**Freight System Overview**

Freight transportation infrastructure in the Birmingham region includes highways, railways and rail terminals, waterways and ports, airports, and pipelines. This network serves freight customers located throughout the region in industrial parks, within foreign trade zones, and at private facilities consisting of manufacturers, warehouses, and distribution centers. Table A.1 provides highlights of the Birmingham regional freight system. Figure A.1 illustrates the major components of the Birmingham regional freight transportation system.

**Table A.1: Overview of the Birmingham Regional Freight System**

<table>
<thead>
<tr>
<th>Component</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highways/Trucks</td>
<td>National Primary Highway Freight Network includes majority of Interstates and several key connectors (with connections to Port Birmingham, Colonial Pipeline, Earnest Norris Rail Yard, and BNSF Railway Dixie Hub Center)</td>
</tr>
<tr>
<td></td>
<td>Interstates (I-20, I-22, I-59, I-65, I-459) provide access in all directions as well as partial beltways</td>
</tr>
<tr>
<td></td>
<td>National Highway System Intermodal Connectors (providing connections to Port Birmingham, Colonial Pipeline, Birmingham International Airport, Earnest Norris Rail Yard, BNSF Railway Dixie Hub Center, and Greyhound Bus Terminal)</td>
</tr>
<tr>
<td></td>
<td>Local arterials</td>
</tr>
<tr>
<td>Railroads</td>
<td>Norfolk Southern with two facilities: Birmingham Regional Intermodal Facility (transloading containers/trailers); and Ernest G. Norris Yard (hump yard)</td>
</tr>
<tr>
<td></td>
<td>CSX Transportation with four facilities: Boyles Yard; TDSI auto distribution terminal; TRANSFLO Terminal Service Bulk Transfer Terminal; and Central Alabama Intermodal Container Transfer Facility.</td>
</tr>
<tr>
<td></td>
<td>BNSF Railway with four facilities: Birmingham Vehicle Facility (Auto); Industrial Chemicals (transloading); DC Warehouse (transloading); Trans Load Corp (transloading).</td>
</tr>
<tr>
<td></td>
<td>Alabama &amp; Tennessee River Railway</td>
</tr>
<tr>
<td></td>
<td>Alabama Warrior Railway</td>
</tr>
<tr>
<td></td>
<td>Birmingham Terminal Railway</td>
</tr>
<tr>
<td>Aviation</td>
<td>Birmingham-Shuttlesworth International Airport with 12,000 and 7,100-foot runways and dedicated cargo facility</td>
</tr>
<tr>
<td></td>
<td>Bessemer Municipal Airport with a 6,000-foot runway and small scale cargo facility</td>
</tr>
<tr>
<td>Ports/Waterways</td>
<td>Port Birmingham consisting of 184 acres with a half mile of frontage on the Black Warrior River</td>
</tr>
<tr>
<td></td>
<td>Black Warrior River which connects to the Tombigbee River, which eventually allows for the connection to both the Alabama River and the Tennessee River</td>
</tr>
</tbody>
</table>

*Source: Cambridge Systematics, Inc.*

The highway network is one of the most critical elements of the freight system as nearly every commodity is transported in a truck at some point in its lifecycle. The type of roadway and its use can have a significant impact on available funding and priority for improvements. This section details roadways designated as part of the national freight system as well as important roadways at a more local level.
HIGHWAY FREIGHT SYSTEM

NATIONAL HIGHWAY FREIGHT NETWORK

The Federal Highway Administration (FHWA) is an agency within the U.S. Department of Transportation (USDOT) that supports State and local governments in the design, construction, and maintenance of the Nation’s highway system. To ensure the consistency and continuity of this support, long term federal transportation funding is a critical element so that States and local governments can appropriately plan for anticipated funding. The most recent transportation bill, Fixing America’s Surface Transportation (FAST) Act, was the first federal law in over a decade to provide long-term funding for surface transportation. Signed into law in December 2015, the FAST Act authorizes $305 billion for transportation spending over fiscal years 2016 through 2020.

For freight planning, the FAST Act has specifically designated federal money for freight improvement projects. To focus on the elements of the network most critical for the movement of goods, the FAST Act directed FHWA to establish the National Highway Freight Network (NHFN). This network ensures the strategic use of Federal resources and policies to improve the performance of the Nation’s freight system. The NHFN is comprised of the following four subsystems that have their own designation criteria:

- Primary Highway Freight System (PHFS);
- Those portions of the Interstate System not part of the PHFS;
- Critical Rural Freight Corridors (CRFCs); and
- Critical Urban Freight Corridors (CUFCs).

PRIMARY HIGHWAY FREIGHT SYSTEM

The Primary Highway Freight System (PHFS) is a critical component of the freight transportation network. This network was established through significant amounts of stakeholder feedback from local, regional, and state entities based on a preliminary designation by FHWA. The designation completed as part of the FAST Act built on the initial network designation process undertaken as part of the MAP-21 highway only primary freight network (PFN) under 23 U.S.C. 167(d). Nationally, the system consists of 41,518 centerline miles, including 37,436 centerline miles of Interstate and 4,082 centerline miles of non-Interstate roads. The state of Alabama as a whole comprises 813.05 miles of this, including 783.78 miles of major corridors with the remainder (29.26 miles) being comprised of intermodal connectors. FHWA is charged with re-designating this system every five years to reflect changes in freight flows.

