

# The Local and Regional Economic Impacts of the Ports of Indiana



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**August 28, 2020**

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## EXECUTIVE SUMMARY

Martin Associates was retained by the Ports of Indiana to measure the local, regional and state economic impacts generated by maritime and industrial activity at the Ports of Indiana-Burns Harbor, Ports of Indiana-Jeffersonville and Ports of Indiana-Mount Vernon. Economic impacts generated at the cargo terminals and industrial facilities include the impacts generated by waterborne commodities moving over the Port docks. Companies included in the economic impact analysis operate facilities at Indiana's ports and have a significant connection with port businesses, facilities or harbor operations. For the purpose of this study, "port companies" are defined as those companies which have one of the following business connections to Indiana's three ports:

- They lease property from the Ports of Indiana;
- They own real property and operate a facility within the general footprints of the ports, or federal harbor, or use the Burns International Waterway to access their docks;
- They lease and operate a facility on property owned by another company within the general footprints of the ports or federal harbor;
- They operate a facility on subleased property from a company that leases from the Ports of Indiana; or
- They occupy port-owned facilities under an operating agreement with the ports.

This study focuses on impacts generated in the 2019 Calendar Year. In addition to the baseline impact estimates, computer models specific to each terminal operation have been prepared that can be used in evaluating the sensitivity of impacts to changes in tonnage, labor productivity, labor work rules, commodity mix, inland origins/destinations of commodities and vessel size.

In 2019, the Ports of Indiana facilities - Burns Harbor, Jeffersonville and Mount Vernon - handled nearly 16.4 million tons of waterborne cargo including key commodities such as coal, iron ore, steel products, grain, soybean products, ethanol, DDG, fertilizer, dry bulks, and minerals. The economic impacts generated by the Ports of Indiana facilities are presented in terms of jobs, income, business revenue, economic output and state & local taxes and are summarized in Exhibit E-1.

Exhibit E-1 - Local and Regional Economic Impacts Generated by Ports of Indiana, 2019\*

	BURNS HARBOR	JEFFERSONVILLE	MOUNT VERNON	TOTAL
<b>JOBS</b>				
DIRECT	6,454	2,289	1,587	10,331
INDUCED	7,013	1,933	1,204	10,150
INDIRECT	9,977	2,192	779	12,948
RELATED JOBS	<u>7,526</u>	<u>5,722</u>	<u>4,602</u>	<u>17,850</u>
<b>TOTAL JOBS</b>	<b>30,970</b>	<b>12,137</b>	<b>8,172</b>	<b>51,279</b>
<b>PERSONAL INCOME</b>				
DIRECT	\$400,327,268	\$103,003,315	\$61,791,343	\$565,121,925
INDUCED/RESPENDING	\$866,027,978	\$222,827,070	\$133,673,212	\$1,222,528,261
INDIRECT	\$506,149,094	\$96,626,069	\$38,574,712	\$641,349,875
RELATED INCOME	<u>\$345,514,459</u>	<u>\$202,429,523</u>	<u>\$136,112,646</u>	<u>\$684,056,628</u>
<b>TOTAL PERSONAL INCOME</b>	<b>\$2,118,018,799</b>	<b>\$624,885,977</b>	<b>\$370,151,914</b>	<b>\$3,113,056,690</b>
<b>VALUE OF ECONOMIC ACTIVITY</b>				
BUSINESS SERVICES REVENUE	\$350,827,214	\$123,606,117	\$221,599,996	\$696,033,327
TENANT/DEPENDENT SHIPPER REVENUE	<u>\$3,105,639,000</u>	<u>\$522,376,146</u>	<u>\$99,602,834</u>	<u>\$3,727,617,980</u>
DEPENDENT REVENUE SUBTOTAL	<u>\$3,456,466,214</u>	<u>\$645,982,263</u>	<u>\$321,202,830</u>	<u>\$4,423,651,307</u>
RELATED OUTPUT	<u>\$1,755,058,126</u>	<u>\$1,203,496,313</u>	<u>\$836,428,548</u>	<u>\$3,794,982,987</u>
<b>TOTAL VALUE OF ECONOMIC ACTIVITY</b>	<b>\$5,211,524,341</b>	<b>\$1,849,478,576</b>	<b>\$1,157,631,377</b>	<b>\$8,218,634,294</b>
<b>LOCAL PURCHASES</b>	<b>\$944,074,245</b>	<b>\$292,924,699</b>	<b>\$64,339,949</b>	<b>\$1,301,338,893</b>
<b>STATE &amp; LOCAL TAXES</b>				
DIRECT, INDUCED AND INDIRECT	\$369,781,276	\$77,463,551	\$40,714,379	\$487,959,206
RELATED TAXES	<u>\$32,823,874</u>	<u>\$19,230,805</u>	<u>\$12,930,701</u>	<u>\$64,985,380</u>
<b>TOTAL STATE AND LOCAL TAXES</b>	<b>\$402,605,149</b>	<b>\$96,694,356</b>	<b>\$53,645,081</b>	<b>\$552,944,586</b>

\* Totals may be rounded.

The vessel, barge and cargo activity at the Ports of Indiana facilities generated the following estimated impacts in the regional and state economy in 2019:

- **51,275 direct, induced, indirect, and related jobs** are in some way related to the cargo and industrial activity at the Ports of Indiana facilities. **It must be emphasized that only the 33,429 direct, induced, and indirect jobs are generated by the Ports of Indiana maritime and industrial activity.** The 17,850 related jobs are users of the Ports of Indiana's marine terminals and are related to the terminal activity in 2019, and represent the sphere of influence of the Port's activity.
  - Of the 51,275 jobs, **10,331 direct jobs** are generated directly by the vessel and barge activity the three ports.
  - As the result of local and regional purchases by those 10,331 individuals holding the direct jobs, an additional **10,150 induced jobs** are supported in the regional economy.

- **12,948 indirect jobs** are supported by \$1.3 billion of local purchases and capital expenses by businesses supplying services at the terminals and by businesses dependent upon Ports of Indiana facilities for the shipment and receipt of cargo.
- The inbound and outbound cargo moving via Ports of Indiana facilities supports **17,850 related user jobs** with the state's manufacturing, farming, wholesale and distribution industries, and the in-state industries supporting the processing, movement and distribution of all commodities, specifically ore, steel, grain and fertilizer using the port terminals for shipment and receipt of cargo. These are users of the marine terminals in Burns Harbor, Mount Vernon and Jeffersonville and are related to the terminal activity in 2019, and represent the sphere of influence of the Port's activity.
- **\$565.1 million of direct wages and salaries** were received by those 10,331 directly employed, representing an average salary of \$54,700. As the result of re-spending this income, an additional \$1.2 billion of income and consumption expenditures were created. The 12,948 indirect job holders received \$641.3 million of indirect wages and salaries. In total, about **\$2.4 billion of direct, induced and indirect personal wages and salaries** were generated by vessel and cargo activity at the Ports of Indiana's public terminals. In addition, the 17,850 related user job holders received **\$684.1 million in personal income**.
- In 2019, businesses providing services to the cargo terminals as well as the industrial port companies received **\$696 million of revenue**. Revenue from **port companies and on-site dependent shippers and consignees totaled \$3.7 billion**. In addition, the cargo activity at the Ports created an additional **\$3.8 billion of related economic output** in Indiana, the majority of which is created by the movement of steel, grain, ethanol, DDG, fertilizer and dry bulks, and the in-state industries supporting these industries.
- **\$488 million of state and local taxes** were generated by activity at the cargo industry and port companies. Related users generated another \$65 million of state and local taxes in the state.

