SECTION 2 - REGIONAL OVERVIEW & GEOGRAPHIC AREA

Geographically, Jefferson County, Ohio, as well as Brooke and Hancock counties, West Virginia are situated within the Appalachian Mountain region of Eastern Ohio and the West Virginia North Panhandle. The area is bisected by the Ohio River joined by four bridges, the Jennings Randolph Bridge (US-30) between East Liverpool, OH and Chester, WV, the Newell Toll Bridge that carries traffic from East Liverpool, OH to Newell, WV, the Veterans Memorial Bridge (US-22) that links the urban center of the region spanning from Steubenville, OH to Weirton, WV, and the Market Street Bridge (WV-2 Spur) that ties Market Street in Steubenville, OH to WV State Route 2 just north of Follansbee, WV. A fifth bridge the Wellsburg Bridge, is planned and funded for construction starting sometime in 2016, that will connect Brilliant, Wells Township, Jefferson County, OH to WV State Route 2 south of Wellsburg, WV.

The three-county area is characterized by steep bluffs that form a series of low terraces running north to south along the Ohio River Valley. The majority of urban population and industrial development is settled in river communities within these low-level valleys. The natural features of the interior land, east and west of the river valley create a natural environmental beauty that is primarily wooded and rugged terrain generally unsuitable for intensive urban development. Topographically, nearly 60% of the interior land area has a slope range greater than 16%, incompatible for intense residential, industrial, or commercial development. Table 1 summarizes the geographic area’s land size by acreage and percent of area by a slope range.

<table>
<thead>
<tr>
<th>Slope Range</th>
<th>0-8 Percent</th>
<th>8-16 Percent</th>
<th>16-24 Percent</th>
<th>&gt; 24 Percent</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>County</td>
<td>Acres</td>
<td>Percent</td>
<td>Acres</td>
<td>Percent</td>
<td>Acres</td>
</tr>
<tr>
<td>Brooke</td>
<td>8,210</td>
<td>14.41%</td>
<td>8,300</td>
<td>14.57%</td>
<td>20,350</td>
</tr>
<tr>
<td>Hancock</td>
<td>5,210</td>
<td>9.93%</td>
<td>8,640</td>
<td>16.46%</td>
<td>26,300</td>
</tr>
<tr>
<td>Jefferson</td>
<td>40,590</td>
<td>15.43%</td>
<td>87,100</td>
<td>33.11%</td>
<td>83,120</td>
</tr>
<tr>
<td>Total</td>
<td>54,010</td>
<td>14.50%</td>
<td>104,040</td>
<td>27.93%</td>
<td>129,770</td>
</tr>
</tbody>
</table>

Source: Guidelines for Regional Growth Part 2 Physical and Environmental Data. BHJ File Document

PROXIMITY TO MARKETS AND OTHER METROPOLITAN AREAS

Geographically, the center of the metropolitan area, Steubenville, OH and Weirton, WV, lies 40 miles west of Pittsburgh, PA, 60 miles south of Youngstown, OH, and 25 miles north of Wheeling, WV. The metropolitan area is lies 140 miles east of Ohio’s state capital, Columbus, and 180 miles northeast of West Virginia’s capital city, Charleston. Distances to these metropolitan areas and others are displayed in Figure 1.
Figure 1
BROOKE-HANCOCK-JEFFERSON GEOGRAPHIC AREA
PROXIMITY TO OTHER METROPOLITAN MARKET AREAS

PROXIMITY TO OTHER METROPOLITAN AREAS

<table>
<thead>
<tr>
<th>City</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheeling, WV</td>
<td>25 MILES</td>
</tr>
<tr>
<td>Pittsburgh, PA</td>
<td>40 MILES</td>
</tr>
<tr>
<td>Youngstown, OH</td>
<td>60 MILES</td>
</tr>
<tr>
<td>Cleveland, OH</td>
<td>100 MILES</td>
</tr>
<tr>
<td>Charleston, WV</td>
<td>180 MILES</td>
</tr>
</tbody>
</table>

