commercial inland navigation channels, which includes dredging. Kentucky has approximately 1,600 miles of USACE designated navigable waterways, ranking 4<sup>th</sup> in inland waterway miles across all states in the continental U.S. Of the navigable waterways, 1,020 miles are navigable by commercial vessels.

The Water Resources Reform and Development Act (WRRDA) is the primary legislation by which Congress authorizes the USACE key civil works missions, including navigation, flood risk management, and environmental restoration. The authorities provided in WRRDA help USACE continue to provide value to the nation in developing and maintaining the nation's waterways and harbors, reducing damages from storm events, and restoring the environment.

Figure 2-11. USACE Inland Waterways District Divisions



Source: U.S. Army Corps of Engineers.

### 2.3.2.2 U.S. Coast Guard

Kentucky is located within the USCG's Eighth Coast Guard District, which covers all or part of 26 states from the Appalachian Mountains and Chattahoochee River in the east, to the Rocky Mountains in the west, and from the U.S.-Mexico border and the Gulf of Mexico to the Canadian border in North Dakota. The Eighth District is responsible for protecting Kentucky's inland navigable waterways to enable safe, secure, and efficient movement of goods.

### 2.3.2.3 Maritime Administration/Marine Highways

MARAD is the agency within the USDOT focused on waterborne transportation. MARAD's programs promote the use of waterborne transportation and its seamless integration with other segments of the transportation system, as well as the viability of the U.S. merchant marine. MARAD works in many areas involving ships and shipping, shipbuilding, port operations, vessel operations, national security, environment, and safety. Kentucky is part of the MARAD Inland Waterways Gateway which covers 18 states. The office in St. Louis, Missouri is responsible for the upper Mississippi River states, while the



recently (2018) opened office in Paducah, Kentucky is responsible for the Lower Mississippi River and Ohio River states and primarily responsible for Kentucky programs.

In 2007, MARAD established the America's Marine Highway Program to reduce landside congestion through the designation of Marine Highway Routes. The Coast Guard and Maritime Transportation Act of 2012 expanded the scope of the program to efforts that generate public benefits by increasing the utilization or efficiency of domestic freight or passenger transportation on Marine Highway Routes (**Figure 2-12**) between U.S. ports. The three designated Marine Highway Routes that directly serve Kentucky are the following:

- M-55, which includes the Mississippi River corridor along Kentucky's western border
- M-65, which includes the Tennessee River from Paducah to the Tennessee-Tombigbee Waterway
- M-70, which includes the Ohio River corridor forming the commonwealth's northern border, from Ashland to Wickliffe

Designating routes in the Marine Highway System identifies an opportunity to alleviate freight-related congestion on existing parallel land routes, which leads to reduced emissions, energy conservation, increased system resiliency, improved safety, and reduced road maintenance costs.

In December 2020, the Consolidated Appropriations Act of 2021 appropriated available funding for FY 2021 America's Marine Highway Program. This program continues to align with the MARAD Office of Marine Highways and Passenger Services infrastructure goal by "guiding strategic investments for port and landside infrastructure that expand the use of the nation's navigable waters".

# America's Marine Highway Routes

Canada

WA MT ND MN WI MI NY VT NH ME

CR ID WY SD IA NE PA CT MA

NV UT CO KS MO IL IN OH WV MD DE VA

CA AZ NM OK AR MS AL GA SC NC FL

TX LA KY TN KY WV MD DE VA

Mexico

NORTH PACIFIC OCEAN

GULF OF MEXICO

NORTH ATLANTIC OCEAN

Marine Highway Routes

Impacted States

Map updated: August 2011

Source: U.S. Coast Guard, NOAA, and other sources

1. Source: U.S. Coast Guard, NOAA, and other sources

2. Source: U.S. Coast Guard, NOAA, and other sources

0 150 300 450 600

#### 2.3.2.4 Riverports and Port Authorities

Public riverports are managed by a riverport authority, usually as part of a city or county government, or a joint city-county government partnership. Public riverport authorities are managed by a board of officials, which appoints a riverport director or president. As stated in KRS 65.540, if the authority is established by a city, members of the board are appointed by the mayor of the city. If the authority is established by a county, members of the board are appointed by the county judge/executive with the approval of the fiscal court.

The Kentucky River Authority is an agency that is administratively attached to the Kentucky Finance and Administration Cabinet. Its primary purpose is to operate and maintain the locks and dams on the Kentucky River. These locks and dams were originally built by the USACE.