***Other key findings include:***

- The average salary of a direct jobholder is \$54,700. By comparison, based on data supplied by the Bureau of Labor Statistics (BLS), the annual mean wage for all occupations in Indiana was \$46,770 in 2019.
- 6,300 of the 10,331 direct jobs are accounted for by port companies and dependent shippers.
- About 90% of the Direct jobs are held by Indiana residents.
- Iron and steel products account for 55% of the direct job activity, demonstrating the Ports of Indiana's presence in the steel manufacturing and related industries.

## I. INTRODUCTION

Martin Associates was retained by the Ports of Indiana to measure the local, regional and state economic impacts generated by maritime and industrial activity at the Ports of Indiana-Burns Harbor, Ports of Indiana-Jeffersonville and Ports of Indiana-Mount Vernon. Economic impacts generated at the cargo and industrial facilities include the impacts generated by steel products, iron ore, cement, coal/coke, fertilizer, grain/soybean products, ethanol, DDGs, limestone, project/oversized cargo as well as other miscellaneous dry and liquid bulk cargoes. Companies included in the economic impact analysis operate facilities at Indiana's ports and have a significant connection with port businesses, facilities or harbor operations. For the purpose of this study, "port companies" are defined as those companies which have one of the following business connections to Indiana's three ports:

- They lease property from the Ports of Indiana;
- They own real property and operate a facility within the general footprints of the ports, or federal harbor, or use the Burns International Waterway to access their docks;
- They lease and operate a facility on property owned by another company within the general footprints of the ports or federal harbor;
- They operate a facility on subleased property from a company that leases from the Ports of Indiana; or
- They occupy port-owned facilities under an operating agreement with the ports.

The analysis did not include non-operating tenants and certain other companies which have contractual business agreements with the Ports of Indiana but do not have a significant connection with port businesses, facilities or harbor operations.

The study employs a methodology and definitions that have been used by Martin Associates to measure the economic impacts of port activity at more than 300 ports in the United States and Canada, and at the leading airports in the United States. It is to be emphasized that only measurable impacts are included in this study. In order to ensure defensibility, Martin Associates' approach to economic impact analysis is based on data developed through an extensive interview and telephone survey program of the port companies and the firms providing cargo and logistics services at the Ports of Indiana. Specific re-sponding models have been developed for the Indiana area to reflect the unique economic and consumer profiles of the regional economy. To further underscore the defensibility of the study, standardized impact models, such as the MARAD Port Kit are not used. Instead, the resulting impacts reflect the uniqueness of the individual port operations, as well as the surrounding regional economy.

## 1. IMPACT DEFINITIONS

The impacts are measured separately for the ports' cargo activity and industrial activity.

The impacts are measured in terms of:

- Jobs (direct, induced, indirect and related users);
- Personal income;
- Business revenue; and
- State and local taxes.

Each impact measurement is described below:

### ➤ **Direct, Induced and Indirect jobs**

***Direct jobs*** are those that would not exist if activity at the ports' cargo and industrial facilities were to cease. Direct jobs created by maritime cargo activity at the port's terminals are those jobs with the firms directly providing cargo handling and vessel services, including trucking companies, terminal operators and stevedores, port companies, members of the International Longshoremen's Association (ILA), International Union of Operating Engineers, International Brotherhood of Teamsters and United Steelworkers, vessel agents, pilots and tug assist companies.

***Induced jobs*** are jobs created in Indiana by the purchases of goods and services by those *individuals* directly employed by each of the port's lines of business. These jobs are based on the local purchase patterns of each port's area residents. The induced jobs are jobs with grocery stores, restaurants, health care providers, retail stores, local housing/construction industry, and transportation services, as well as with wholesalers providing the goods to the retailers.

***Indirect jobs*** are created throughout the area as the result of purchases for goods and services by the *firms* directly impacted by Ports of Indiana activity, including the port companies, terminal operators and the firms providing services to cargo – which includes steel, general cargo, dry bulks and liquid bulks. The indirect jobs are measured based on actual local purchase patterns of the directly dependent firms, and occur with such industries as utilities, office supplies, contract service providers, maintenance and repair, and construction.

***Related User jobs*** are jobs with shippers and consignees (exporters and importers) including the state's manufacturing, farming, retail, wholesale, distribution industries, and the in-state industries supporting the movement and distribution of cargo imports and exports using the port terminals for shipment and receipt of cargo. While these impacts occur for all commodities, the majority of Ports of Indiana shippers and consignees impacts involve the shipment of steel, iron ore, coal, grain, soybean products, ethanol, DDGs, fertilizers, salt,



limestone and miscellaneous dry and liquid bulk commodities. A large number of dependent steel users are already accounted for in the port companies/dependent user category due to the fact that the Ports of Indiana's Burns Harbor and Jeffersonville facilities maintain a large steel manufacturing and processing presence. ***Related jobs are not dependent upon the port marine terminals to the same extent as are the direct, induced and indirect jobs since it is the demand for the final products, which creates the demand for the employment with these shippers/consignees, not the use of a particular port or maritime terminal, and therefore these firms can, and do use other ports.*** For example, when hurricane devastation renders a port's container and breakbulk terminals inoperable, essentially suspending operations at the port, the direct, induced and indirect jobholders are immediately affected with similar consequence. However, the jobs held with related users such as manufacturing as well as wholesale and retail distribution throughout the unaffected areas of state will continue to operate. These firms are required to find alternative ports to ship and receive cargo in order to maintain given levels of operation. Therefore, viable port operations are essential to long-term retention of import and export related jobs throughout the state.

- **Personal income impact** consists of wages and salaries received by those directly employed by port activity, and includes a respending impact which measures the personal consumption activity in Indiana of those directly employed as the result of Ports of Indiana cargo and industrial activity. Indirect personal income measures the wages and salaries received by those indirectly employed.
- **Business revenue** consists of total business receipts by firms providing services in support of the cargo activity. **Local purchases for goods and services** made by the directly impacted firms are also measured. These local purchases by the dependent firms create the indirect impacts. Revenues from port companies and dependent shippers and consignees are included.
- **State and local taxes** include taxes paid by individuals as well as firms dependent upon Ports of Indiana cargo and industrial port company activity.