Map credits: BHJ, USGS, EPA, FEMA, USGS, NGA, NASA, ODPN, NLS OD IMA, Geocatast/realtime and the Source: Farrell & Diem, & USGS, NPS.
LOCALITIES & GOVERNMENT

All three counties, Brooke, Hancock, and Jefferson, are governed by an elected board of three County Commissioners. Wellsburg is the county seat of government for Brooke County, New Cumberland for Hancock County, and Steubenville for Jefferson County. In total, there are 28 incorporated areas in the three-county area, the largest being Weirton, WV that lies in part of both Brooke and Hancock counties, and Steubenville, OH in Jefferson County. Figure 2 displays the three-county geographic area. A list of municipal governments for each county follows as:

**Brooke County:**
- Beech Bottom
- Bethany
- Follansbee
- Weirton (part)

**Hancock County:**
- Chester
- New Cumberland
- Weirton (part)

**Jefferson County:**
- Adena (part)
- Amsterdam
- Bergholz
- Bloomingdale
- Dillonvale
- Empire
- Irondale
- Mingo Junction
- Mount Pleasant
- New Alexandria
- Rayland
- Richmond
- Smithfield
- Steubenville
- Stratton
- Toronto
- Tiltonsville
- Wintersville
- Yorkville (part)

EMPLOYMENT & ECONOMY

A major challenge in assessing the region’s current state of the economy is the major downturn and shutter of the region’s steel industry and shift to an energy production economy through oil and natural gas. Although most of the drilling and fracking activity in Marcellus and Utica Shale is taking place along the fringes of the BHJ area, the majority of the freight movements for supports services in the occur in Brooke, Hancock, and Jefferson counties. These movements include storage and delivery of piping and drill casings, as well as railroad to truck transloading of sand and water necessary for the fracking process. The downturn in the steel industry presents new economic prospects through brownfield redevelopment; however, these opportunities may take up to 10 to 15 years to mature and are dependent upon many factors such as availability of funding to assess and clean these sites and willing property owners and investors to develop these sites.

Figure 3 illustrates the region’s Freight Corridors and Figure 4 the Major Employment Centers by number of employees for 2010. In 2012, the RG Steel Company ceased operations and its holdings were sold at bankruptcy auction in 2012. Shown in Figure 3 are these major steel-making employment centers located in Beech Bottom and Follansbee in Brooke County, WV and Mingo Junction and Tiltonsville in Jefferson County, OH. The locations are currently in various phases of brownfield redevelopment for use in the supply chain for production of energy resources in the Utica and Marcellus Play.
Figure 3
BHJ GEOGRAPHIC AREA MAJOR FREIGHT CORRIDORS

LEGEND
- BHJ FREIGHT NETWORK
- MUNICIPAL AREA
- URBAN AREA BOUNDARY
- CONSERVATION AREA

SOURCE:
Ohio Department of Transportation. Transportation Information Management System (TIMS) Division of Planning, Office of Technical Services. 120574 (June 2003)

DISCLAIMER:
The information within this document is intended for use by authorities and stakeholders only. Additional data sources are required for statistical analysis and planning.

BHJ-MPC
Baldwin-Heath-Jefferson Metropolitan Planning Commission

BHJ 2040 Transportation Plan – Regional Overview & Geographic Area
June 2016
Page 2-5
Figure 4
BHJ GEOGRAPHIC AREA EMPLOYMENT CENTERS IN 2010
(With Steel Manufacturing Sites Shuttered & Sold in 2012 RG Steel Bankruptcy)
Table 4, along with Figure 5; display the Top Ten Employers for each of the counties that make up the Weirton-Steubenville, WV-OH Metropolitan Area as of March 2016.