## KENTUCKY FREIGHT PLAN | Page 2-21



The WTAB was established by the Kentucky General Assembly in 2010, and it is an advisory board to the executive and legislative branches of government on matters concerning water transportation. This board is composed of seven members who are appointed by the Governor, and they serve terms of 4 years. The WTAB's duties are the following:

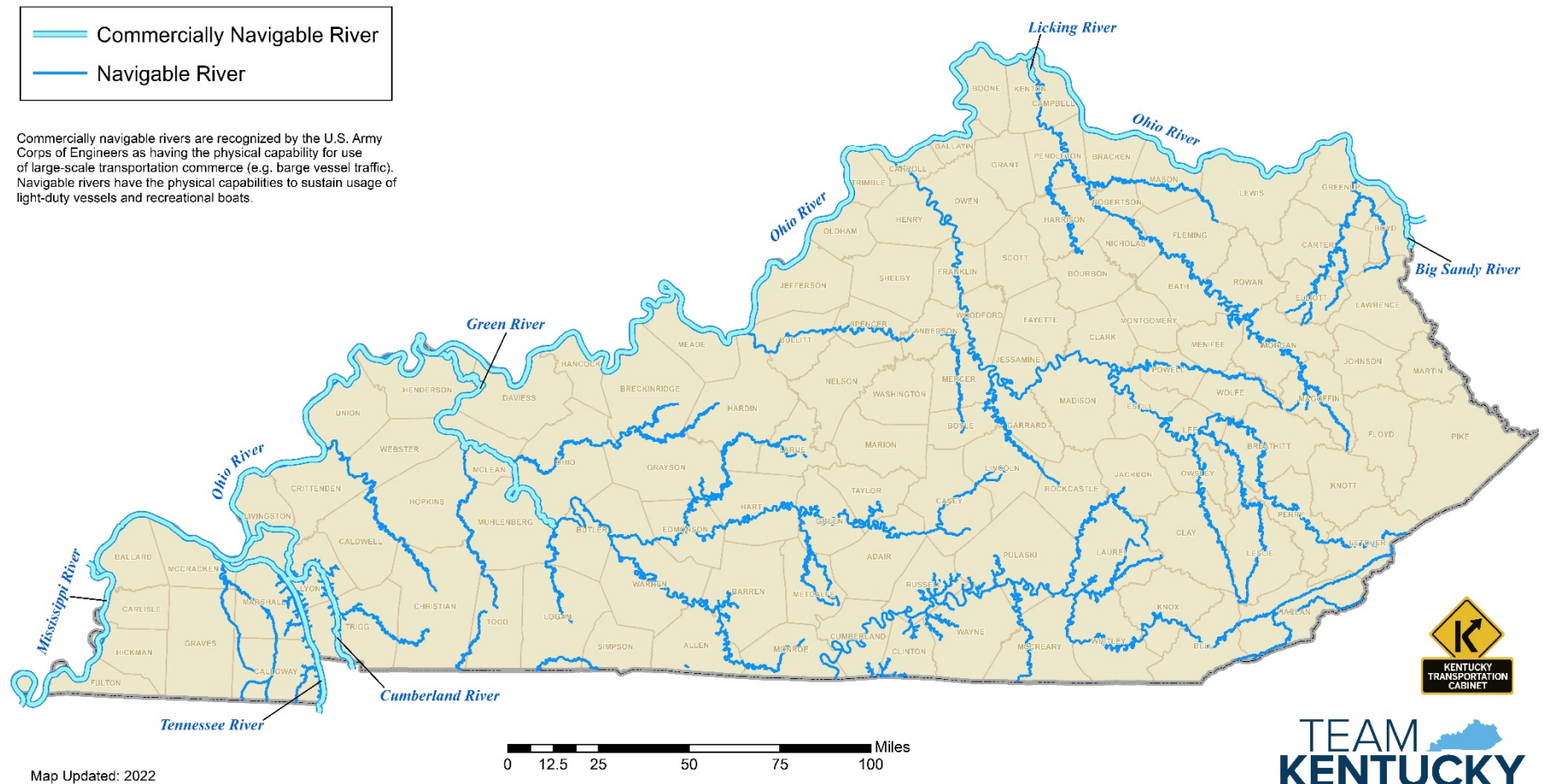
1. Advising KYTC, the Cabinet for Economic Development, the Governor's Office, and the General Assembly on matters relating to water transportation.
2. Recommending action to enable the Commonwealth to make best use of its waterways and riverports for future economic growth.
3. Assisting in defining the duties and functions of positions within state government responsible for water transportation.
4. Recommending criteria for setting priorities for funding riverport marketing initiatives under the riverport marketing assistance trust fund established in KRS 154.80-140.
5. Evaluating applications submitted by riverports for grants under the riverport marketing assistance trust fund and making recommendations to the granting authority on the disbursement of those funds.
6. Recommending criteria for setting priorities for funding riverport improvements under the riverport financial assistance trust fund established in KRS 174.210.
7. Evaluating applications submitted by riverports for grants under the riverport financial assistance trust fund and making recommendations to the granting authority on the disbursement of those funds.

In July 2021, five Kentucky riverports were awarded \$500,000 for critical repairs and equipment replacement, as recommended by the Kentucky WTAB. This investment will improve operations to move cargo more efficiently and safely.

Figure 2-13. Kentucky Navigable Waterways

# KENTUCKY NAVIGABLE WATERWAYS

As recognized by the U.S. Army Corps of Engineers



Source: Kentucky Transportation Cabinet, 2022.