## 2. METHODOLOGY

The impacts of Ports of Indiana presented in this report were estimated based on telephone interviews and updated data of 102 firms in the respective port facility regions – Burns Harbor, Jeffersonville and Mount Vernon. This represents the universe of the cargo and industrial port company related businesses (with the exception of outside trucking firms) in the port regions, as defined in the Ports of Indiana directories for each port facility. It is to be emphasized that a 95+% response rate was achieved from these firms located in the port directory listings. The direct impacts are measured at the firm level of detail, and aggregated to develop the impacts for each of the ports' lines of business. Firms surveyed provided Martin Associates with detailed employment levels (both full time and part time), annual payroll, local purchases and the residence by county of the employees. Data

collected from the Ports of Indiana to estimate the 2019 impacts include: Ports of Indiana employment, vessel and barge tonnage, vessel and barge calls, and port revenues and expenditures.

The induced impacts are based on the regional current expenditure profile of residents for Indiana, as estimated by the U.S. Bureau of Labor Statistics, "Consumer Expenditure Survey." This survey indicates the distribution of consumer expenditures over key consumption categories for Indiana residents. The consumption categories are:

- Food at Home;
- Food at Restaurants;
- Housing;
- Home Furnishings;
- Apparel;
- Transportation equipment and Services;
- Entertainment; and
- Health Care.

The estimated consumption expenditure generated as a result of the respending impact is distributed across these consumption categories. Associated with each consumption category is the relevant retail and wholesale industry. Jobs to sales ratios in each industry are then computed for Indiana, and induced jobs are estimated for the relevant consumption categories. It is to be emphasized that induced jobs are only estimated at the retail and wholesale level, since these jobs are most likely generated in each port area. Further levels of induced jobs are not estimated since it is not possible to defensibly identify geographically where the subsequent rounds of purchasing occur.

The "Consumer Expenditure Survey" does not include information to estimate the job impact with supporting business services, legal, social services, state and local governments, and educational services. To estimate this induced impact, a ratio of State of Indiana employment in these key service industries to total State of Indiana employment is developed. This ratio is then used with the direct and induced consumption jobs to estimate induced jobs with business/financial services, legal, educational, governmental and other social services.

The indirect impacts are estimated based on the local purchases by the directly dependent firms, combined with indirect job, income and revenue coefficients for the supplying industries in the State of Indiana as developed for Martin Associates by the U.S. Bureau of Economic Analysis, Regional Input/Output Modeling System (RIMS II).

### 3. ECONOMIC IMPACT MODELS

The impacts are measured for 2019, and computer models for cargo and industrial operations have been developed to test the sensitivity of the impacts to changes in economic conditions and facility utilization. It is to be emphasized that this study is designed to provide a framework which Ports of Indiana can use in formulating and guiding the future development of port facilities.

The cargo impact model is designed to test the sensitivity of impacts to changes in such factors as maritime tonnage levels, port productivity and work rules, new port facilities development, inland distribution patterns of cargo, number of vessel/barge calls and the introduction of new carrier service. The cargo impact model can also be used to assess the impact of developing a parcel of land as a maritime terminal versus other non-cargo land uses. Finally, the maritime cargo impact model can be used to assess the economic benefits of increased maritime activity due to infrastructure development and the opportunity cost of not undertaking specific maritime investments such as dredging, new terminal development, or warehouse development.

## 4. SUMMARY OF RESULTS

Exhibit I-1 provides a breakdown by port for the economic impact analysis of the Ports of Indiana facilities.

Exhibit I-1 Economic Impact of Ports of Indiana Cargo and Industrial Activity 2019\*

	BURNS HARBOR	JEFFERSONVILLE	MOUNT VERNON	TOTAL
<b>JOBS</b>				
DIRECT	6,454	2,289	1,587	10,331
INDUCED	7,013	1,933	1,204	10,150
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<b>TOTAL STATE AND LOCAL TAXES</b>	<b>\$402,605,149</b>	<b>\$96,694,356</b>	<b>\$53,645,081</b>	<b>\$552,944,586</b>

\*Totals may be rounded.

In 2019, there were 51,279 jobs that were in some way related to the Ports of Indiana facilities. Of the 51,279 jobs 33,429 jobs were supported by port activity. 10,331 jobs are directly created by port activities, while another 10,150 induced jobs are generated in the state as a result of local purchases made by those directly employed by port company activity. There are 12,948 indirect jobs supported in Indiana as the result of nearly \$1.3 billion of local purchases. In addition, there are 17,850 related jobs throughout the state of Indiana due to the waterborne cargo moving via the Ports of Indiana facilities. The majority of these jobs are associated with the processing and movement of steel products, ore, fertilizer, grain and dry bulk cargoes at the individual ports.

The 10,331 direct jobs received \$565.1 million of income as wages and salaries, for average earnings of \$54,700 per direct employee. As a result of local purchases with this \$565.1 million of direct wages and salaries, an additional \$1.2 billion of income and local consumption expenditures were

created throughout the state. It is this re-spending impact that supported the 10,150 induced jobs.<sup>1</sup> The indirect jobs holders received \$641.3 million in personal income. In total, approximately \$2.4 billion of personal income was created as the result of these port operations. In addition, related user jobs in the state received another \$684.1 million of personal income.

Local businesses involved with cargo and vessel movements received \$696 million of revenue as a result of port activity, while the port companies and dependent shippers generated nearly \$3.7 billion of revenue from processing and manufacturing activities at the port facilities. In addition, \$3.8 billion of output was supported throughout the state by related users using port facilities for shipment and receipt of cargo.

As a result of the cargo and industrial activity at Ports of Indiana facilities, \$488 million of state and local tax revenue was generated by direct, induced and indirect jobholders, while another \$65 million was attributed to related users throughout the state.

The balance of the report describes the impacts created by cargo and industrial activity at Ports of Indiana facilities in Burns Harbor, Jeffersonville and Mount Vernon.