## Table 4
### TOP-TEN EMPLOYERS BY COUNTY

<table>
<thead>
<tr>
<th>BROOKE COUNTY</th>
<th>HANCOCK COUNTY</th>
<th>JEFFERSON COUNTY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weirton Medical Center</strong></td>
<td><strong>Mountaineer Park, Inc.</strong></td>
<td><strong>Trinity Health Systems</strong></td>
</tr>
<tr>
<td>Weirton, WV</td>
<td>Newell, WV</td>
<td>Steubenville, OH</td>
</tr>
<tr>
<td>General Medical and Surgical Hospitals</td>
<td>Other Gambling Industries</td>
<td>General Medical and Surgical Hospitals</td>
</tr>
<tr>
<td><strong>Mountain State Carbon, LLC</strong></td>
<td><strong>Arcelor-Mittal Weirton Inc.</strong></td>
<td><strong>Wal-Mart</strong></td>
</tr>
<tr>
<td>Follansbee, WV</td>
<td>Weirton, WV</td>
<td>Steubenville, OH</td>
</tr>
<tr>
<td>Petroleum And Coal Products Manufacturing</td>
<td>Iron and Steel Mills</td>
<td>Discount Department Stores</td>
</tr>
<tr>
<td><strong>Bethany College</strong></td>
<td><strong>Homer Laughlin China Company</strong></td>
<td><strong>Jefferson County</strong></td>
</tr>
<tr>
<td>Bethany, WV</td>
<td>Newell, WV</td>
<td>Local Government (Executive Offices)</td>
</tr>
<tr>
<td>Colleges, Universities, and Professional Schools</td>
<td>Vitreous China, Fine Earthenware, and Other Pottery Product Manufacturing</td>
<td></td>
</tr>
<tr>
<td><strong>Brooke County Board of Education</strong></td>
<td><strong>Bellofram Corporation</strong></td>
<td><strong>Titanium Metals Corporation</strong></td>
</tr>
<tr>
<td></td>
<td>Newell, WV</td>
<td>Toronto, OH</td>
</tr>
<tr>
<td></td>
<td>Elementary and Secondary Schools</td>
<td>Manufacturing Nonferrous Metal Rolling, Drawing, and Extruding</td>
</tr>
<tr>
<td><strong>Wheeling-Nisshin, Inc.</strong></td>
<td><strong>Wal-Mart Stores, Inc.</strong></td>
<td><strong>Eastern Gateway Community College</strong></td>
</tr>
<tr>
<td>Follansbee, WV</td>
<td>Weirton, WV</td>
<td>Steubenville, OH</td>
</tr>
<tr>
<td>Metal Coating, Engraving (except Jewelry and Silverware)</td>
<td>Discount Department Stores</td>
<td>Colleges, Universities, and Professional Schools</td>
</tr>
<tr>
<td><strong>Ball Metal Food Container Corp.</strong></td>
<td><strong>Weirton Geriatric Center, Inc.</strong></td>
<td><strong>Edison Local School District</strong></td>
</tr>
<tr>
<td>Weirton, WV</td>
<td>Weirton, WV</td>
<td>Steubenville, OH</td>
</tr>
<tr>
<td>Metal Can Manufacturing</td>
<td>Nursing Care Facilities (Skilled Nursing Facilities)</td>
<td>Elementary and Secondary Schools</td>
</tr>
<tr>
<td><strong>Eagle Manufacturing Company</strong></td>
<td><strong>Ergon-West Virginia</strong></td>
<td><strong>Franciscan University of Steubenville</strong></td>
</tr>
<tr>
<td>Wellsburg, WV</td>
<td>Newell, WV</td>
<td>Steubenville, OH</td>
</tr>
<tr>
<td>Metal Can Manufacturing</td>
<td>Petroleum Refineries</td>
<td>Colleges, Universities, and Professional Schools</td>
</tr>
<tr>
<td><strong>Altivity Packaging, LLC</strong></td>
<td><strong>City of Weirton</strong></td>
<td><strong>First Energy</strong></td>
</tr>
<tr>
<td>Wellsburg, WV</td>
<td>Weirton, WV</td>
<td>Stratton, OH</td>
</tr>
<tr>
<td>Uncoated Paper and Multiwall Bag Manufacturing</td>
<td>Local Government (Executive Offices)</td>
<td>Electric Power Generation</td>
</tr>
<tr>
<td><strong>Eldercare Resources Corp.</strong></td>
<td><strong>Hancock County Board of Education</strong></td>
<td><strong>American Electric Power</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wells Twp., OH</td>
</tr>
<tr>
<td></td>
<td>Elementary and Secondary Schools</td>
<td>Electric Power Generation</td>
</tr>
<tr>
<td><strong>Ball Aerosol and Specialty Containers</strong></td>
<td><strong>The Kroger Company</strong></td>
<td>Weirton, WV</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Supermarkets and other grocery (except convenience stores)</td>
</tr>
<tr>
<td></td>
<td>Weirton, WV</td>
<td></td>
</tr>
</tbody>
</table>