## 2.4. Rail Network

Kentucky plays an important role in the U.S. rail network. According to the Association of American Railroads (AAR), in 2019 Kentucky ranked 20<sup>th</sup> among all states for originated tonnage, 23<sup>rd</sup> for originated carloads/units, and 22<sup>nd</sup> for total tons carried. Freight railroads operating within Kentucky through ownership or trackage rights consist of five Class I railroads, one Class II railroad, and seven Class III railroads (**Figure 2-14**). The Surface Transportation Board (STB) defines a class of railroad based on revenue thresholds adjusted for inflation. As of 2019, the Association of American Railroads (AAR) defines a Class I railroad as a common carrier having annual operating revenues of at least \$505 million. A Class II railroad, also referred to as a regional railroad, is a common carrier having annual operating revenues of at least \$40 million, or that operates at least 350 miles of road and revenues of at least \$20 million. A common carrier is a person or company that transports goods or passengers on regular routes at set rates. A Class III railroad, also known as a short line railroad, is a carrier which is neither a Class I nor a regional railroad.<sup>9</sup>

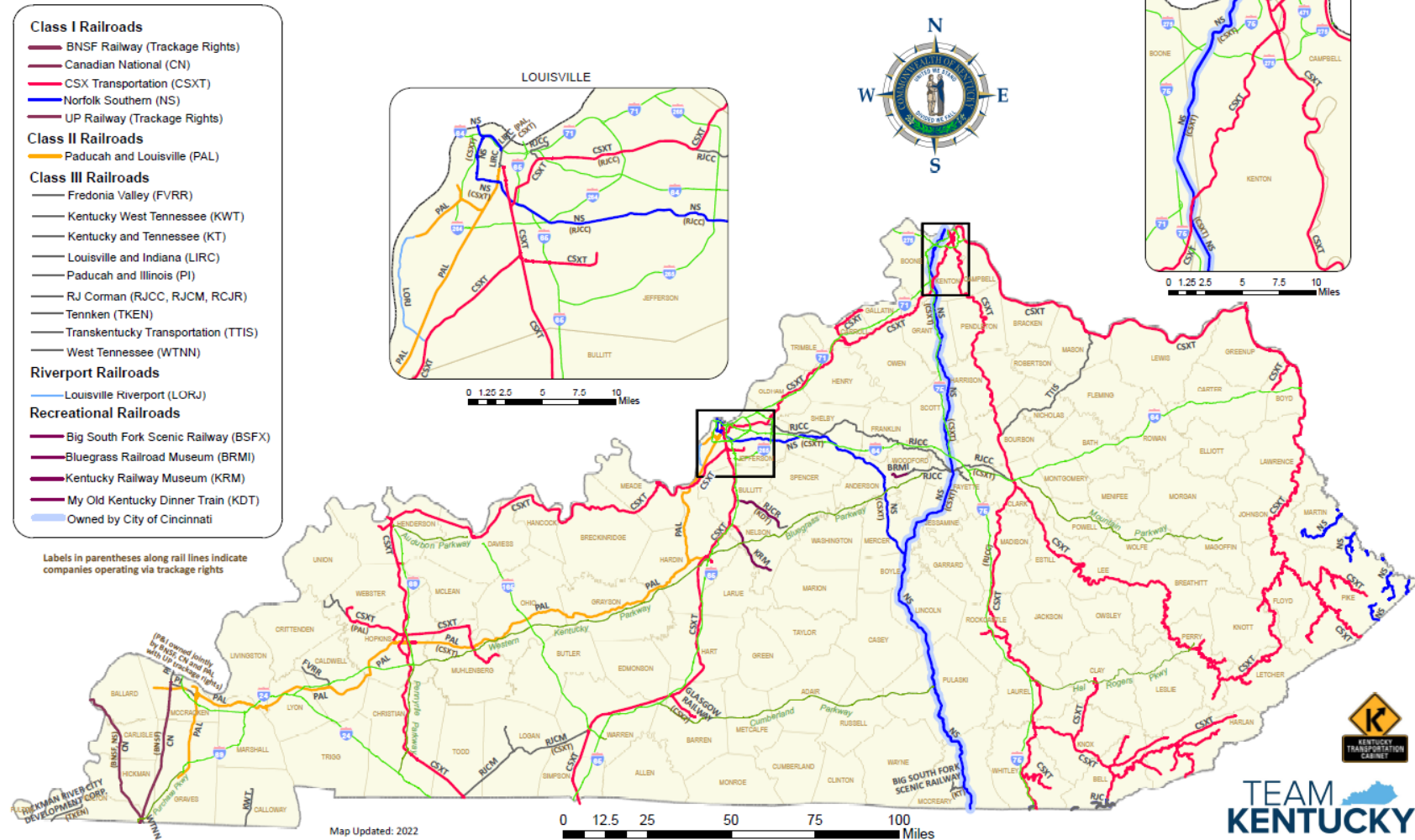
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<sup>9</sup> Association of American Railroads (AAR). <https://www.aar.org/railroad-101/>. Accessed April 2022.



Figure 2-14. Kentucky Active Rail Lines

# KENTUCKY ACTIVE RAIL LINES



Source: Kentucky Transportation Cabinet, 2022.

As seen in **Table 2-5**, Kentucky's railroad system includes approximately 2,700 route miles, as of year-end 2021. The five Class I railroads represent approximately 2,185 miles, or approximately 80 percent of the statewide rail system. These railroads are Burlington Northern Santa Fe (BNSF), Canadian National (CN), CSX Transportation (CSXT), Norfolk Southern (NS), and Union Pacific (UP).

