2 OKI Freight Data Collection and Public Involvement

Developing the regional freight plan required information on both the physical freight system (i.e., roadways, railroads, river terminals, airports, pipelines) and data on the freight flows into, out of, and through the region. Freight data includes proprietary data sources described below, as well as public data sources such as from the U.S. Census, which was used for calibration and interpretation. The geographic boundaries of data collection were:

- Ohio counties of Butler, Clermont, Hamilton and Warren
- Kentucky counties of Boone, Campbell and Kenton
- Indiana county of Dearborn

2.1 OKI Freight Plan Timeline

OKI worked for many years in preparation for launching a formal freight planning effort that would identify the most significant regional freight needs and opportunities. OKI's contacts with public and private stakeholders greatly elevated its understanding of regional freight issues, which helped organize the scope of work for a regional freight plan. The major milestones of this effort were:

- February 26, 2010: OKI advertises "Request for Qualifications" for Regional Freight Plan
- May 13, 2010: OKI Executive Committee approves contract with freight plan consultant, Parsons Brinckerhoff
- July 15, 2010: Project kickoff meeting with OKI and Parsons Brinckerhoff
- October 12 and 14, 2010: Staff provide update presentation to OKI Intermodal Coordinating Committee (ICC) and Executive Committee
- January 10, 2011: OKI receives technical memorandum, providing physical profile of OKI freight system from Parsons Brinckerhoff
- March 3, 2011: Public meeting held to present data collection and interview/survey findings to date
- March 8 and 10, 2011: Staff provide update presentation to OKI ICC and Executive Committee
- April 4, 2011: OKI receives technical memorandum, "Freight System Strengths and Needs Assessment" from Parsons Brinckerhoff
- May 10 and 12, 2011: Staff provide update presentation to OKI ICC and Executive Committee
- June 7 and 9, 2011: Staff provide update presentation to OKI ICC and Board of Directors
- June 8, 2011: OKI Draft Regional Freight Recommendations shared publicly for review
- June 30, 2011: OKI Freight Stakeholders' Public Open House held to present and gather input on draft recommendations
- August 2, 2011: OKI Regional Freight Plan Executive Summary and Final Draft Report shared publicly for review
- August 9, 2011: Staff provide presentation to ICC on OKI Regional Freight Plan Final Draft

- August 11, 2011: Staff provide presentation to Executive Committee on OKI Regional Freight Plan Final Draft and receive OKI Executive Committee adoption

2.2 Physical Freight Inventory Profile

OKI maintains a Geographic Information Systems (GIS) inventory of the regional transportation system which includes the roadway network and an inventory of railroad lines and their ownership. Developing the OKI freight plan involved a review of this existing data and addition of elements such as daily train volume, the location of barge terminals and the location of major warehouse and distribution center facilities. Table 2-1 outlines the attributes of the freight assets reviewed for this plan.

Table 2-1: Freight Asset Data

Asset	Attributes	Data Sources
Roadway	• Truck volumes • Crashes • Routes prohibiting hazardous materials • State department of transportation (DOT) designated Interregional Corridors (IRCs) • State-designated Highway Commercial Freight Network • Federal Highway Administration (FHWA) designated intermodal connectors* • Major distribution centers (number of loading docks, truck volumes per day)	• Kentucky Transportation Cabinet (KYTC), Ohio Department of Transportation (ODOT), Indiana Department of Transportation (INDOT) • Local governments
Railroads	• Rail ownership • Rail operator • Rail class • Line name • Number of trains per day • Major rail yards (by railroad owner) • Rail-to-rail interchanges (by railroad owner) • At-grade rail/roadway crossings	• OKI • Railroad Atlas of North America • County auditor maps • Local research and field verification • Private rail companies
Intermodal terminals	• Locations • Owner and railroad(s) served • Capacity in terms of twenty-foot equivalent units (TEU's) per year	• Railroad directories and interviews • Local research and field verification
Barge facilities	• Locations • Owner • Intermodal access (rail carrier name) • Major commodity groups (e.g., dry bulk, liquid bulk, break bulk, etc.)	• Inland River Guide • U.S. Army Corps of Engineers • U.S. Geological Survey (USGS) maps • County auditor maps • Local research and field verification
Air cargo facilities	• Locations • Air freight carrier serving the airport • Tonnage, top commodities	• Quick Caller Air Cargo Directories • Local research
Pipelines	• Pipeline (Volume per day, capacity, commodity)	• United States Department of Transportation (USDOT)

2.3 Commodity Flow Data

Commodity flow was analyzed using 2008 TRANSEARCH® data, producing a profile of freight movements into, out of, and through the OKI region. Analysis included a freight forecast using 2040 as the horizon year with interim years: 2015, 2020, 2030 and 2040. The parameters of this analysis are described in the following sections.