*Source: West Virginia Community Profiles; [http://www.wcommerce.org/business/siteselector/communityprofiles/county](http://www.wcommerce.org/business/siteselector/communityprofiles/county)*

Figure 5
BHJ GEOGRAPHIC AREA TOP TEN EMPLOYMENT CENTERS IN 2016 BY NUMBER OF EMPLOYEES

BHJ EMPLOYMENT CENTERS 2010
(Number of Employees)
- 10
- 50
- 100
- 500
- 1,000

BHJ FREIGHT NETWORK
MUNICIPAL AREA
CONSERVATION AREA
RIVER & LAKES

LOCATION OF RG STEEL HOLDINGS IN STEUBENVILLE, OH SOLD IN 2012
LOCATION OF RG STEEL HOLDINGS IN FOLLANSBEE, WV SOLD IN 2012
LOCATION OF RG STEEL HOLDINGS IN MINGO JUNCTION CEASED OPERATIONS & SOLD IN 2012
LOCATION OF RG STEEL HOLDINGS IN BEECH BOTTOM, WV SOLD IN 2012
LOCATION OF RG STEEL HOLDINGS IN TUNYSVILLE & YORKVILLE, OH CEASED OPERATIONS & SOLD IN 2012

BHJ-MPC
Bakken Hancock Jefferson Metropolitan Planning Commission

WMF, USGS, EPA, Esri, USGS, NGA, NASA, CGIAR-C
Robinson, NCEAS, NLEOF, NMA, Geodatast, ielsen and the GIS User Community
Sources: 

BHJ 2040 Transportation Plan – Regional Overview & Geographic Area
June 2016
Figure 6 exhibits the extent of the Utica and Marcellus Shale formation. The Utica play is a shale rock formation that is speculated by investors, companies, and geologists alike to be the location for the next big boom in American oil and natural gas reservoirs. Located a few thousand feet below the Marcellus shale play, the Utica actually extends much farther geographically, covering a great deal of Pennsylvania, New York, West Virginia and Ohio. Offering natural gas, the Utica is thought to be rich in liquids—especially attractive in this pricing environment. If the prospects of the Utica prove to be as lucrative, the impact on jobs, economic growth, government revenues, and energy security is tremendous. Projections estimate there could be 6,000 to 8,000 jobs created in the eastern Ohio region alone. Figure 7 shows the extent of capital projects completed or underway in 2014.

**Figure 6**
EXTENT OF UTICA AND MARCELLUS SHALE FORMATION

![Map of Utica and Marcellus Shale Formation](source: Energy Information Administration; www.oilindependents.org)

**Figure 7**
MAJOR CAPITAL PROJECTS IN THE UTICA AND MARCELLUS SHALE FORMATION

![Map of Major Capital Projects](source: www.rbnenergy.com)
BHJ FREIGHT GENERATORS SERVING THE UTICA & MARCELLUS SHALE FORMATION

Below is a brief explanation of some of the sites that are major freight generators in Brooke County, WV and Jefferson County, OH that support the shale gas industry. These and other sites are shown in Figure 7 that follows.