In Kentucky, CSXT is the largest railroad company in terms of mainline route mileage, accounting for 1,596 miles, or 59 percent of the total route miles excluding trackage rights. The second largest railroad by mileage is NS, operating on 480 route miles, or almost 18 percent of the statewide rail system. The third largest railroad company by mainline route mileage is the Paducah and Louisville Railway, Inc. (PAL), and this is Kentucky's only Class II (regional) railroad. PAL operates 267 miles of mainline railroad, almost 10 percent of the statewide rail system.

Table 2-5. Freight Railroad Route Miles Operated in Kentucky<sup>10</sup>

Railroad	Class	Miles Owned by Self	Miles Owned by Proprietary/Leased/Trackage Rights	% Total (excluding trackage)
Burlington Northern Santa Fe (BNSF)	I	13	45	0.48%
Canadian National (Illinois Central) (Grand Trunk Corp.) (CN)	I	96	1	3.52%
CSX Transportation	I	1,596	351	58.57%
Norfolk Southern (NS)	I	480	1	17.61%
Union Pacific (UP)	I	0	1	0.00%
Paducah & Louisville (PAL)	II	267	45	9.80%
Fredonia Valley Railroad (FVRR)	III	12	0	0.44%
Kentucky and Tennessee Railway (KT)	III	0	8	0.00%
Kentucky West Tennessee Railway (KWT)	III	13	0	0.48%
Louisville & Indiana Railroad (LIRC)	III	4	0	0.15%
Paducah & Illinois (PI)	III	15	0	0.55%
RJ Corman (RJC)	III	130	64	4.77%
TennKen (TKEN)	III	10	0	0.37%
Transkentucky Transportation (TTIS)	III	49	0	1.80%
West Tennessee Railroad (WTNN)	III	1	0	0.04%
Louisville Riverport Railroad (LORJ)	III	9	0	0.33%
Amtrak	Pass.	0	212	0.00%
Big South Fork Scenic Railroad	Rec.	8	0	0.29%
Bluegrass Railroad Museum	Rec.	5	0	0.18%
Kentucky Railroad Museum	Rec.	17	0	0.62%
<b>Total</b>		<b>2,725</b>	<b>728</b>	<b>100%</b>

Source: Kentucky Transportation Cabinet, 2022.

<sup>10</sup> KYTC Data Mart, *KYTC Active Rail*, <https://datamart.kytc.ky.gov/>, Accessed May 2022.

The table above shows only route miles owned, leased, or with trackage rights by railroad companies, as reported to KYTC on the annual reports from all freight railroads. The individual totals may not accurately represent actual mileage. Multiple railroads own, lease, or have trackage rights on some other sections of track. Some of these railroads operate on trackage rights or through subsidiary railroads.

The Commonwealth of Kentucky does not own or operate any rail assets. When KYTC is considering a location for a new or reconstructed roadway that intersects or lies adjacent to a rail facility, the Cabinet must coordinate its efforts with the railroad company.

Many intermodal facilities located near Kentucky's rail network transfer goods from rail to other freight modes. For example, there are four intermodal facilities in the commonwealth that can transfer containers and/or trailers of cargo from rail to truck. NS operates three facilities, two in Louisville and one in Georgetown, and CSXT operates one facility in Louisville. These multimodal freight facilities are critical to Kentucky, providing vital opportunities to improve the efficient movement of freight of importance to the economy of the state.

The [2015 Kentucky Statewide Rail Plan](#) is available on KYTC's website and is currently undergoing an update, which is scheduled to be completed in 2023.

### 2.4.1. Rail Governance

The Class I, II, and III railroads are privately owned. The railroad operations, such as service locations, shipping rates, and schedules, are all controlled by the railroad companies themselves and are regulated by the Federal Railroad Administration (FRA) and STB. Below are brief descriptions for the FRA and STB.

#### 2.4.1.1 Federal Railroad Administration

The FRA is a federal agency within the USDOT that is responsible for ensuring the safety of the U.S. passenger and freight rail operations and infrastructure by promoting safe, efficient, and accessible rail transportation. To carry out this responsibility, FRA promulgates and enforces rail safety regulations, consolidates government support of rail transportation activities, administers financial assistance programs, and conducts research and development in support of improved railroad safety and efficiency and national transportation policy.<sup>11</sup>

#### 2.4.1.2 Surface Transportation Board

The STB is an independent adjudicatory body organizationally housed within the USDOT, and it makes independent rulings regarding certain surface transportation economic regulatory matters. The STB's jurisdiction includes railroad rates and service issues, rail restructuring transactions, labor matters, data collection, abandonments, and operational oversight.<sup>12</sup>

## 2.5. Pipelines

Almost 41,000 miles of pipelines move natural gas, crude oil, refined petroleum products, and highly volatile liquids, flammable liquids, and toxic liquids throughout Kentucky. **Figure 2-15** illustrates the

<sup>11</sup> Federal Railroad Administration, <https://www.fra.dot.gov/Page/P0002>, Accessed on March 29, 2022.