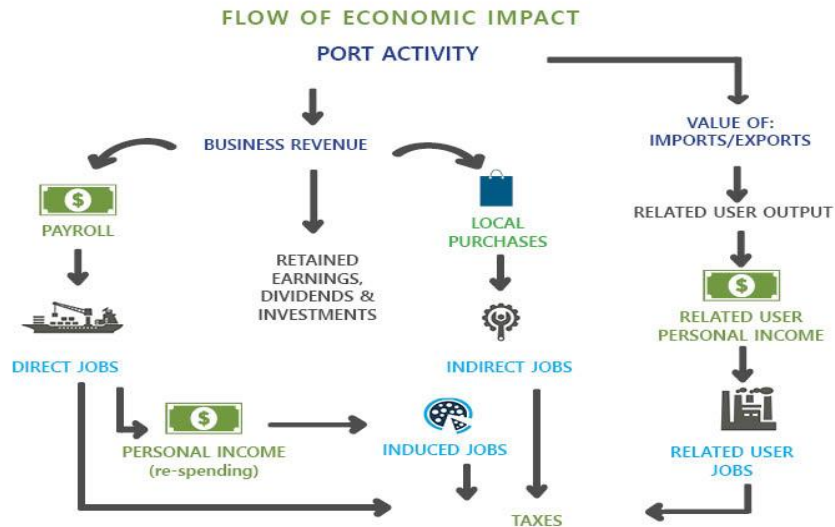
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<sup>1</sup>The induced income impact also includes local consumption expenditures and should not be divided by induced jobs to estimate the average salary per induced job. This re-spending throughout the region is estimated using a regional personal earnings multiplier, which reflects the percentage of purchases by individuals that are made within Indiana. Hence, the average salary would be overestimated.

## II. ECONOMIC IMPACTS OF CARGO AND INDUSTRIAL ACTIVITY

Waterborne cargo activity at a port contributes to the local and regional economy by generating business revenue to local and national firms providing vessel and cargo handling services at the port terminals. These firms, in turn, provide employment and income to individuals, and pay taxes to state and local governments. Exhibit II-1 shows how activity at port terminals generates impacts throughout the local, state and national economies. As this exhibit indicates, the impact of a port on a local, state or national economy cannot be reduced to a single number, but instead, the port activity creates several impacts. These are the revenue impact, employment impact, personal income impact, and tax impact. These impacts are non-additive. For example, the income impact is a part of the revenue impact, and adding these impacts together would result in double counting. Exhibit II-1 shows graphically how activity at Ports of Indiana’s maritime terminals generates the four impacts.

Exhibit II-1 Flow of Economic Impacts Generated by Maritime Activity



At the outset, activity at the port generates business revenue for firms which provide services. This business revenue impact is dispersed throughout the economy in several ways. It is used to hire people to provide the services, to purchase goods and services, and to make federal, state and local tax payments. The remainder is used to pay stock-holders, retire debt, make investments, or is held as retained earnings. It is to be emphasized that the only portions of the revenue impact that can be definitely identified as remaining in the local/regional economy are those portions paid out in salaries to local employees, for local purchases by individuals and businesses directly dependent on the port, in contributions to state and local taxes, in lease payments to Ports of Indiana by port companies, and wharfage and dockage fees paid to the port.

The employment impact of port activity consists of four levels of job impacts:

- ***Direct employment impact*** -- jobs directly generated by port activity. Direct jobs generated by cargo include jobs with railroads and trucking companies moving cargo between inland origins and destinations and the port terminals, longshoremen and dockworkers, steamship agents, freight forwarders, stevedores, etc. It is to be emphasized that these are classified as directly generated in the sense that these jobs would experience near term dislocation if the activity at Ports of Indiana maritime terminals were to be discontinued.
- ***Induced employment impact*** -- jobs created throughout the local economy because individuals directly employed due to port activity spend their wages locally on goods and services such as food, housing and clothing. These jobs are held by residents located throughout the region, since they are estimated based on local and regional purchases.
- ***Indirect Jobs*** -- are jobs created locally due to purchases of goods and services by firms, not individuals. These jobs are estimated directly from local purchases data supplied to Martin Associates by the companies interviewed as part of this study, and include jobs with local office supply firms, maintenance and repair firms, parts and equipment suppliers, etc.
- ***Related shipper/consignee (related user) jobs*** -- jobs with shippers and consignees (exporters and importers) supported in the state's manufacturing, agriculture, construction, energy, retail and wholesale distribution industries, and the in-state industries supporting the movement and distribution of all commodities, primarily steel, iron ore, coal, grain, soybean products, ethanol, DDGs, fertilizer, limestone and salt using the port terminals. ***Related jobs are not dependent upon the port marine terminals to the same extent as are the direct, induced and indirect jobs. It is the demand for the final products, which creates the demand for the employment with these shippers/consignees, not the use of a particular port or maritime terminal, and therefore these firms can and do use other ports.***

The personal earnings impact is the measure of employee wages and salaries (excluding benefits) received by individuals directly employed due to port activity. Re-spending of these earnings throughout the regional economy for purchases of goods and services is also estimated. This, in turn, generates additional jobs -- the induced employment impact. This re-spending throughout the region is estimated using a regional personal earnings multiplier, which reflects the percentage of purchases by individuals that are made within each port facility area. The re-spending effect varies by region -- a larger re-spending effect occurs in regions that produce a relatively large proportion of the goods and services consumed by residents, while lower re-spending effects are associated with regions that import a relatively large share of consumer goods and services (since personal earnings "leak out" of the region for these out-of-region purchases). The direct earnings are a measure of the local impact since they are received by those directly employed by port activity.

Tax impacts are payments to the state and local governments by firms and by individuals whose

jobs are directly dependent upon and supported (induced jobs) by activity at the port terminals.

## 1. IMPACT STRUCTURE

Economic impacts are created throughout various business sectors of the state and local economies. Specifically, four distinct economic sectors are impacted as a result of activity at the port terminals. These are the:

- Surface Transportation Sector;
- Maritime Services Sector;
- Port Companies and Dependent Shippers/Consignees Sector; and
- Ports of Indiana (Central Office/Administration).

Within each sector, various participants are involved. Separate impacts are estimated for each of the participants. A discussion of each of the economic impact sectors is provided below, including a description of the major participants in each sector.

### 1.1. The Surface Transportation Sector

The surface transportation sector consists of both the railroad and trucking industries. The trucking firms and railroads are responsible for moving the various cargoes between the port terminals and the inland origins and destinations.

### 1.2. The Maritime Services Sector

This sector consists of numerous firms and participants performing functions related to the following maritime services:

- Maritime Cargo Transportation;
- Vessel Operations;
- Cargo Handling; and
- Federal, State and Local Government Agencies.

A brief description of the major participants in each of these four categories is provided below:

- Maritime Cargo Transportation

Participants in this category are involved in providing and arranging for inland and water transportation for inbound and outbound freight. For example, freight forwarder/customshouse broker arranges for the freight to be delivered between the terminals and inland destinations, as well as the freight transportation, while the line



haul barge operator provides the transportation on the river system to the port facilities.