The interstates included in this designation in the Birmingham region are I-65, I-20, and I-459 between I-20/I-59 on the western side of Birmingham to I-20 on the east side. Of the eight intermodal connectors in the State, six are located within the Birmingham region. These connectors are listed in Table A.2.

Table A.2: Intermodal Connectors on the Primary Highway Freight System

<table>
<thead>
<tr>
<th>Facility ID</th>
<th>Facility Name</th>
<th>Facility Description</th>
<th>Length (miles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL11P</td>
<td>Port Birmingham – North Terminal</td>
<td>AL 269 (Port to I-20)</td>
<td>17.63</td>
</tr>
<tr>
<td>AL12P</td>
<td>Port Birmingham – Central Terminal</td>
<td>AL 269 (Port to I-20)</td>
<td>0.22</td>
</tr>
<tr>
<td>AL13P</td>
<td>Port Birmingham – South Terminal</td>
<td>AL 269 (Port to I-20)</td>
<td>0.11</td>
</tr>
<tr>
<td>AL14L</td>
<td>Colonial Pipeline</td>
<td>Facility to 28th St. to Balsam Ave. to Nabors Rd. to Ishkooda Rd. to Spaulding-Ishkooda Rd. to I-65</td>
<td>4.53</td>
</tr>
</tbody>
</table>
Figure A.1: Birmingham Regional Freight System

Regional Freight System

- Rail Yard
- Airport
- Port Birmingham
- Primary Highway Freight System
- Non-Primary Highway Freight System – Other Interstate
- Primary Highway Freight System – Intermodal Connector
- Railroads
- Navigable Waterway

Sources: NTAD, HEPGIS, ALDOT
APPENDIX A – FREIGHT PROFILE

<table>
<thead>
<tr>
<th>Facility ID</th>
<th>Facility Name</th>
<th>Facility Description</th>
<th>Length (miles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL15R</td>
<td>Ernest Norris RR Yards</td>
<td>Entrance at Norfolk Southern Dr. to Ruffner Rd. to 16th St. to US 78 to Kilgore Mem. Dr. to I-20</td>
<td>2.78</td>
</tr>
<tr>
<td>AL4R</td>
<td>Burlington Northern RR Dixie Hub Center</td>
<td>Finley Ave. to I-65 and U.S. 78 West</td>
<td>1.71</td>
</tr>
</tbody>
</table>

Source: FHWA

OTHER INTERSTATE PORTIONS NOT ON THE PHFS

As the PHFS limited the total mileage designated, not all interstates across the country were included in this subsection. However, interstates are critical to the movement of goods and services. The purpose of this subsection is to ensure that all interstate portions are included as part of the overall National Highway Freight Network (NHFN). Within Alabama, 121.69 miles of interstate are included in this subsection. In Birmingham, several sections of the interstate system fall into this category. Specifically, I-59 northeast of downtown Birmingham and I-459 between I-20 and I-59 are not included in the PHFS. Separately, I-22 is also not on the national maps showing the PHFS nor the other interstates not on the PHFS as it was not classified as an interstate at the time of the system designation. A map of the current roadways included as part of the NHFS for Alabama is shown in Figure A.2.

An important note regarding the other interstate portions not on the PHFS is that the total mileage within the state impacts funding availability for these roadways. For states whose mileage is greater than or equal to two percent of the total PHFS mileage of all states, funding may only be used on the PHFS, Critical Rural Freight Corridors, and Critical Urban Freight Corridors. Funds may not be used on those other interstates that are not included as part of the PHFS. Alabama is not a high mileage state, meaning that the State can use the funding on those other interstate portions not on the PHFS. While Alabama can use funds on these interstates at present, the State is just barely below the two percent threshold at 1.96 percent. This means that if 17.43 more miles were designated statewide, funds would not be able to be used on interstates not part of the PHFS.

CRITICAL RURAL FREIGHT CORRIDORS (CRFC)

Critical Rural Freight Corridors (CRFCs) are an important component of the NHFN because they serve as part of the first and last mile connectivity. These public roadways help to provide links between freight generators and a distribution pathway. The CRFCs must be outside the adjusted boundaries of any urbanized area, with the Census Bureau defining an urbanized area as one with a population of at least 50,000. In addition, a roadway must meet one or more of the defined seven elements for designation (see call out box on the next page).

The identification of these facilities puts an emphasis on enhancing first and last mile connectivity. A State may designate a maximum of 150 miles of highway or 20 percent of the PHFS mileage, whichever is greater. Within the State of Alabama, 162.61 miles may be designated as CRFCs. For this effort, the State is responsible for designating the public roads in accordance with section 1116 of the FAST Act.

At present, ALDOT has determined to restrict the total mileage of designated critical corridors due to the limited funding available through the NHFP. Only one corridor has been designated as a CRFC – a 6.2 mile segment of US 82 through Pickens County in western Alabama which connects Montgomery and
Figure A.2: National Highway Freight Network in Birmingham
Mississippi. Roadways in the Birmingham region may be added in the future. The designations and certifications of these routes may be provided to FHWA on a rolling basis. Routes may be removed and added at any time so long as the requirements are met and the mileage does not exceed the maximum allowable limit.