<sup>12</sup> Surface Transportation Board, <https://www.stb.gov/about-stb/>, Accessed on March 29, 2022.

locations of pipelines in Kentucky and **Table 2-6** lists the pipeline mileage by commodity in 2020. Ninety-eight percent of these pipelines transported natural gas, and the total miles of natural gas transmission pipelines are among the highest of any state in the Southeast. The remaining pipelines transported hazardous liquids, which are crude oil, refined petroleum products, and highly volatile liquids, flammable liquids, and toxic liquids.

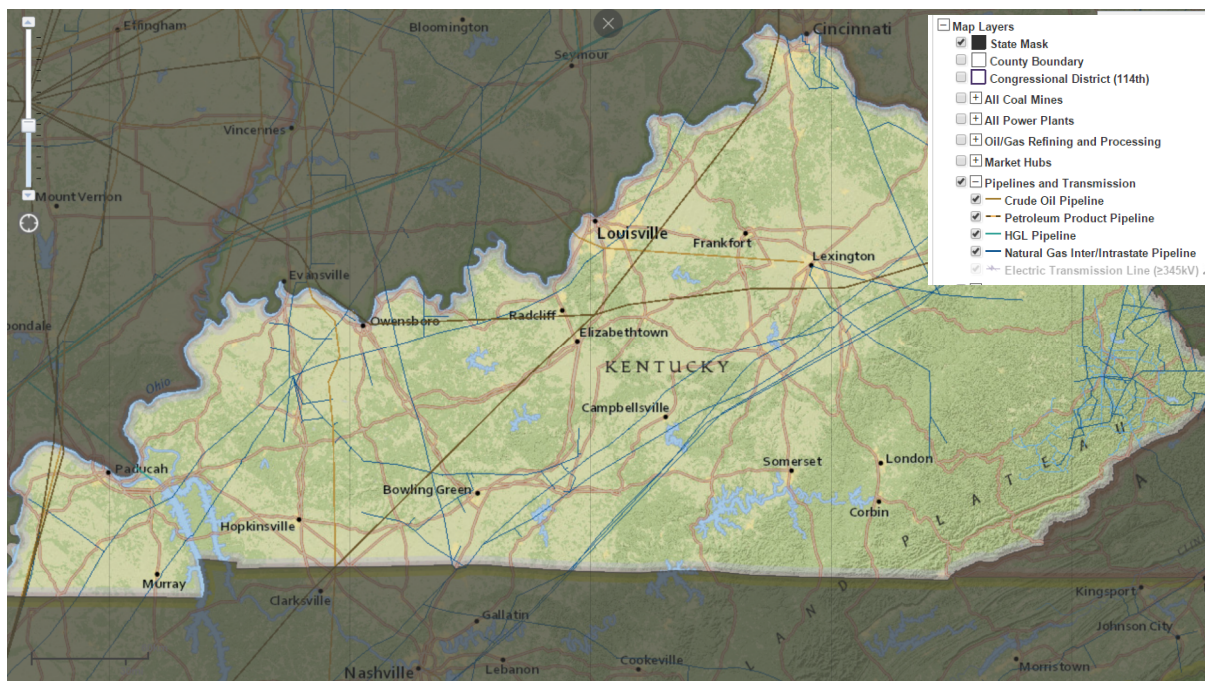
Table 2-6. Kentucky Pipeline Mileage by Commodity.

Commodity	Pipeline Miles
Natural Gas	Transmission: 6,751 miles Gathering: 352 miles Distribution – Mains: 19,258 miles Distribution – Service: 13,484 miles <b>TOTAL: 39,846</b>
Crude Oil	602
Refined Petroleum Products*	91
Highly Volatile Liquids, Flammable Liquids, and Toxic Liquids	273
<b>Total Pipeline Miles</b>	<b>40,812</b>

Source: Pipeline and Hazardous Materials Safety Administration, Pipeline Mileage and Facilities. Retrieved November 2021.

Notes: \*Refined petroleum products are obtained by distilling and processing crude oil that are liquid at ambient conditions.

Figure 2-15. Locations of Pipelines in Kentucky



Source: U.S. Energy Information Administration, State Profile and Energy Estimates. December 2021.

Pipeline operators of natural gas transmission, crude oil, refined petroleum products, and highly volatile liquids, flammable liquids, and toxic liquids include Columbia Gas Transmission, LLC; Columbia Gulf, LLC; Tennessee Gas Pipeline Co. (TGP); Texas Eastern Transmission LP (Spectra Energy Corp); and Texas Gas Transmission, LLC accounted for 74 percent of the operators for natural gas pipelines. Marathon Pipe Line, LLC and Mid-Valley Pipeline Co. accounted for nearly 100 percent of the operators for crude oil pipelines. BP Pipeline (North America), Inc. and Marathon Pipe Line, LLC accounted for 96 percent of the operators for refined petroleum products pipelines. Markwest Ranger Pipeline Company,

LLC accounted for 86 percent of the operators for highly volatile liquids, flammable liquids, and toxic liquids pipelines. The U.S. Energy Information Administration (EIA) maintains a database that provides information on the size and location of natural gas pipeline projects announced or under construction. For example, it lists a small upgrade project called the Mainline 100 and Mainline 200 Replacement Project” by Columbia Gas Transmission.<sup>13</sup>