2.3.1 Trucking Mode

- OKI: counties of Boone (KY), Butler (OH), Campbell (KY), Clermont (OH), Dearborn (IN), Hamilton (OH), Kenton (KY) and Warren (OH)
- Analysis at two digit Standard Transportation Commodity Code (STCC) level
- Aggregate geographic areas external to the study area—Ohio, Kentucky, Indiana, Tennessee, Northeast, Southeast, Midwest, California, Washington, and all other Western States
- Inbound, outbound and through traffic
- Routing and mapping of major commodity flows
- Major interstate travel lanes: I-71, I-74, I-75
- By value: top commodities, by two digit STCC, which comprise 80 percent of the total commodity movements by value
- By volume: top commodities, by two digit STCC, which comprise 80 percent of the total commodity movements by weight

2.3.2 Rail Mode

- Cincinnati/Northern Kentucky Bureau of Economic Analysis Economic Areas
- Aggregate geographic areas external to the study area, similar to the trucking analysis above
- Inbound, outbound (not through)
- By value: top commodities, by two digit STCC, which comprise 80 percent of the total commodity movements by value
- By weight: top commodities, by two digit STCC, which comprise 80 percent of the total commodity movements by weight

2.3.3 Aviation Mode

- Air freight data is reported at the county level
- Aggregate geographic areas external to the study area—Ohio, Kentucky, Indiana, Tennessee, Northeast, Southeast, Midwest, and Western States
- By value: top commodities, by two digit STCC, which comprise 80percent of the total commodity movements by value
- By volume: top commodities, by two digit STCC, which comprise 80percent of the total commodity movements by weight

2.3.4 Water Mode (River/Inland Waterway)

- OKI: Ohio counties of Hamilton and Clermont, Kentucky counties of Boone, Kenton and Campbell, Indiana county of Dearborn
- Analysis at two digit STCC level
- Aggregate geographic areas external to the study area—Ohio, Kentucky, Indiana, West Virginia, Pennsylvania, Upper Mississippi States, Lower Mississippi River States
- Inbound, outbound and through traffic
- Routing and mapping
- By value: top commodities, by two digit STCC, which comprise 80 percent of the total commodity movements by value
- By volume: top commodities, by two digit STCC, which comprise 80 percent of the total commodity movements by weight

2.3.5 Hazardous Materials

The TRANSEARCH® database was used to gather hazardous material cargo flows by truck, train, plane, and barge, and is illustrated in tables and maps of hazardous material flows by route.

TRANSEARCH®, managed by IHS/Global Insight, is a nationwide database of freight traffic flows between U.S. Bureau of Economic Analysis (BEA) markets and is updated annually. The database draws from a wide variety of data sources covering commodity volume and modal flow, including a long term, proprietary motor carrier traffic sample, proprietary railroad data, and numerous commercial and federal government surveys, samples, and census. To compose the database, these multiple and diverse information sources are brought together in a single, consistent format.

2.3.6 Development of the Database

Each annual version of the TRANSEARCH® U.S. database begins by establishing market-specific production volumes by industry or commodity. This information is drawn from IHS Global Insight's Business Demographics Model.

Once the production volumes are established, tonnages moving by rail, water, air, and pipeline[1] are netted from the totals (which serve as control totals), leaving the remaining freight volumes allocated to truck distribution patterns. Since the process begins with production data, which include items produced for both domestic and foreign consumption, export volumes were developed in the same manner. Import volumes, drawn from U.S. Department of Commerce data, are subsequently combined into the traffic flows at the point of importation. North American Fair Trade Agreement (NAFTA) traffic volumes are also produced.

[1] Pipeline flows were excluded from TRANSEARCH® although some of the supporting databases do report information on pipeline flows.

2.3.7 The Development of Domestic Production Statistics

Production and shipment estimates are developed from IHS Global Insight's Business Demographics Model which describes industrial activity by geographic market area. This information is supplemented by trade association and industry reports. Shipment patterns are refined with proprietary traffic information from freight carriers. Relationships between industries are determined with input/output patterns.

2.3.8 Development of Domestic Modal Database Flows

IHS Global Insight constructs the TRANSEARCH® database from the most recent set of publicly available freight traffic flow information. The result is a database of BEA-level origin-to-destination flows by commodities for seven modes of transportation: for-hire truckload, less-than-truckload, private truck, conventional rail, rail/truck intermodal, air, and water. Volume is presented in terms of tonnage, and then translated to value, vehicle miles traveled (VMT) and ton miles using conversion tables and route distances. For any given BEA, traffic coverage will include flows that are intra-market (internal), inbound and outbound (external-internal and internal-external), and overhead (external-external) or through traffic. Overhead volumes are estimated with modal routing models applied to the nationwide data.