**CRITICAL URBAN FREIGHT CORRIDORS**
Similar to the CRFCs, States are also charged with designating Critical Urban Freight Corridors (CUFCs) in consultation with their MPOs. Specifically, for an urbanized area with a population greater than 500,000, MPOs are responsible for designating the CUFC. For areas with a population of less than 500,000, the State is responsible for designating the CUFC in consultation with the MPO. Regardless of the population size, a public road designated as a CUFC must be within an urbanized area and meet one or more of four defined elements (see call out box).

As with the CRFCs, States and MPOs are encouraged to consider first and last mile connections for high volume freight corridors and/or freight intensive land uses. Designation of the CUFC is limited to the maximum of 75 miles of highway or 10 percent of the PHFS mileage in the State, whichever is greater. Within the state of Alabama, 81.30 miles is eligible to be designated as part of the CUFCs.

---

**SEVEN ELEMENTS FOR CRITICAL RURAL FREIGHT CORRIDOR DESIGNATION**

1. **Must be a rural principal arterial roadway with a minimum of 25 percent of the annual average daily traffic of the road measured in passenger vehicle equivalent units from trucks (FHWA vehicle class 8 to 13);**

2. **Provides access to energy exploration, development, installation, or production areas;**

3. **Connects the PHFS or the Interstate System to facilities that handle more than:**
   - 50,000 20-foot equivalent units per year; or
   - 500,000 tons per year of bulk commodities;

4. **Provides access to:**
   - a grain elevator;
   - an agricultural facility;
   - a mining facility;
   - a forestry facility; or
   - an intermodal facility;

5. **Connects to an international port of entry;**

6. **Provides access to significant air, rail, water, or other freight facilities; or**

7. **Is determined by the State to be vital to improving the efficient movement of freight of importance to the economy of the State.**

Source: FHWA
LOCAL ROADWAY SYSTEM
Connections to the national freight system are a critical component of any region's ability to compete for freight business. However, connections within the region are as are important. In the effort to understand how truck traffic is actually utilizing the roadway system within Birmingham, truck volumes and percentages on the roadways were examined.

Based on traffic count data provided by the RPCGB for 2015, the top 10 truck volume locations within the region are found exclusively on the Interstate System. These locations are listed in Table A.3 with all available counts shown in Figure A.3. The highest volume of trucks is found on I-65 between Exit 247 and the Jefferson County Line. Overall, the expected trend for high volume truck traffic is that higher volumes are found on the Interstate System as they serve both local and long-haul truck movements. Lower volumes are found on more local roadways as drivers serve local customers.

Looking at the share of trucks as part of total traffic tells a different story. The top 10 locations, listed in Table A.4, include both interstate and non-interstate roadways. These lower tier roadways are providing direct access to freight activity centers and are reflecting high truck volumes on corridors that overall move smaller volumes of vehicles. Overall, higher truck percentages are found in the outer reaches of the region, as shown in Figure A.4. This is expected since the downtown Birmingham area has more passenger vehicle traffic due to higher residential and office density than the more rural areas.

SEVEN ELEMENTS FOR CRITICAL RURAL FREIGHT CORRIDOR DESIGNATION
1. Connects an intermodal facility to:
   - The PHFS;
   - The Interstate System; or
   - An intermodal freight facility;
2. Is located within a corridor of a route on the PHFS and provides an alternative highway option important to goods movement;
3. Serves a major freight generator, logistics center, or manufacturing and warehouse industrial land; or
4. Is important to the movement of freight within the region, as determined by the MPO or the State.

Source: FHWA.
### Table A.3: Top 10 Locations by Truck Volume on Birmingham’s Roadways (2015)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Roadway</th>
<th>Location Description</th>
<th>Station Number</th>
<th>Truck ADT</th>
<th>Truck Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I-65</td>
<td>Between Exit 247 and Jefferson County Line</td>
<td>1356</td>
<td>49,729</td>
<td>41%</td>
</tr>
<tr>
<td>2</td>
<td>I-65</td>
<td>Between Exits 264 (41st Ave) and 266 (Exit to US 31)</td>
<td>104</td>
<td>18,064</td>
<td>17%</td>
</tr>
<tr>
<td>3</td>
<td>I-65</td>
<td>Between Exits 263 (3rd Ave N) and 264 (41st Av)</td>
<td>103</td>
<td>17,744</td>
<td>16%</td>
</tr>
<tr>
<td>4</td>
<td>I-65</td>
<td>Between Exits 267 (Walker’s Chapel Rd) and 271 (Fieldstown Rd)</td>
<td>106</td>
<td>17,282</td>
<td>19%</td>
</tr>
<tr>
<td>5</td>
<td>I-59</td>
<td>Between Exits 104 (McAshan Dr) and 106 (I-459)</td>
<td>109A</td>
<td>16,895</td>
<td>26%</td>
</tr>
<tr>
<td>6</td>
<td>I-20</td>
<td>Between Exits 144B (AL 25) and Jefferson Co. Line</td>
<td>536</td>
<td>16,733</td>
<td>24%</td>
</tr>
<tr>
<td>7</td>
<td>I-20</td>
<td>Between Exits 140 (US 78) and 144B (US 411)</td>
<td>1418</td>
<td>16,733</td>
<td>24%</td>
</tr>
<tr>
<td>8</td>
<td>I-59</td>
<td>I-59/20 at the Jefferson/ Tuscaloosa County Line</td>
<td>1417</td>
<td>16,659</td>
<td>27%</td>
</tr>
<tr>
<td>9</td>
<td>I-65</td>
<td>Between Exits 262B (Finley Blvd) and 263 (3rd Ave N)</td>
<td>102</td>
<td>16,659</td>
<td>15%</td>
</tr>
<tr>
<td>10</td>
<td>I-65</td>
<td>Between Exits 247 (Valleydale Rd) and 250 (I-459)</td>
<td>94</td>
<td>15,768</td>
<td>13%</td>
</tr>
</tbody>
</table>