▪ Vessel/Barge Maritime Service Operations

This category consists of several participants. The steamship agents provide a number of services for the vessel as soon as it enters the port. The agents arrange for medical and dental care of the crew, for ship supplies as well as payment of various expenses including Ports of Indiana charges. The agents are also responsible for vessel documentation. In addition to the steamship agents arranging for vessel services, those providing the services include:

- Chandlers - supply the vessels with ship supplies (food, clothing, nautical equipment, etc.);
- Towing firms - provide the tug service to guide the vessel to and from port;
- Pilots - assist in navigating the vessels to and from Ports of Indiana-Burns Harbor maritime terminals;
- Bunkering firms - provide fuel to the vessels;
- Barge Fleeting/Cleaning – provide fleeting services for barges at Burns Harbor and the river ports of Jeffersonville and Mount Vernon;
- Marine surveyors - inspect the vessels/barges and the cargo; and
- Shipyards/marine construction firms - provide repairs (either emergency or scheduled) as well as marine pier construction and dredging.

▪ Cargo Handling

This category involves the physical handling of the cargo at the terminals between the land and the vessel/barge. Included in this category are the following participants:

- Longshoremen & dockworkers - include members of the International Longshoremen's Association (ILA), International Union of Operating Engineers, International Brotherhood of Teamsters and United Steelworkers as well as those dockworkers with no union affiliation that are involved in the loading and unloading of cargo from the vessels/barges, as well as handling the cargo prior to loading and after unloading;
- Stevedoring firms - manage the longshoremen and cargo handling activities;

- Cargo terminal operators - provide services to operate the maritime terminals, track cargo movement and provide security where cargo is loaded and off-loaded;
  - Warehouse operators - store cargo after discharge or prior to loading and consolidate cargo units into shipment lots. In many cases the freight forwarders and consolidators are also involved in warehousing activity.
- Government Agencies

This service sector involves federal, state and local government agencies that perform services related to cargo handling and vessel/barge operations at the port. Department of Homeland Security (DHS), which includes Customs and Border Protection (CBP), U.S. Immigration and Customs Enforcement (ICE) and U.S. Coast Guard, U.S. Department of Agriculture (grain inspection) and the U.S. Army Corps of Engineers, are involved.

### 1.3. Port Companies and Dependent Shipper/Consignees Sector

Port company jobs consist of jobs with dependent shippers/consignees and port companies shipping and receiving cargo through the terminals at Ports of Indiana facilities. The Ports of Indiana is unique in the fact that many of the companies at each facility, specifically at Burns Harbor and Jeffersonville, are users of the waterborne cargo handled at the ports' docks. Furthermore, many of the operations performed by these companies, specifically in steel manufacturing and steel processing, are inter-dependent of each other. It is to be noted that only a portion of the raw materials and finished products used and produced by the ports' companies is received/shipped via vessel or barge. There is also a large portion of this cargo that enters/leaves the ports via rail and truck. However, it is the advantage of having the availability of the Great Lakes and Inland River System and the low-cost option of vessel and barge shipments, as well as the presence of other complementary port companies that is a key attribute in attracting and maintaining such a strong tenant base at the Ports of Indiana facilities. The Ports of Indiana has, over the years, been successful in creating a steel processing campus at both Burns Harbor and Jeffersonville, therefore for the purpose of this analysis, all of the port company jobs are included.

### 1.4. Ports of Indiana

The Ports of Indiana includes those individuals employed by the port whose purpose is to oversee port activity at the ports' cargo and industrial terminals.

## 2. COMMODITIES INCLUDED IN THE ANALYSIS

A major use of an economic impact analysis is to provide a tool for port development planning. As a port grows, available land and other resources for port facilities become scarce, and decisions must be made as to how to develop the land and utilize the resources in the most efficient manner. Various types of facility configurations are associated with different commodities. For example, containers, automobiles and RO/RO require a large amount of paved, open storage space, while certain types of break bulk cargoes such as steel coils, grain and fertilizer, lumber and plywood may require covered storage. Perishable commodities require temperature-controlled warehouses and some dry bulk cargo requires covered storage and special dust removing equipment, while tank farms are needed to store liquid bulk cargo.

An understanding of the commodity's relative economic value in terms of employment and income to the local community, the cost of providing the facilities, and the relative demand for the different commodities is essential in making future port development plans. Because of this need for understanding relative commodity impacts, economic impacts are estimated for the following commodities handled at the public and private cargo terminals:

- Steel coils;
- Ore;
- Plate/other steel;
- Steel slabs;
- Coal/coke;
- Project/oversized cargo/miscellaneous breakbulk;
- Grain/soybeans/soy products;
- Bulk metals/scrap;
- Fertilizer;
- Ethanol/DDG;
- Limestone/cement/other dry bulk;
- Salt; and
- Other liquid bulk.

It should be emphasized that commodity-specific impacts are not estimated for each of the economic sectors described in the last section. Specific impacts could not be allocated by individual commodities with any degree of accuracy for maritime construction, ship repair, or the state and federal government due to the fact that it is difficult to estimate the percentage of resources that are dedicated to one commodity over another. For example, maritime construction may occur at a terminal that is multi-use and cannot be attributed to a specific commodity. Similarly, law enforcement and security operations cannot be attributed to a single commodity.

### 3. MARITIME CARGO EMPLOYMENT IMPACTS

The employment generated by maritime cargo activity at Ports of Indiana is estimated.

- First, the total employment that is in some way related to the activities at the individual ports is estimated from the 2020 interview process of port companies and service providers as well as 2019 data provided by the Ports of Indiana as described in the methodology;
- Second, the subset of total employment that is judged to be totally dependent (i.e., direct jobs) on port activity is analyzed as follows:
  - The direct job impact is estimated by detailed job category, i.e., trucking, dockworkers, barge operators, liner services, chandlers/surveyors, etc;
  - The direct job impact is estimated for each of the key commodities/commodity groups;
  - The direct job impact is estimated based on the residency of those directly employed;
- Induced and indirect jobs are estimated;
- Finally, jobs related to the maritime activity at the cargo terminals are described.

It is estimated that 33,429 jobs are directly or indirectly generated by port activities at the cargo terminals at the Ports of Indiana three port facilities – Burns Harbor, Jeffersonville and Mount Vernon. Of the 33,429 jobs:

- 10,331 jobs are directly generated by activities at the cargo terminals and if such activities should cease, these jobs would be discontinued over the short term.
- 10,150 induced jobs are supported by the local purchases of the 10,331 individuals directly employed by port activity at the cargo terminals. An additional 12,948 indirect jobs were supported by the \$1.3 billion of purchases in the local and regional economy by firms providing direct cargo handling and vessel/barge services.
- 17,850 jobs are related to inbound and outbound cargoes through Ports of Indiana facilities. These jobs are supported in the state's processing, manufacturing, farming, construction, retail, wholesale and distribution industries, and the in-state industries supporting the movement and distribution of all commodities, primarily concentrated with steel, ore, coal, grain, ethanol, DDG, limestone, salt and fertilizer cargo imports and exports using the port terminals.