Kentucky’s pipeline network connects to roadways at truck/pipeline terminals where commodities are transferred from pipelines to trucks for further transport on the Kentucky Freight Network. FHWA classifies public roads leading to major intermodal facilities as NHS intermodal connectors, and they account for less than one percent of the NHS mileage. In Kentucky, three NHS intermodal connectors provide access to pipeline terminals: Bells Lane Petroleum/Chemical Pipeline in Louisville, Campground Road Petroleum Pipeline in Louisville, and Louisville/Ashland Oil/Chevron Distribution Center in Lexington.<sup>14</sup>

Pipelines support Kentucky’s air cargo industry. Jet fuel that is used at Louisville Muhammad Ali International Airport and the Cincinnati/Northern Kentucky International Airport is refined at the Catlettsburg Refinery (in Boyd County, KY) shipped by pipeline to a barge transfer point, barged down the Ohio River to pipeline junctions that convey the jet fuel to the airports.

### 2.5.1. Pipeline Governance

Much like railroads, pipelines are privately owned. They are regulated at the federal level by the Pipeline and Hazardous Materials Safety Administration (PHMSA), while at the state level, Kentucky Public Service Commission (PSC) regulates the pipelines. Below are brief descriptions for the PHMSA and Kentucky PSC.

#### 2.5.1.1 Pipeline and Hazardous Materials Safety Administration

The PHMSA is organizationally housed in the USDOT and has regulatory responsibility for hazardous liquid and gas pipeline transport in the U.S. Federal regulations include minimum standards for safety in design, construction, inspection, testing, operation, and maintenance of pipelines. States are certified by PHMSA to inspect and enforce pipeline safety regulations for intrastate pipeline operators. In Kentucky, the Pipeline Safety Branch of the Kentucky PSC performs this inspection and enforcement.<sup>15</sup>

#### 2.5.1.2 Kentucky Public Service Commission

In 1970, the Kentucky General Assembly selected the Kentucky PSC as the state agency to enforce federal and state pipeline safety laws and regulations for intrastate natural gas transmission pipelines. The Kentucky PSC has jurisdiction over 32 intrastate pipeline operators. The cost of Kentucky’s state pipeline safety program is federally reimbursed by up to 80 percent.<sup>16</sup>

<sup>13</sup> Energy Information Administration. <https://www.eia.gov/naturalgas/pipelines/EIA-NaturalGasPipelineProjects.xlsx>. Accessed November 2021.

<sup>14</sup> Federal Highway Administration.

[http://www.fhwa.dot.gov/planning/national\\_highway\\_system/intermodal\\_connectors/kentucky.cfm](http://www.fhwa.dot.gov/planning/national_highway_system/intermodal_connectors/kentucky.cfm). Accessed March 2022.

<sup>15</sup> Pipeline and Hazardous Materials Safety Administration. <http://primis.phmsa.dot.gov/comm/StatePages/Kentucky.htm>. Accessed March 2022.

<sup>16</sup> Kentucky Public Service Commission, <http://www.psc.state.ky.us/Home/PipelineSafety>, Accessed March 2022.



## 2.6. Air Cargo

Fifty-nine public use airports are located throughout Kentucky providing commuter, private passenger, and/or cargo services (**Figure 2-16**). Kentucky's primary air cargo handling airports are Louisville International Airport and Cincinnati/Northern Kentucky International Airport. According to the Airports Council International – North America (ACI-NA), both airports were ranked in the top 10 in North America and top 25 in the world in terms of total air cargo tonnage in 2020 (**Table 2-7**).<sup>17</sup> The Federal Aviation Administration (FAA) ranked the two airports in the top 10 of cargo services airports in the U.S. in terms of landed weight for 2019 (Louisville International Airport at 3<sup>rd</sup> and Cincinnati/Northern Kentucky International Airport at 6<sup>th</sup>).<sup>18</sup> While the FAA maintains a database for air cargo landings within the U.S., ACI-NA's database accounts for worldwide air cargo activity.

Table 2-7. Kentucky Air Cargo Airports, 2016 and 2020 Cargo Tonnage and Rank

ID	Airport Name	2016 Total Cargo Tonnage*	2020 Total Cargo Tonnage*	2016- 2020 CAGR**	North American Rank 2020	Global Rank 2020
<b>SDF</b>	Louisville International Airport	2,437,010	2,917,243	3.66%	3 <sup>rd</sup>	5 <sup>th</sup>
<b>CVG</b>	Cincinnati/Northern Kentucky International Airport	742,256	1,300,758	11.87%	7 <sup>th</sup>	21 <sup>st</sup>

Source: Airports Council International – North America Database

Note: \*Total Cargo – loaded and unloaded freight and mail in metric tons. \*\*CAGR=Compound Annual Growth Rate. Source: Airports Council International – North America (ACI-NA)

In 2020, Louisville International Airport and Cincinnati/Northern Kentucky International Airport handled over 4.2 million tons of total air cargo, representing an increase of 5.82 percent annually since 2016. More than two-third of the total tonnage handled during this time period occurred at Louisville International Airport. However, the Cincinnati/Northern Kentucky International Airport experienced a faster growth by total tonnage at 11.87 percent annually.