Source: RPCGB
Figure A.3: Truck Volumes on Birmingham’s Roadways, 2015

Daily Truck Volumes
- Less than 1000
- 1000-2500
- 2500-5000
- 5000-20000
- Greater than 20000

Sources: ALDOT
Table A.4: Top 10 Locations by Truck Share of Traffic on Birmingham’s Roadways, 2015

<table>
<thead>
<tr>
<th>Rank</th>
<th>Roadway</th>
<th>Location</th>
<th>Station Number</th>
<th>Truck Percentage</th>
<th>Truck ADT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I-65</td>
<td>Between Exit 247 and Jefferson County Line</td>
<td>1356</td>
<td>41%</td>
<td>49,729</td>
</tr>
<tr>
<td>2</td>
<td>McAshan Drive</td>
<td>I-59/20 N off ramp to McAshan Drive</td>
<td>1893</td>
<td>40%</td>
<td>1,008</td>
</tr>
<tr>
<td>3</td>
<td>McAshan Drive</td>
<td>I-59/20 S on ramp from to McAshan Drive</td>
<td>1896</td>
<td>37%</td>
<td>892</td>
</tr>
<tr>
<td>4</td>
<td>Porter Road</td>
<td>Elbow Porter Rd at Miller Electric Plant</td>
<td>25</td>
<td>34%</td>
<td>214</td>
</tr>
<tr>
<td>5</td>
<td>Hwy 78</td>
<td>US 78 W on ramp from Hwy 78 S</td>
<td>1780</td>
<td>32%</td>
<td>2,077</td>
</tr>
<tr>
<td>6</td>
<td>I-59</td>
<td>Between Exits 154 (AL 174) and 156 (AL 23)</td>
<td>802</td>
<td>27%</td>
<td>7,247</td>
</tr>
<tr>
<td>7</td>
<td>I-20</td>
<td>Between Exits 144 (AL 25) and 147 (Kelly Creek Rd)</td>
<td>535</td>
<td>27%</td>
<td>14,953</td>
</tr>
<tr>
<td>8</td>
<td>I-59</td>
<td>I-59/20 at the Jefferson/ Tuscaloosa County Line</td>
<td>1417</td>
<td>27%</td>
<td>16,659</td>
</tr>
<tr>
<td>9</td>
<td>I-59</td>
<td>Between Exits 104 (McAshan Dr) and 106 (I-459)</td>
<td>109A</td>
<td>26%</td>
<td>16,895</td>
</tr>
<tr>
<td>10</td>
<td>I-65</td>
<td>I-65 between AL Hwy 3 and Co Rd 5</td>
<td>501</td>
<td>26%</td>
<td>11,918</td>
</tr>
</tbody>
</table>

Source: RPCGB
Figure A.4: Truck Share of Traffic on Birmingham's Roadways, 2015
RAILWAY SYSTEM

The history of Alabama’s railroads dates back to 1832, when the country’s fourth incorporated railroad was built in Alabama to connect Tuscumbia with the Tennessee River. Today, Birmingham is home to three Class I major rail facilities among the largest railroads in the U.S.: BNSF, CSX Transportation (CSXT), and Norfolk Southern Corporation (NS). Three Class III short line railways operate in Birmingham: Alabama & Tennessee River Railway (ATN), Alabama Warrior Railway (ABWR), and the Birmingham Terminal Railway (BHRR). The rail corridors in Birmingham are a key part of the nation’s freight rail network. Birmingham is one of the few gateway cities where the major east and west railroads interchange with each other, making it a strategic location with quick access to markets in both the Midwest and the Northeast. Birmingham is also home to multiple major rail facilities. Table A.5 lists the miles per railway in the region. Class I railways own approximately 526 miles of Class I track and short line railways own approximately 154 miles of track in the region. NS owns the most miles of track in the region, and is closely followed by CSX. Of the Class III railways, BHRR operates the most track.