### 3.1. Direct Cargo Job Impacts

In 2019, a total of 16.4 million tons of waterborne cargo moved via vessel and barge through Burns Harbor, Mount Vernon, and Jeffersonville. As a result of the 16.4 million tons of cargo activity, 10,331 full-time jobs were directly created<sup>2</sup>. In this section the jobs are analyzed in terms of:

- Distribution by job category;
- Distribution by commodity group; and
- Distribution by county and state of residency.

#### 3.1.1. Job Impacts by Category

Exhibit II-2 presents the distribution of the 10,331 direct jobs by type of job. The exhibit indicates that the majority of direct jobs are with dependent port companies at each facility, followed by surface transportation – primarily trucking jobs moving cargo to and from the terminals, followed by maritime service jobs.

Exhibit II-2 Cargo Employment Impacts by Sector and Job Category

	BURNS HARBOR	JEFFERSONVILLE	MOUNT VERNON	TOTAL
SURFACE TRANSPORTATION	1,319	455	482	2,256
MARITIME SERVICES	399	516	807	1,722
PORT COMPANIES/DEPENDENT SHIPPERS	4,727	1,312	291	6,330
PORTS OF INDIANA	10	6	7	23
<b>TOTAL</b>	<b>6,454</b>	<b>2,289</b>	<b>1,587</b>	<b>10,331</b>

#### 3.1.2. Direct Job Impacts by Commodity

Most of the 10,331 jobs considered to be generated directly by port activity can be associated with the handling of specific commodities or commodity groups. Certain port companies and employment categories such as government employees and maritime construction firms cannot be identified with a specific commodity. As a result, employment in these groups (which totaled 1,138) was not allocated to specific commodity. Exhibit II-3 presents the relative employment impacts in terms of commodity groups.

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<sup>2</sup> Jobs are measured in terms of full-time worker equivalents. If a worker is employed only 50 percent of the time by activity at Ports of Indiana cargo terminals, then this worker is counted as .5 jobs.

Exhibit II-3 Distribution of Direct Job Impact by Commodity

	BURNS		MOUNT	TOTAL
	HARBOR	JEFFERSONVILLE	VERNON	
STEEL COILS	2,340	935	7	3,282
ORE	1,830	0	0	1,830
PLATE/OTHER STEEL	359	0	0	359
SLAB	282	0	0	282
COAL/COKE	754	0	384	1,138
PROJECT/OVERSIZED CARGO/OBB	5	11	0	16
GRAIN/SOYBEANS	33	270	316	620
BULK METALS/SCRAP	122	5	0	127
FERTILIZER	49	161	127	338
ETHANOL/DDG	0	8	279	286
LIMESTONE/CEMENT/OTHER DB	576	7	194	777
SALT	27	57	23	108
LIQUID BULKS	9	21	0	30
NOT COMMODITY SPECIFIC	<u>67</u>	<u>813</u>	<u>257</u>	<u>1,138</u>
<b>TOTAL</b>	<b>6,454</b>	<b>2,289</b>	<b>1,587</b>	<b>10,331</b>

*\*Impacts represented in NOT COMMODITY SPECIFIC are those that cannot be attributed to a commodity described in the previous line items – these primarily include non-maritime port companies*

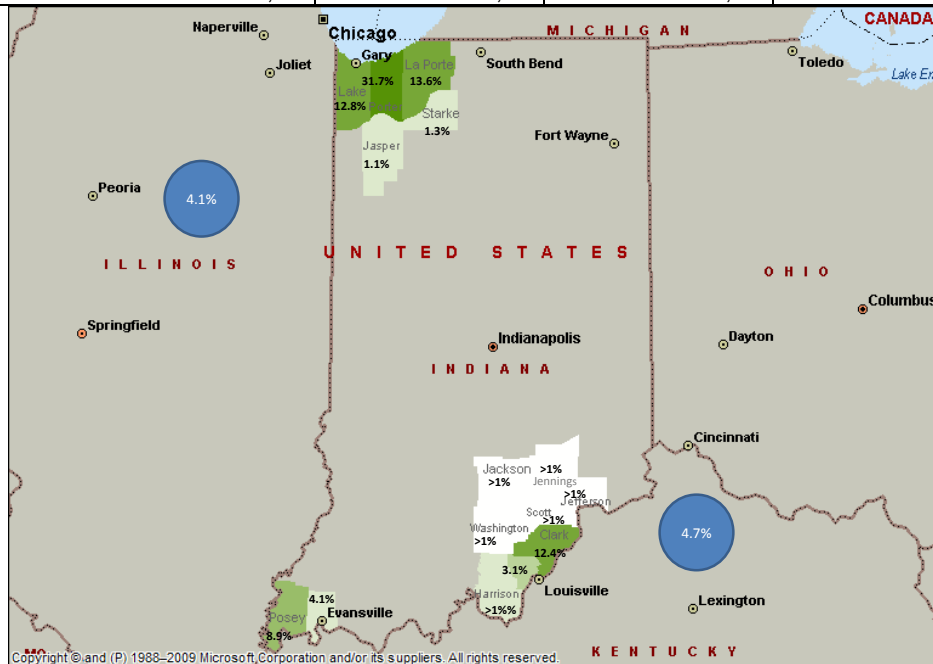
The movement of steel products – coil, plate and slab - and associated industrial activity creates the largest number of direct jobs, (3,923) followed by the movement of iron ore pellets, including associated steel production jobs, (1,830 jobs), while agribusiness, including grain, soybean, ethanol and DDG combine for 1,244 jobs. Again, it is necessary to stress that these job figures include companies located at the ports that are associated with the manufacturing and processing of these commodities, in addition to the physical movement and distribution of the commodities.

### 3.1.3. Distribution of Direct Jobs by Place of Residency

To underscore the geographic scope of the impacts generated by the cargo terminals, Exhibit II-4 presents the distribution of the 10,331 direct jobs by place of residency. The geographic employment analysis is based on the results of the interviews in the Ports of Indiana maritime and industrial community. As this exhibit indicates, about 31.3% of the direct job holders reside in Porter County, followed by about 13.5% residing in LaPorte County and 12.8% in Clark County. Furthermore, about 12.7% live in Lake County, while Posey County accounts for nearly 9.1% of the total jobs at the three ports.