Hi-Crush, Inc.; Norfolk Southern Railyard Mingo Jct., OH

Hi-Crush operates 14 destination rail-based terminal locations throughout the Marcellus and Utica shales and the Permian basin from sand production facilities in Wisconsin by way of Class I railroads. The Mingo Junction facility is capable of shipping and receiving two unit trains per week with an on-site silo capacity to 80 million pounds of sand, more than any other Hi-Crush distribution terminal and any other terminal in the Northeast. The facility can unload an entire 100 car unit train there in just 16 hours making it the highest velocity terminal east of the Mississippi River. From Mingo Junction, Hi-Crush can serve a 75-mile radius area, the majority of the Central, Northern liquids oriented Utica basin area. The Hi-Crush Mingo Junction facility is capable of handling 2 million tons each on an annual basis making it one of the largest sand terminals in North America.

River Rail Development, Steubenville, OH

River Rail Development is redeveloping the former Wheeling-Pittsburgh Steel site in the south end of Steubenville into an industrial support metal recycling and the needs of shale gas operations in eastern Ohio, western Pennsylvania, and the north panhandle of West Virginia. To date, the site owners have received assistance from the Clean Ohio Assistance Fund to remediate the former steel site and the Ohio Rail Commission to expand rail service.

Trimodal Terminal; Follansbee, WV

Trimodal Terminal, LP, in Follansbee, W. Va., is an 80-acre brownfield site located on the Ohio River approximately with river, rail and highway access. The owners of the terminal have received a $2.6 million loan from the Power of 32 Site Development Fund to assist in preparing the sites for construction and resurrect the brownfields. The new funding is being used for rail line expansion and renovation, utility infrastructure (gas and water) and clearing, grading and creating additional shovel-ready pads within the site. The current tenants are a chemical transloading facility and a pipeline storage site for major capital pipeline projects.

Apex Oil-Weirton Terminal; Weirton WV

The Weirton terminal stores crude oil from the Marcellus shale fields. The terminal currently operates five tanks ranging in size from 55,000 to 225,000 barrels, with a total available storage capacity of 680,000 barrels. The terminal has a nine truck off-loading stations. The crude oil is delivered by truck and is transported from the terminal by rail or barge.
Figure 8
BHJ GEOGRAPHIC AREA
MAJOR FREIGHT CENTERS SERVING THE UTICA AND MARCELLUS SHALE PLAY

LEGEND

BHJ FREIGHT NETWORK
MUNICIPAL AREA
CONSERVATION AREA
RIVER & LAKES

NOTE: This data is from a regional scale. Please refer to the regional scale for more detailed information.

RIVER RAIL DEVELOPMENT, STEUBENVILLE
OIL & GAS INFRASTRUCTURE STORAGE AND TRANSLoad SERVICES WITH ACCESS TO RAIL, RIVER, AND HIGHWAY

NORFOLK SOUTHERN RAIL HARD IN MARSH, IN.
MI-CRUSH, INC. TRANSLoad DISTRIBUTION OF FRAC SAND WITH CAPACITY AT 80 MILLIONS POUNDS.

APEX OIL WEIRTON 680,000 BARREL CAPACITY CRUDE OIL STORAGE FROM MARCELLUS SHALE
FIELDS DELIVERED BY TRUCK OFF LOADED TO BARGE

TRI MODAL TERMINAL SULPSER, WV
PIPELINE STORAGE & CHEMICAL TRANSLADING WITH RIVER, RAIL AND HIGHWAY ACCESS

BEECH BOTTOM BROOKS INDUSTRIAL PARK
OIL & GAS RELATED INFRASTRUCTURE SERVICES

YOUNK EVILLE ENERGY SERVICES, EMARK, INC.
OIL & GAS INFRASTRUCTURE SERVICES WITH RAIL, BARGE, AND TRuck ACCESS

WWF, USGS, EPA, EDU, USGS, NGA, NASA, CGIAR_N
Robinson NCEAS/LSIS/NMA Geodatas/inien and the GIS User Community
Sources: Esri, Delorme, USGS, NPS