Table A.5: Railways in the Birmingham Region

<table>
<thead>
<tr>
<th>Railway</th>
<th>Miles in the Region</th>
<th>Miles in the U.S.</th>
<th>Regional Miles/National Miles</th>
<th>Share of Total Railway Miles in Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>BNSF</td>
<td>36</td>
<td>32,000</td>
<td>&lt;1%</td>
<td>5%</td>
</tr>
<tr>
<td>CSXT</td>
<td>223</td>
<td>21,000</td>
<td>1%</td>
<td>33%</td>
</tr>
<tr>
<td>NS</td>
<td>267</td>
<td>20,000</td>
<td>1%</td>
<td>40%</td>
</tr>
<tr>
<td>ABWR</td>
<td>15</td>
<td>15</td>
<td>100%</td>
<td>2%</td>
</tr>
<tr>
<td>ATN</td>
<td>30</td>
<td>122</td>
<td>25%</td>
<td>5%</td>
</tr>
<tr>
<td>BHRR</td>
<td>96</td>
<td>96</td>
<td>100%</td>
<td>14%</td>
</tr>
<tr>
<td>Total</td>
<td>667</td>
<td>73,233</td>
<td>1%</td>
<td>100%</td>
</tr>
</tbody>
</table>


Seventeen independent rail and truck transload facilities are located in Birmingham. Most of these intermodal facilities are clustered around 1st Avenue North, Finley Boulevard, I-20/59, Avenue W, and the Finley Boulevard Extension. Figure A.5 shows the locations of the rail facilities as well as the railways mentioned in Table A.5.
Figure A.5: Rail Infrastructure in Birmingham Region
CLASS I RAILROADS IN BIRMINGHAM

BNSF RAILWAY

BNSF Railway owns 36 miles in the Birmingham region, which is part of BNSF’s Heartland Division. As one of the largest railroads in the country with over 32,000 miles of track, BNSF connects Birmingham with most of the western United States. BNSF owns 5.3 percent of the tracks in the region, and connects to four of the other railroads that operate in Birmingham: CSXT, NS, ABWR and BHRR. In Jefferson and Shelby Counties, BNSF has 33 grade crossings, and 11 grade separations. Its major commodities in Alabama are coal, consumer products, industrial products, and agricultural products. Figure A.6 shows the BNSF network across the United States. BNSF’s trackage terminates in Birmingham; it continues from Birmingham to Atlanta by trackage rights with CSX.

Birmingham also is home to some of BNSF’s major facilities in Alabama, which include three transload facilities and one automotive vehicle facility. Figure A.7 shows the BNSF network within the region including its major facilities.

The Birmingham Vehicle Facility at 401 Finley Blvd in Birmingham (also known as East Thomas Yard), is a nine-acre facility, with 36 rail spots, 918 vehicle bays, and provides railroad switching and unloading seven days a week. This facility is 260 miles from Mobile, 94 miles from Montgomery, and 47 miles from Lincoln, Alabama, where the Honda plant is located. In addition to this automotive facility, BNSF has transloading available at Industrial Chemicals (1125 Roberts Industrial Park, Birmingham), DC Warehouse (3101 27th Avenue N., Birmingham), and Trans Load Corp. (3433 35th St N, Birmingham, AL). These facilities provide warehousing and rail access for various companies and commodities.

BNSF is missing a heavy haulage connection with the Port of Mobile. The Port of Mobile is a vital deep-water terminal located about 240 miles southwest of Birmingham. The port is located where the Mobile River empties into Mobile Bay.

Figure A.6: BNSF Network Map

Source: BNSF.com
Figure A.7: Map of BNSF in the Birmingham Metropolitan Area
This high-volume port handles over 50 million tons of trade per year, and it is the only deep-water port in Alabama. BNSF currently connects to the port through AGR Railroad, which is not fully upgraded to 286k. As reported in the 2013 Alabama Rail Directory, a “286,000-pound rail car access to the Port of Mobile is a key element for growing rail freight and offers the potential to site rail served facilities that connect Alabama to major US markets served by BNSF.”

**CSX TRANSPORTATION, INC.**

CSX Transportation (CSXT) owns 223 miles in the region, which is part of CSX’s Atlanta Division. As the largest railroad in the eastern US with over 21,000 miles of track, CSXT connects Birmingham with most of the U.S. East Coast, including the Port of Mobile. CSXT has direct access to the Port of Mobile and provides trackage rights for the Kansas City Southern (KCS) to access the port. CSXT owns 32.8 percent of the tracks in the region, and connects to five of the other railroads that operate in Birmingham: BNSF, NS, ABWR, ATN and BHRR. In Jefferson and Shelby Counties, CSXT has 192 grade crossings, and 35 grade separations. Its major commodities in Alabama are coal, aggregates, feed grain, packaging paper, and passenger cars. Figure A.8 shows the CSXT network in the U.S.

Birmingham also is home to several of CSXT’s major rail facilities, which include Boyles Yard, a TDSI auto distribution terminal, and a TRANSFLO Terminal Service Bulk Transfer Terminal. Just outside of Birmingham in Bessemer, CSXT also has an intermodal facility: the Central Alabama Intermodal Container Transfer Facility. Figure A.9 shows the CSXT network and rail facilities within the region.