Exhibit II-4 Distribution of Direct Jobs by Place of Residency

	BURNS HARBOR		JEFFERSONVILLE		MOUNT VERNON		TOTAL	
	%	JOBS	%	JOBS	%	JOBS	%	JOBS
Lake	20.3%	1,311	0.0%	0	0.0%	1	12.7%	1,312
Porter	50.0%	3,229	0.1%	2	0.3%	4	31.3%	3,236
LaPorte	21.5%	1,389	0.0%	1	0.1%	1	13.5%	1,391
Jasper	1.8%	115	0.0%	0	0.0%	0	1.1%	115
Starke	2.0%	128	0.0%	0	0.0%	0	1.2%	128
Clark	0.0%	0	57.8%	1,322	0.1%	2	12.8%	1,324
Floyd	0.0%	0	14.6%	334	0.1%	1	3.2%	336
Harrison	0.0%	0	3.7%	85	0.0%	0	0.8%	85
Jefferson	0.0%	0	0.6%	13	0.0%	0	0.1%	13
Jennings	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Scott	0.0%	0	0.2%	4	0.0%	0	0.0%	4
Washington	0.0%	0	1.2%	28	0.0%	0	0.3%	28
Jackson	0.0%	0	1.0%	23	0.0%	0	0.2%	23
Posey	0.0%	0	0.0%	1	58.9%	934	9.1%	935
Vanderburgh	0.0%	0	0.0%	0	26.2%	416	4.0%	416
Illinois	3.7%	237	0.0%	0	10.9%	173	4.0%	410
Kentucky	0.0%	0	20.2%	463	2.5%	39	4.9%	502
Ohio	0.0%	0	0.0%	0	0.0%	0	0.0%	0
Other	0.7%	45	0.5%	12	1.0%	15	0.7%	72
<b>TOTAL</b>	<b>100.0%</b>	<b>6,454</b>	<b>100.0%</b>	<b>2,289</b>	<b>100.0%</b>	<b>1,587</b>	<b>100.0%</b>	<b>10,331</b>



### 3.2. Induced Jobs

The 10,331 directly employed individuals received \$565.1 million in wages and salaries, a part of which was used to purchase local goods and services such as food, housing, clothing, transportation services, etc. As a result of these local purchases, 10,150 induced jobs in the regional economy were supported. The majority of the induced jobs are with local and regional private sector, social services, business services, educational services, and state and local government agencies, followed by jobs in the food and restaurant sector, and then jobs in the construction and home furnishings sector.

### 3.3. Indirect Jobs

In addition to the induced jobs generated by the purchases by directly employed individuals, the firms providing the direct services and employing the 10,331 direct jobs make local purchases for goods and services. These local purchases generate additional local jobs – indirect jobs. Based on interviews with terminals and port companies, these firms made \$1.3 billion of in-state purchases in 2019. These direct local purchases and capital expenses created an additional 12,948 indirect jobs in the state economy.

### 3.4. Related User Jobs

It is estimated that about 17,850 jobs are supported in Indiana with shippers/consignees that use the three Ports of Indiana facilities – Burns Harbor, Jeffersonville and Mount Vernon. These related jobs are estimated based on the value per ton of the cargo moved via the port facilities and the associated weighted job to value of output ratio for relevant manufacturing industries in the State of Indiana, as developed from the Bureau of Economic Analysis Regional Input-Output Modeling System (RIMS II). These jobs-per-shipment values for the inbound and outbound cargoes were multiplied by value of the cargo moving via the public marine terminals, to estimate the related user jobs. These are related jobs, and would not likely disappear if the marine terminals were rendered inoperable or closed to marine cargo and vessel/barge activity. However, given a level of demand for the cargo, the cargo would most likely shift to another Great Lakes port and there is the possibility that some related jobs could shift over time.

*It is to be further emphasized that when the impact models are used for planning purposes and sensitivity analysis, related jobs should not be used to judge the economic benefits of a particular project. Related jobs are not estimated with the same degree of defensibility as are the direct, induced and indirect jobs. Therefore, only these three types of job impacts should be used in evaluating port investments. The purpose of the related jobs estimate is to provide a proxy for the magnitude of the more general economic development impact of the private and public port facilities.*

## 4. TOTAL ECONOMIC OUTPUT, BUSINESS REVENUE, INCOME AND TAX IMPACTS

Commodities such as steel, general cargo and bulk (dry and liquid) cargo handled at the Ports of Indiana cargo terminals and port companies included in the study generated revenue for firms in each of



the economic sectors. For example, revenue is received by the railroads and the trucking companies within the surface transportation sector as a result of moving outbound cargo to the port terminals and distributing the inbound commodities inland after receipt at the cargo terminals. The firms in the maritime services sector receive revenue from arranging for transportation services, cargo handling, providing services to vessels/barges in port and repairs to vessels/barges calling on the port facilities. The Ports of Indiana receives revenue from terminal leases and port charges such as wharfage and dockage assessed on cargo and vessels. In addition, revenue is received by dependent shippers/consignees from the sales of cargo shipped or received via the port cargo terminals and from the sales of products made with raw materials received through the terminals. Since this chapter is concerned with the revenue generated from providing maritime services, the shipper/consignee revenue (i.e., the value of the cargo shipped or received through the port terminals, as well as the value of the products produced by the port-dependent shippers/consignees) will be excluded from the remaining discussion.

The revenue generated by port activity consists of many components. For example, gross revenue is used to pay employee salaries and taxes, it is distributed to stockholders of the companies providing the vessel and cargo handling services, and it is used for the purchases of equipment and maintenance services. Of these components, only three can be isolated geographically with any degree of accuracy. These are the personal income component of revenue, which can be traced to geographic locations based on the residence of those receiving the income, the payment of state and local taxes, and the local purchases made by firms dependent upon the maritime activity. The balance of the revenue is distributed in the form of payments to firms located outside the State of Indiana in exchange for goods and services, and for the distribution of company profits to shareholders. Many of these firms and owners are located outside of the State of Indiana and, thus, it is difficult to trace the ultimate location of the distributed revenue (other than personal income, taxes and local purchases). The value of output created by in-state related shippers/consignees of the port is attributed to the State of Indiana, and the local purchases from other firms within the state are also included in this user output measure, as defined by the in-state output coefficients (for the user industries) developed from the U.S. Bureau of Economic Analysis, Regional Input-Output Modeling System (RIMSII).

#### 4.1. Revenue Impact – Total Economic Activity

The revenue impact is a measure of the *total economic activity* in the state that is generated by the cargo moving via the Ports of Indiana. In 2019, maritime cargo and industrial port company activity at the ports generated a total of \$4.4 billion of total economic activity in the state. Of the \$4.4 billion, \$696 million is the business revenue received by the firms directly dependent upon the ports and providing maritime services and inland transportation services to the cargo handled at the maritime terminals and the vessels calling on the ports while the remaining \$3.7 billion of revenue is generated by the port companies and on-site dependent shippers/consignees. The balance of the discussion focuses on the \$696 million of direct business revenue generated from the provision of services to the cargo and vessels/barges handled at the Ports of Indiana's facilities.