2.3.9 Railroad Traffic Activities

BEA-level railroad data is taken primarily from the public-use version of the Surface Transportation Board's (STB) annual Railroad Waybill Sample. The Waybill Sample is a statistically based stratified sample of shipments terminated by U.S. rail carriers. All carriers terminating 4,000 or more carloads per year are required to report therefore, 62 railroad systems are captured, encompassing all Class I and II roads, as well as the more prominent short lines. Carriers with fewer than 4,000 annual loads may be sampled when they act as haulage agents for larger railroads and the latter appears as the carrier of record on a shipment. The Waybill Sample file is supplemented with data that is collected directly from the railroad industry.

2.3.10 Waterborne Commerce Activities

The U.S. Army Corps of Engineers (USACE) annually collects information on all shipments moving on the nation's waterways to support its management and planning activities. TRANSEARCH® uses various components of the data issued by the USACE to develop its waterborne flow data. While the raw information collected is comprehensive, that released to the public is aggregated in ways that mask the details of traffic flows; the data development process in TRANSEARCH® aims to reestablish or disaggregate some of this detail. The primary data set employed is the annual USACE file of waterborne commerce. This source provides state-to-state annual volumes of broad commodity groupings. Complementing these flow data are originating and terminating volumes by port and more specific commodity type, which are also provided by the USACE. The less detailed state-to-state flow data are disaggregated to the port level using the more detailed origination and termination information, supplemented by directories profiling public and private port facilities.[2]

[2] Pipeline flows were excluded from TRANSEARCH® although some of the supporting databases do report information on pipeline flows.

Thus for example, the general flow of goods from Pennsylvania to Louisiana is refined to steel products from Pittsburgh-area counties to counties in South Louisiana by comparison of sources. Commodity descriptions adopted by the USACE are transformed to Standard Transportation Commodity Codes (STCC) through data links IHS Global Insight developed and maintains.

2.3.11 Air Cargo Activities

Air cargo represents by far the smallest portion, on a tonnage basis, of the TRANSEARCH® Database. Air activity is constructed using Bureau of Transportation Statistics (BTS) Airport Activity Statistics.

The BTS enplanement data report the total tonnage originating at each airport. In addition, a separate data series, BTS T-100, reports cover airport-to-airport flow volumes. The origin tonnage is then disaggregated into flows to the destination airport based on this second set of data. The data are then translated from airports to counties, based on airport location information that is maintained by the Federal Aviation Administration (FAA). In some cases, where there is more than one airport in a county, data are subject to a further aggregation. Because the data are meant to portray domestic freight between origin and destination markets, adjustments are made to account for international traffic and the use of intermediate airport hubs. Consequently, air traffic is captured from source airport market to consuming market, and any use of hub facilities enroute is not depicted.

Commodity identification is then introduced. The Commodity Flow Survey (CFS) provides a broad level identification of commodity types. This broader detail is further refined based on the origin at the production region, and consumption at the destination region, by using full detail commodity information for each market.

Finally, TRANSEARCH® also captures the dray portions of air freight shipments, which are the segments moved over the road to and from airports. This traffic is shown in the truck mode and is identified by STCC 5030. This truck portion shows both the movement from ultimate origin (producing) point to the airport, and from the airport destination to the ultimate destination point. As with rail intermodal shipments, each air shipment appears in the data set as three separate records: origin truck dray, aircraft linehaul, and destination truck dray. When modal volumes are totaled by tons, each shipment's tonnage will be counted three times. However, when volumes are totaled by ton-miles, each shipment mile segment is counted only once.

2.3.12 Truck Flow Activities

Truck traffic remains the most complex mode to estimate because of its broader market areas and lack of unified databases. As mentioned earlier, the truck portion of TRANSEARCH® begins as the share of total freight not identified on other modal shipments, derived through a netting process. To develop truck estimates, IHS Global Insight allocates the remaining truck freight volumes between the for-hire and private sectors of the industry based on relative volumes reported in the CFS. The for-hire segment is then split between truckload and less than truckload (LTL) components using industry data on the level of LTL shipments, and prior TRANSEARCH® patterns.

At this point, the data are ready to be split into origin-to-destination flow volumes. The sources used for this processing step consist of a combination of proprietary data collected and compiled by IHS Global Insight, and information collected and disseminated by government sources. The information from IHS Global Insight includes the Motor Carrier Data Exchange and databases of shipping establishments. TRANSEARCH® elements from prior years are considered as a repository of historical patterns. The government sources are the BTS CFS and the BEA Industrial Input/Output (I/O) tables.