CSXT’s Boyles Yard is a major rail hump yard. This yard also has a TRANSFLO facility, which is used to transfer liquid and dry products between transportation modes, and additional logistics services provided by Total Distribution Services Inc. (TDSI). TDSI offers vehicle-handling services through a network of automobile-distribution facilities, storage locations and facilities providing service to Eastern, Gulf and Southeastern ports. The Central Alabama Intermodal Container Transfer Facility (CAICTF) in Bessemer is about 15 miles southwest of Birmingham. CACITYF has parking spaces for 300 containers, and gives local companies access to the Atlantic Ocean Ports of Savannah and Charleston.
Figure A.8: CSXT System Map

Source: CSX 2016 Annual Report
Figure A.9: Map of CSXT in the Birmingham Metropolitan Area

Legend
- CSXT Yards
- CSXT
- BNSF
- Class III Railroads
- RPCGB

Sources: Esri, HERE, DeLorme, USGS, Intermap, Increment, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia. NGCC, © OpenStreetMap contributors, and the GIS User Community
APPENDIX A – FREIGHT PROFILE

A.20

NORFOLK SOUTHERN CORPORATION

Norfolk Southern (NS) owns 267 miles in the region, which is part of NS’s Alabama Division. With over 20,000 miles of track, NS has the most extensive intermodal network in the eastern U.S. NS connects Birmingham to every major container port in the eastern U.S., and NS has direct access to the Port of Mobile. Figure A.10 shows the NS network in the U.S.

NS owns 39.3 percent of the tracks in the region, and connects to five of the other railroads that operate in Birmingham: BNSF, CSXT, ABWR, ATN and BHRR. In Jefferson and Shelby Counties, NS has 290 grade crossings, and 96 grade separations. Its major commodities in Alabama are coal, industrial products, and auto distribution terminals and mixing centers. NS serves five principal businesses in Birmingham: the Honda plant in Lincoln, Alabama; Martin Marietta quarries near Alabaster, Alabama; ACIPCO in Birmingham, Alabama; and multiple Nucor locations in Birmingham, Alabama. NS also serves the Mercedes-Benz plant in Vance, Alabama; which is just outside the region.

NS’s Birmingham Regional Intermodal Facility (BRIMF) is near McCalla and the Jefferson Metropolitan logistics park. This facility allows the transloading of both containers and trailers, with a capacity for 400 trucks per day. In Alabama, there are four major sections of track with respect to tonnage, and one of them is the NS line in west central Alabama that runs from Birmingham to Mississippi. BRIMF is a critical component of NS’s multi-state Crescent Corridor initiative to establish an efficient, high-capacity intermodal freight rail route between the Gulf Coast and the Northeast. Norfolk Southern also operates the Ernest G. Norris Yard, a hump yard, in Irondale. Figure A.11 shows the NS network and rail facilities within the region.
Figure A.10: CSXT System Map

Source: NS 2016 Annual Report
Figure A.11: Map of Norfolk Southern in the Birmingham Metropolitan Area
CLASS III (SHORT LINE/SWITCHING) RAILROADS IN BIRMINGHAM

ALABAMA & TENNESSEE RIVER RAILWAY, LLC

Alabama and Tennessee River Railway (ATN) is owned by OmniTRAX, and operates 120 miles of track, and a quarter of its track is within the Birmingham region – about 30 miles. ATN operates about 4.4 percent of the railway miles in the region. In Jefferson and Shelby Counties, ATN has 34 grade crossings, and 11 grade separations. ATN connects Birmingham to the Port of Guntersville, and connects to CSXT, NS and Kansas City Southern (KCS) via trackage rights that KCS has on CSX and Alabama Southern Railroad (ABS).

ATN interchanges with CSXT at Boyles Yard in Birmingham, and its major commodities are food products, corn and soybean products, wood products, metals and scrap, industrial chemicals, and cement. ATN’s primary customers in the region are CMC Steel and Schnitzer Southeast. ATN also connects to Tyson Foods in Ivalee, Progress Rail Services in Albertille, National Cement in Ragland, and Kinder Morgan in Guntersville. Other customers include: Americold, Bakery Feeds, Cargill, and Goodyear Tire and Rubber. Figure A.12 shows the ATN railway network.

Figure A.12:  Alabama Tennessee River Railway System Map

**ALABAMA WARRIOR RAILWAY**

Alabama Warrior Railway (ABWR) is owned by Watco, and is fully located within the region and operates 15 miles of track. In Jefferson and Shelby Counties, ABWR has no grade crossings or grade separations. ABWR connects to BNSF, CSXT, and NS, and guides rail cars from industrial sites so that these three Class I railroads can export goods to other cities. BNSF connects to ABWR at the Lehigh Yard, and CSXT and NS also interchange with ABWR in its Birmingham yard. ABWR is located within the Sloss Industries facility, and primarily hauls coal and coke, but also hauls aggregates, pipe, scrap steel, and cement.

The primary customer is the Sloss Industries' coke facility, a subsidiary of Walter Industries, which turns coal into coke. The finished coke is hauled a few hundred yards away to U.S. Pipe's plant. Figure A.13 shows the ABWR system and terminals.

**Figure A.13: Map of the Alabama Warrior Railway**

**BIRMINGHAM TERMINAL RAILWAY**

Birmingham Terminal Railway (BHRR) is 96 miles long and 100 percent of the BHRR tracks are within the region. BHRR serves more than 30 customers and accesses the Port Birmingham Terminal, which is on the Black Warrior River. The railway is owned by Watco. In Jefferson and Shelby Counties, BHRR has 35 grade crossings, and zero grade separations. BHRR connects to the three Class I railroads in the region: BNSF, CSXT, and NS.