<sup>17</sup> Airports Council International – North America, <https://airportscouncil.org/intelligence/north-american-airport-traffic-reports/>, Accessed March 2022.

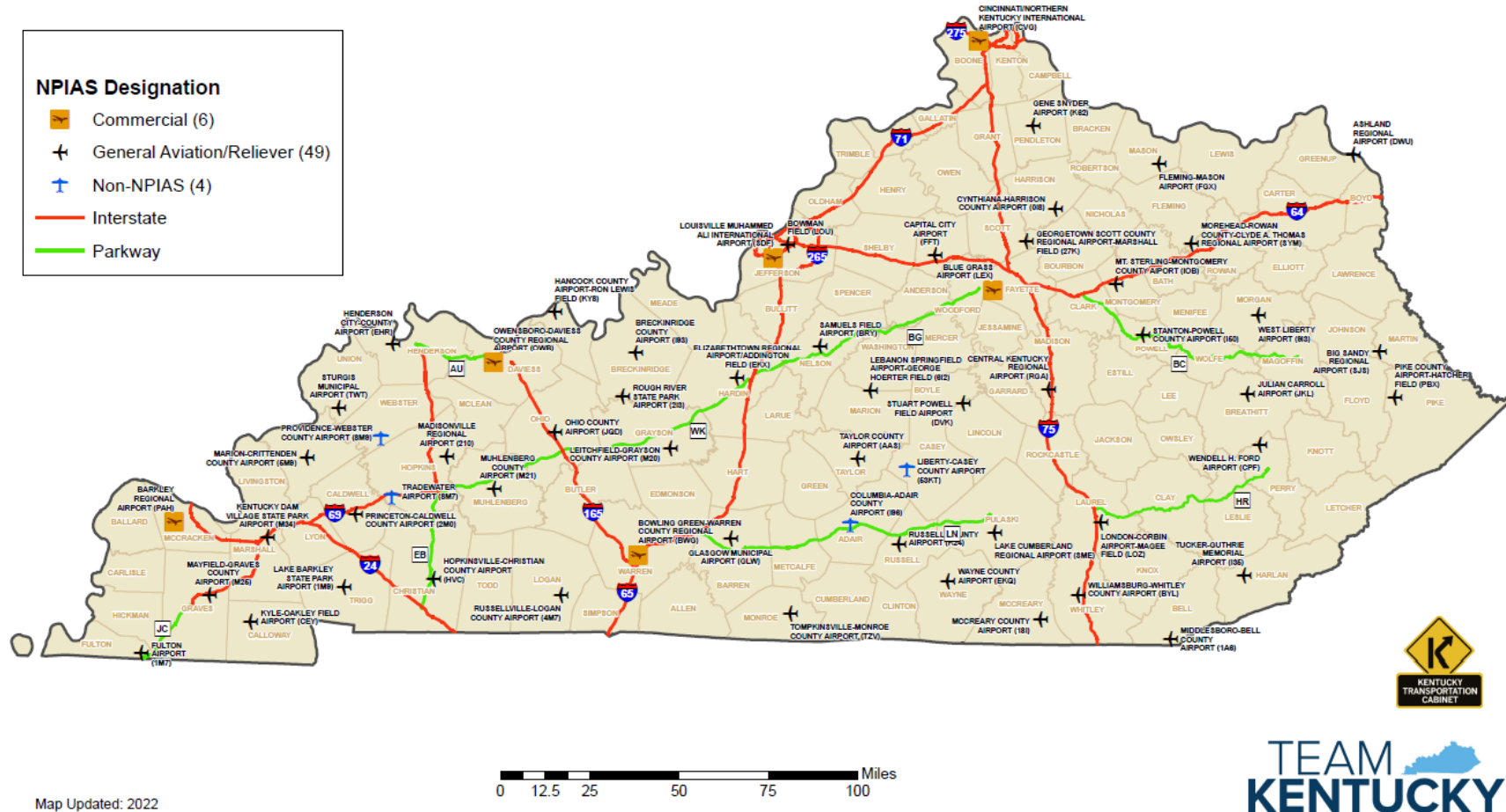
<sup>18</sup> Federal Aviation Administration, [http://www.faa.gov/airports/planning\\_capacity/passenger\\_allcargo\\_stats/passenger/previous\\_years/#2019](http://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/passenger/previous_years/#2019), Accessed November 2021.



Figure 2-16. Kentucky Public Airports

# KENTUCKY PUBLIC AIRPORTS

National Plan of Integrated Airport Systems (NPIAS)



Source: Kentucky Transportation Cabinet, 2022.

### 2.6.1. Louisville Muhammad Ali International Airport

Louisville Muhammad Ali International Airport (SDF) is the primary commercial airport serving the Louisville metropolitan area and attracts travelers from central portions of Kentucky and southern Indiana. It is the busiest airport in Kentucky regarding annual air cargo tonnage, and it is home to WorldPort, the worldwide hub of United Parcel Service, Inc. (UPS). According to the ACI-NA, 2.9 million tons of freight and mail were handled through this airport in 2020. Air cargo carriers benefit from several of Louisville International Airport's competitive advantages, such as central location in the U.S., direct access to the Interstate Highway System via I-65 and I-264, and three runways.