#### 4.1.1. Revenue Impacts by Economic Sector/Category

Exhibit II-5 presents the total revenue estimated to have been generated by port activity in 2019. This revenue includes the revenue received by firms providing services to the cargo and vessel activity at the terminals, and includes revenue received by trucking firms, stevedores, Ports of Indiana, chandlers, agents, pilots, towing companies, etc. Not included is the revenue from the use/value of the cargo moving via the maritime terminals, as this is included in the related shipper/consignee output.

The surface transportation sector receives the largest revenue impact, followed by maritime services, and then Ports of Indiana.

Exhibit II-5 Direct Revenue Generated by Port Cargo Activity

	BURNS HARBOR	JEFFERSONVILLE	MOUNT VERNON	TOTAL
SURFACE TRANSPORTATION	\$200,094,577	\$74,839,256	\$99,407,659	\$374,341,491
MARITIME SERVICES	\$143,947,238	\$44,742,665	\$118,922,337	\$307,612,239
PORTS OF INDIANA	<u>\$6,785,400</u>	<u>\$3,999,000</u>	<u>\$3,270,000</u>	<u>\$14,054,400</u>
<b>TOTAL</b>	<b>\$350,827,214</b>	<b>\$123,580,920</b>	<b>\$221,599,996</b>	<b>\$696,008,131</b>

#### 4.1.2. Revenue Impacts by Commodity

Exhibit II-6 shows the direct revenue impact by commodity. It is to be emphasized that the revenue received by shippers/consignees from the sales of the products (value of the commodities) moving via the port terminals is not included, since product value is determined by the demand for the product, not the use of the cargo terminals.

Exhibit II-6 Cargo Revenue Impacts by Commodity

	BURNS HARBOR	JEFFERSONVILLE	MOUNT VERNON	TOTAL
STEEL COILS	\$159,881,480	\$46,616,221	\$589,293	\$207,086,995
ORE	\$81,216,611	\$0	\$0	\$81,216,611
PLATE/OTHER STEEL	\$4,769,494	\$0	\$0	\$4,769,494
SLAB	\$30,365,625	\$0	\$0	\$30,365,625
COAL/COKE	\$8,002,477	\$0	\$89,741,473	\$97,743,950
PROJECT/OVERSIZED CARGO/OBB	\$314,683	\$49,125	\$0	\$363,808
GRAIN/SOYBEANS	\$4,288,800	\$37,789,116	\$60,780,344	\$102,858,260
BULK METALS/SCRAP	\$4,385,964	\$0	\$0	\$4,385,964
FERTILIZER	\$6,530,430	\$22,688,014	\$9,233,830	\$38,452,273
ETHANOL/DDG	\$0	\$705,286	\$45,329,327	\$46,034,613
LIMESTONE/CEMENT/OTHER DB	\$35,671,995	\$0	\$11,316,588	\$46,988,583
SALT	\$4,679,707	\$6,593,081	\$1,339,140	\$12,611,929
LIQUID BULKS	\$1,017,436	\$3,389,621	\$0	\$4,407,057
NOT COMMODITY SPECIFIC	<u>\$9,702,513</u>	<u>\$5,775,652</u>	<u>\$3,270,000</u>	<u>\$18,748,166</u>
<b>TOTAL</b>	<b>\$350,827,214</b>	<b>\$123,606,117</b>	<b>\$221,599,996</b>	<b>\$696,033,327</b>

As this exhibit indicates steel products and iron ore generate the largest direct revenue impacts accounting for 46%, followed by agribusiness - grain/soybean products, ethanol, DDG (27%).

## 5. PERSONAL EARNINGS IMPACT

The income impact is estimated by multiplying the average annual earnings (excluding benefits) of each port participant, i.e., truckers, steamship agents, pilots, towing firm employees, longshoremen, warehousemen, etc., by the corresponding number of direct jobs in each category. The individual annual earnings in each category multiplied by the corresponding job impact resulted in \$565.1 million in personal wage and salary earnings. It is important to emphasize that the average annual earnings of a port-dependent job is about \$54,700. By comparison, based on data supplied by the Bureau of Labor Statistics (BLS), the annual mean wage for all occupations in Indiana was \$46,770 in 2019.<sup>3</sup> Therefore, these relatively high paying jobs will have a much greater economic impact in the local economy through stimulating induced jobs than will a job paying the average wage.

The impact of the re-spending of this direct income for local purchases is estimated using a personal earnings multiplier. The personal earnings multiplier is based on data supplied by the Bureau of Economic Analysis (BEA), Regional Input-Output Modeling System (RIMS II). The BEA estimates that for every one dollar earned by direct employees, an additional \$2.16 of personal income and consumption expenditures would be created as a result of re-spending the direct income for purchases of goods and services produced locally. Hence, a personal earnings multiplier of \$3.16 was used to estimate the total income and consumption impact of \$1.2 billion, inclusive of the re-spending effect. This additional re-spending of the direct income generates the 10,150 induced job impacts.

The 12,948 indirect job holders earned \$641.3 million in indirect wages and salaries. Therefore, the total personal income impact and consumption impact created by Ports of Indiana cargo and industrial activity is estimated at nearly \$2.5 billion. In addition, the 17,850 related shipper/consignee jobs of the cargo moving via the ports received about \$684.1 million of personal income.

## 6. TAX IMPACTS

State and local tax impacts are based on per employee tax burdens which are developed at the state and local jurisdictional levels. These tax per employee burdens are essentially tax indices that are used to allocate total taxes at each level of government to economic activity generated by the cargo terminals. To estimate the per employee tax indices, total taxes received at each governmental level in Indiana was developed from the Tax Foundation, which reports total state and local taxes from all sources as a percent of total personal income. Also included is the estimated corporate tax paid to Indiana.

Cargo and port company activity generated \$488 million of state, county and local taxes. As a result of the economic activity created by the related users, an additional \$65 million of state and local taxes were generated for a total cargo tax impact of \$552.9 million. The state of Indiana receives approximately 59.4% of the tax revenues, while the local governments received 40.6% of the tax impact

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<sup>3</sup> U.S. Bureau of Labor Statistics, May 2019, State Occupational Employment and Wage Estimates, Indiana.

as illustrated in Exhibit II-7.

Exhibit II-7 CY2019 Distribution of State and Local Tax Revenue

TAXES BY CATEGORY	STATE	LOCAL	TOTAL
DIRECT, INDUCED & INDIRECT	\$289,847,768	\$198,111,438	\$487,959,206
RELATED	\$38,601,316	\$26,384,064	\$64,985,380
<b>TOTAL TAXES</b>	<b>\$328,449,084</b>	<b>\$224,495,502</b>	<b>\$552,944,586</b>