Port Birmingham Terminal is an intermodal facility operated by Watco, with trackage for Birmingham Terminal Railway at the Black Warrior River. This facility handles the trans-shipment of coal and iron ore. Figure A.14 shows the BHRR rail system and terminals.

**Figure A.14: Map of Birmingham Terminal Railway**

![Map of Birmingham Terminal Railway](http://www.watcocompanies.com/services/rail/birmingham-terminal-railway-bhrr/)

ABANDONED RAIL LINES

Since railroads started consolidating their networks into high-volume, direct service, railroads have been abandoning trackage that serve dormant or isolated customers. By 1990, more than 40,000 miles of track were sold by Class I railroads and bought by short line railroads. Sometimes, if tracks were abandoned and redeveloped, the businesses that border the tracks would lose direct rail access forever. Short lines that have bought the corridors have preserved their use. In Birmingham, there are multiple lines and portions of track that have been turned into short line railroads. The BHRR was created in 2012 when it acquired the Birmingham Southern Railway, which operated between 1899 and 2012. The ATN operates over trackage that was formerly operated by CSX Transportation. The ABWR began operating 2009 on a route that dates back to the Marylee Railroad, which was founded in 1895.

In many instances, abandoned rail lines are converted into a pedestrian and bike trails. Rails-to-Trails Conservancy (RTC) is a nonprofit organization dedicated to creating a nationwide network of trails from former rail lines. Near Birmingham, RTC has converted nine sections of track into trails.

There is also precedent of public agencies buying abandoned rail corridors to preserve the rail access in the community, such as Wisconsin Department of Transportation (WisDOT) in 2014. This was allowed because by Wisconsin state law, WisDOT has the first right to acquire, for present or future transportation, any property used in operating a railroad, once abandoned. In this example, WisDOT purchased the Madison-Reedsburg Rail line when it was abandoned by the Union Pacific railroad. WisDOT was motivated to do so because there was a short line operator running by lease serving 23 active customers. The short line did not have the capital to purchase the rail line from the Union Pacific, but once abandoned, WisDOT was able to exercise its right of first acquisition for future transportation or recreational purpose. WisDOT also converted a portion of the line converted into a trail.
AVIATION SYSTEM

Within the Birmingham region the primary commercial and general aviation facility is the Birmingham-Shuttlesworth International Airport (BHM). The Bessemer Municipal Airport (EKY) is designated as a reliever to BHM, providing primarily general aviation services.

BIRMINGHAM-SHUTTLESWORTH INTERNATIONAL AIRPORT

Located northeast of downtown Birmingham off of I-59, BHM is the largest and busiest airport in the state of Alabama by passenger volume with over 1.3 million enplaned passengers in 2016. The second highest passenger volume in the state is served by Huntsville International-Carl T. Jones Field (HSV) had just over half a million passengers enplaned in 2016. BHM has two runways measuring 12,007 feet and 7,099 feet, allowing the airport to handle all aircraft types.

While BHM ranks first by passenger movements in the state, cargo volumes are comparatively lower. Based on the 2016 all-cargo airport reports by the Federal Aviation Administration (FAA), BHM ranks 97th nationally by total landed weight. This is three spots lower than the prior year and a total improvement of eight spots since 2005. The 2016 reported landed weight of 178 million pounds is less than half of the 412 million pounds landed at HSV in that same year, which ranks first in the state and 56th nationally. HSV’s cargo volumes are largely driven by the established space industry.

Volumes have been relatively steady at BHM over the last several years with an average year seeing 23,931 tons (see Figure A.15). The majority of this cargo is general freight, representing 97 percent of all cargo in 2017. However, there has been a significant increase in mail coming through BHM. This commodity now represents 3 percent of the total tonnage due to an increase from 28 tons in 2013 to 723 in 2017. Total traffic is slightly imbalanced, with 63 percent of cargo being off loaded at BHM in 2017, while 37 percent is loaded. The increase in mail, and future opportunities for parcel and courier business will likely continue as e-commerce – the “Amazon effect” – continues to grow.

Cargo volumes for airports are difficult to significantly increase without some sort of dedicated air cargo service being introduced or a significant increase in passenger flights. Use of wide body jets also is critical for effective growth in belly cargo on passenger flights. In many airports across the country, cargo services are supported by passenger services through transportation as belly cargo. That is, spare volume in an airplane’s baggage
Hold not being used for passenger luggage is filled with cargo. The frequency of regularly scheduled passenger service therefore has a direct impact on the volume of cargo that can be served. Figure A.16 shows the 15 cities that are directly served by BHM, many with only one nonstop flight per day and/or service by only one airline. Limitations in passenger services also influence the ability of local businesses who travel elsewhere in the country for work-related trips.

In an effort to better align itself with the needs of the region as well as prepare for future demands, BHM has completed a new 20-year Airport Master Plan to assess what additional projects the airport can pursue to support future growth. Recently completed projects such as a major terminal modernization program, a runway extension, and an expanded cargo ramp leave BHM looking forward to future improvements. Initial documentation of this Master Plan was released in July 2015 with proposed developments, implementation, and finances released in April 2017. Projects are divided into short, medium, and long-term implementation timeframes, with a handful having a more significant impact on cargo movements. Examples of key freight projects include:

- **East Cargo Area** – Construct New Cargo Building and Slurry Seal – The relocation of Taxiway A will impact a portion of the west cargo apron. To counteract this, a new cargo building (either temporary or permanent) will be constructed at the east cargo apron which will allow the relocation of one of the two cargo operators. This project is anticipated to be complete in the short-term timeframe (2018 – 2023) with an estimated cost of $2.23 million, $520,000 of which will be funded locally.