2.4 Shipper Survey Using the Supply Chain Consortium

The Supply Chain Consortium (SCC) is a voluntary group of industry peers who work together on benchmarking and best practices on supply chain performance. Tompkins Associates manages the SCC forum and data sharing process. Data provided by consortium members are aggregated such that individual responses are kept confidential.

The SCC is led by an Advisory Board composed of senior supply chain executives. The Advisory Board provides guidance on process content, development priorities, and peer invitations.

The SCC covers four major industries: Distributors/Wholesalers, Manufacturers, Retail and Service Providers. In addition to industry designations, consortium member companies are further defined by market segments as follows:

- Apparel, Fabric and Accessories
- Automotive, Truck and Vehicles
- Beauty, Health and Wellness
- Department Store and Discount
- Electronics and Electricals
- Food and Beverage
- Hardware and Home Improvement
- Hobby, Toys, Arts, Crafts and Sporting Goods
- Home Products/Furniture/Appliances
- Industrial/Commercial Manufacturing
- Pharmaceutical and Drugs
- Service Providers
- Specialty

The SCC data represents the "voice of the shipper" providing shipper opinions on the following subjects:

- Shipper forecast of their freight volumes (five year maximum)
- Port selection criteria
- Factors in location of operating/distribution facilities
- Those considering the OKI region for location or expansion
- Those not considering the OKI region for location or expansion

- Perceptions of the OKI regional freight network
- Rating compared to other regions
- Identification of bottlenecks

For the freight planning effort, OKI used the SCC in two ways:

- To distribute a shipper survey to more than 1,100 SCC company members. Approximately 43 companies completed the survey, which is a response rate of about 4 percent. While this response rate was low, those companies that did respond have active transportation facilities in the OKI region and shared very similar comments regarding the regional freight network.
- To query the SCC database for further analysis and compilation of national and regional data that was directly pertinent to the OKI region. The database is a compilation of a series of more than 200 questions that each consortium member completes as part of their membership. This query generated a profile of 172 firms that ship products into, out of and through the OKI region. The profile of their responses were compared to the 43 companies that directly responded to the survey to provide a complete profile of regional shipping trends and issues.

2.5 Shipper Interviews

In addition to SCC survey data, OKI interviewed approximately 35 shippers who move products in, out, or through the OKI region, to gather information about how they use and perceive OKI's multimodal transportation network. These shippers included local and national companies that use OKI's road, rail, road, river and/or air transportation systems, and which have some "asset" (e.g., retail outlet, manufacturing facility, or distribution facility) in the region. These shippers were interviewed via phone under clauses of confidentiality to ensure a meaningful and open response to the region's freight issues.

2.6 Carrier Interviews

In addition to shipper interviews, the freight planning team, led by OKI, conducted more than 30 additional phone interviews with carriers including trucking companies, railroads, air carriers, barge lines, and river terminal operators.

2.7 Interviews with Local Government Officials

Development of the OKI freight plan included numerous interviews and discussions with local government officials, whose concerns ranged from local truck access issues, to railroad and intermodal terminal operating nuisance issues. Direct interviews included officials from the following:

- Dearborn County, Indiana
- Kentucky counties of Boone, Campbell and Kenton
- Ohio counties of Butler, Clermont, Hamilton and Warren
- Cities of Cincinnati, Covington and Sharonville
- Airport officials

2.8 Public Participation

There were many venues for public participation in developing the freight plan. As a general portal for information, OKI established a link on their website to a dedicated OKI Regional Freight Plan page, which contained information on the scope and schedule of the effort. The website was updated during milestones with data and presentations. Visitors to the site were able to submit questions, comments and requests throughout the entire planning process. This online resource will be used in the future as a portal for freight plan documents and other regional freight information.

Periodic updates on the freight planning process were provided to OKI's Intermodal Coordinating Committee (ICC) and Board of Directors/Executive Committee.

Over the past several years, OKI has developed a freight contact database comprised of private and public individuals interested in the topic. Through interviews and outreach during the course of this planning effort, OKI greatly expanded the database. The database was used to invite stakeholders to meetings and disperse draft materials for review and comment.

There were two opportunities for the public at large to review development of the freight plan, provide input and review and comment on recommendations. On March 3, a public meeting was held in the OKI Board Room to present data findings to date. The meeting was attended by 58 individuals. Attendees were asked to fill out a comment form and four comments were received following the meeting. On June 30, a public open house was held in the OKI Board Room from 4-6 p.m. with a brief presentation given by the project manager at 5 p.m. The purpose of the meeting was to visually present the draft recommendations and solicit further input. The 53 attendees were invited to review the displays describing the recommendations and to fill out an evaluation sheet to provide input regarding the timing of the project and how each project met the study goals. Thirteen evaluation sheets were completed and an additional 21 comments were received.

A detailed overview of all public outreach and participation efforts is provided in the Appendix D.