#### 2.6.1.1 United Parcel Service WorldPort

In 2002, UPS opened WorldPort at Louisville International Airport as its international air express hub and the home base of its air cargo operations. In April 2010, UPS completed a \$1 billion expansion that increased sorting capacity by 37 percent to 416,000 packages per hour. The WorldPort is now 5.2 million square feet with 155 miles of conveyor belts to sort packages.



More than 150 companies have cited WorldPort as a reason for moving their business facilities and operations to Louisville. The mega-hub is also less than 2 miles from UPS's largest Supply Chain Solutions campus in the world.<sup>19</sup>

### 2.6.2. Cincinnati/Northern Kentucky International Airport

The Cincinnati/Northern Kentucky International Airport (CVG) is the primary commercial airport serving the Cincinnati metropolitan area. It is the second busiest airport in Kentucky for annual air cargo tonnage and serves as one of DHL's three global hubs. According to the ACI-NA, 1.3 million tons of freight and mail were handled through this airport in 2020.

The Cincinnati/Northern Kentucky International Airport is located on approximately 7,000 acres in the City of Hebron. The airport consists of three parallel runways and one crosswind runway, and each runway is served by at least one parallel taxiway. Direct access to the Interstate Highway System via I-75 and I-275 is one of the major benefits of this airport for air cargo carriers.

#### 2.6.2.1 Amazon Air

In January 2017, Amazon and CVG made the agreement to open an Amazon Air Hub at the location in Northern Kentucky. The \$1.5 billion facility partially opened in August 2021, with approximately 24 aircraft parking positions and an estimate of 32 aircraft based out of CVG for a total up of 64 flights per day. Air cargo at CVG grew 14 percent in 2020 and is expected to grow at least 10 percent more by 2022, when Amazon's new facility is fully operational.<sup>20</sup>

#### 2.6.2.2 DHL

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<sup>19</sup> Louisville Regional Airport Authority, <https://www.flylouisville.com/corporate/louisville-regional-airport-authority/?msclkid=1a370fc4b07211ec9cd297bd56e8de0b>, Accessed March 2022.

<sup>20</sup> The New York Times, <https://www.nytimes.com/2021/01/12/business/air-cargo-airports-amazon.html>, Accessed March 2022.

Since 2009, DHL has invested more than \$280 million in upgrading its operations at the airport to establish a “super hub,” one of only three worldwide and the only one in the U.S. DHL’s other global “super hubs” are in Hong Kong and Leipzig, Germany. More than 90 percent of the company’s volume in the U.S. moves through CVG. Currently ranked as the seventh largest cargo airport in North America, CVG experienced a 14.8 percent increase in cargo tonnage for year-end 2020 according to ACI-NA.



### 2.6.3. Aviation Governance

Kentucky public airports are governed by regional airport authorities or local boards. A local board is established by any urban-county government, city, county, or city and county acting jointly, or any combination of two or more cities, counties, or both. Different portions/activities at airports are overseen by the U.S. Customs and Border Protection (CBP) and the FAA at the federal level, and by the Kentucky Department of Aviation at the state level. Below are brief descriptions for the CBP, FAA, and Kentucky Department of Aviation.

#### 2.6.3.1 U.S. Customs and Border Protection

The CBP is the largest law enforcement agency of the U.S. Department of Homeland Security. The agency’s primary mission is to oversee U.S. borders, ports, and other points of entry to protect the public from terrorist threats and illegal trade and traffic. Regarding aviation, CBP has regulatory authority to limit the locations where a private aircraft entering the U.S. from a foreign area may land. Louisville International Airport, Cincinnati/Northern Kentucky International Airport, and Lexington Blue Grass Airport are the airports in Kentucky designated for CBP inspection services.

#### 2.6.3.2 Federal Aviation Administration

The FAA is the operating mode of the USDOT responsible for the safety of civil aviation. The FAA’s major roles include:

- Regulating civil aviation to promote safety
- Encouraging and developing civil aeronautics, including new aviation technology
- Developing and operating a system of air traffic control and navigation for both civil and military aircraft
- Researching and developing the National Airspace System and civil aeronautics
- Developing and carrying out programs to control aircraft noise and other environmental effects of civil aviation
- Regulating U.S. commercial space transportation

In the pursuit of safety, the FAA issues rules and sets standards for both aeronautical equipment and people working in the aviation field.<sup>21</sup>

<sup>21</sup> Federal Aviation Administration, <https://www.faa.gov>. Accessed March 2022.

#### 2.6.3.3 Kentucky Department of Aviation

The Kentucky Department of Aviation is one of the KYTC departments that provides support and service to the 59 public airports, 83 private runways, and 54 heliports within Kentucky. This department administers state and federal funding for airport maintenance and capital improvement projects.<sup>22</sup>

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<sup>22</sup> Government of Kentucky, <http://kentucky.gov/government/Pages/AgencyProfile.aspx?AgencyTitle=Aviation,+Department+of> Accessed March 2022.