- **Air Cargo Facility Expansion** – The cargo development outlook includes an incremental expansion of the east cargo apron to the south onto the former steel mill site. Cargo building facilities would be established on the east and west side of the cargo apron and extend incrementally southward with increased demand. It is expected that cargo tenants would fund the majority of the improvements to support the growth of their operations. This project is anticipated to be complete in the long-term timeframe (2027-2038) at an estimated cost of $30 million, $16.5 million of which would be the local share with the majority coming from tenant costs.

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**Figure A.15:** Birmingham-Shuttlesworth International Airport Cargo Volumes 2014-2017

Source: BHM Statistical Reports
APPENDIX A – FREIGHT PROFILE

BIRMINGHAM REGIONAL FREIGHT PLAN

Figure A.16: Passenger Services for Birmingham-Shuttlesworth International Airport

Source: BHM Statistical Reports

BESSEMER MUNICIPAL AIRPORT

The Bessemer Municipal Airport (EKY) is classified as a reliever to the Birmingham-Shuttlesworth International Airport and is located three nautical miles southeast of the central business district of Bessemer. Operated as a public-use airport, EKY is owned by the City of Bessemer and operated by the Bessemer Airport Authority. The airport encompasses 380 acres of land with one runway measuring 6,007 feet in length, which currently supports primarily general aviation movements although larger aircraft are capable of operating at this airport. EKY currently supports small scale freight operations serving the Mercedes-Vance Automotive Corridor. Future expansion by Mercedes is anticipated to drive future growth in freight traffic at the airport. EKY is located near I-459 which provides convenient access to I-65, I-20, US 31, and US 280. Local roadway connector concerns include: congestion along CR-52/Morgan Road; and delays associated with an at-grade rail crossing on Aviation Road.

Bessemer Municipal Airport Runway (Wikipedia)
WATERWAY SYSTEM

The Birmingham region is served by the Black Warrior River which connects to the Tombigbee River near Demopolis, which eventually allows for the connection to both the Alabama River and the Tennessee River. The closest six locks and dams on this waterway system are shown in Figure 2.17. These consist of John Hollis, Holt, William Bacon Oliver, Armistead I. Seldon, Demopolis, and Howell Heflin.

Traffic along the waterway has decreased in recent years. Trends between 2010 and 2016, as available from the U.S. Army Corps of Engineers, show a gradual decrease in usage as illustrated in Figure A.18. Usage peaked in 2011 with nearly 7,000 loaded and empty barges processed at the John Hollis Bankhead Lock and Dam, of which approximately 54 percent were loaded. Volumes in 2016 were roughly half of this peak with roughly the same composition of loaded and empty barges. One benefit of the reduced traffic is that tows using this waterway experience relatively little delay. Total delays at the four locks on the Black Warrior (Armistead I. Seldon, William Bacon Oliver, Holt, and John Hollis) were an average of just over 20 minutes.

Once the barges finish traversing the waterway, many are headed for Port Birmingham, located in the western portion of the region. Port Birmingham, owned by Watco Companies, is located on 184 acres with a half mile of frontage on the Black Warrior River. The port handles bulk and break bulk material that can be transported by barge, truck, or rail. Trucks can access this port by AL-269, which provides connections to I-65, I-22, I-59/20, I-459, and the anticipated future Northern Beltline. Rail service is provided by the Birmingham Terminal Railway which connects to all three Class I railroads (BNSF, CSXT, and NS).

When coal was a more significant commodity in the region, this facility processed 12 to 14 million tons of goods each year. However, today the port operates at a small fraction of this. To make use of this underutilized capacity, city and county officials are making every effort to improve this facility based on industry needs. The first step in this process was the development of the Birmingham-Jefferson County Port Authority (BJCPA) in 2016. The goal of the BJCPA is to improve Birmingham and its surrounding areas by improving transportation services in the community, creating a better environment and safer roadways in the process.

Figure A.17: Usage of the John Hollis Bankhead Lock and Dam

Source: BHM Statistical Reports
Figure A.18: Waterway System Near Birmingham

Regional Waterway System

- Navigable Waterway
- Lock and Dam
- Port

Source: Navigation Data Center
The establishment of the port authority allows Port Birmingham to position itself for federal funding dollars through grant programs such as Infrastructure for Rebuilding American (INFRA) and Better Utilizing Investment Generating Economic Recovery (BUILD), formerly known as TIGER. To date, the port has been successful at receiving funding of $675,000 from the city council and the city to help fund the operations of the port authority, pay legal fees, marketing, and more. BJCPA was also seeking funding from the latest round of TIGER funding. The proposed project consists of the construction of a transit shed facility with a total floor area of 50,000 square feet and 10,500 square feet of space reserved for a rail loading station. This project will increase the attractiveness of the port while also complementing other existing, ongoing projects such as the construction of new rail track, technology improvements, and related dredging projects adjacent to the terminals.
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