

Executive Summary

The OKI region is a major link in America's freight transportation network. More than 323 million tons of freight flow into, out of and through the region annually.

About one-third of this freight is inbound, destined for major businesses in the region such as General Electric, AK Steel, Toyota, and Schwan Food Company.

For these and hundreds of other businesses, transportation is their lifeblood. Fortunately from an economic development standpoint, the OKI region provides a powerful nexus for truck, rail, barge, and air transportation.

More than 80 percent of the region's freight moves by truck, so major highways and local roads are vital to regional commerce. Interstate 75, running north-south through the region, is one of the heaviest truck corridors in America. The region is also home to major railroad facilities including three intermodal terminals, three train classification yards and numerous industrial sidings. Together, the region's three railroad companies handle almost 100 trains per day.

Barge terminals are critical to the region's heavy industries. While just 10 percent of the region's freight moves by barge, its low cost is essential to shipping bulk commodities such as chemical products for DuPont and scrap metal for AK Steel.

For time sensitive cargo, the Cincinnati/Northern Kentucky International Airport (CVG) offers service from major parcel carriers such as FedEx and also serves as the North American hub for DHL. The DHL hub at CVG employs more than 1,800 people and total freight has increased 190% since 2009.

For many years, transportation planning has focused on moving people by automobile or public transit. Now, attention is turning to freight transportation and the importance of freight mobility to economic activity.

OKI, recognizing the link between freight mobility and economic development, launched this regional freight plan to understand industry trends, forecast freight demand, and identify projects that maintain freight mobility and spur business growth.

Regional Freight Trends

Freight systems are global. In the past, connection to railroads or highways ensured the prosperity of a region. Today, regional economies depend on their connections with global supply chains. Shippers are concerned with their total distribution cost, from supplier to consumer. Even modest changes in the cost of distribution can have dramatic impacts on manufacturing sources and the modes of transportation used by businesses.

As a result, transportation planners must consider how freight is moving through the system, and how freight carriers—ocean carriers, ports, railroads, and trucking companies—are adjusting their networks to serve global supply chain developments. The OKI Regional Freight Plan evaluated three significant supply chain dynamics of this decade:

- The expansion of the Panama Canal is set for completion in 2014, which will allow larger container vessels to transit the canal and its lock system. As a result, Asian imports to America can route around West Coast Ports, directly serving southern and eastern U.S. ports.
- The Norfolk Southern (NS) Railroad's Heartland Corridor, which has opened double stack container train service from Norfolk, Virginia, through Columbus, Ohio and on to Chicago, Illinois. The double stack service could be a boon to shippers in the Midwest and OKI has taken advantage of the opportunity by providing funding for double stack clearance on the NS line from Columbus to Sharonville.
- The CSX National Gateway Program, which is building similar double stack clearance from East Coast ports into the Midwest. Significantly, CSX has included a major container hub-and-spoke operation in Northwest Ohio, which could improve rail service and shipping rates into the OKI market.

Due to changes in the global supply chain, brought on in part by these major transportation developments, overall freight volumes in the OKI region are forecasted to increase 56 percent by 2040—from 323 million tons in 2009 to 487 million tons in 2040.

Truck traffic is forecasted to increase from 9.8 million loaded trucks in 2009 to 16 million loaded trucks by 2040—a 63 percent increase over 30 years.

Rail traffic is estimated to increase from approximately 33,000 trains per year in 2009 to 45,000 trains per year in 2040. This will increase trains in the region from 90 to 130 per day by 2040.

In a region with highway and railroad congestion, this growth in freight volume will strain transportation capacity. The biggest concern for OKI is to maintain or improve freight mobility so that businesses can continue to benefit from an efficient transportation system.

Regional Freight Transportation Assets

The OKI region has a number of geographic and transportation advantages, which make it attractive from a business logistics standpoint.

Geographically, regional businesses are able to serve about 60 percent of the North American market by one day's truck drive.

Along with this geographical advantage, the region adds the synergy of four transportation modes—air, water, rail and highway—which few other regions can match. Focusing on railroads, the region boasts two large carriers and one regional railroad, providing good service and competitive rates. In addition, there are relatively few air cargo hubs in the Midwest, which makes DHL a competitive advantage for the OKI region and an economic driver in and of itself.

Regional Freight Transportation Deficiencies

While the regional freight assets are strong, there are significant deficiencies that can impact freight mobility now and in the future:

- **Railroad congestion.** CSX, NS, and RailAmerica share three main lines through the Mill Creek Valley which are currently near capacity. With regional railroad traffic forecasted to increase 38 percent, bottlenecks in the rail corridor will further erode rail freight mobility. If rail service quality degrades, freight traffic could shift to the highway system, which would increase congestion and negatively impact safety and air quality. Even worse, a degradation of rail service could cause shippers—regional businesses—to move to areas with more reliable rail service.
- **Highway freight capacity.** While the OKI freeway system is relatively good in terms of congestion, there are critical links in the system that dramatically impact freight mobility. Most notable is the Brent Spence Bridge, which carries I-71/75 across the Ohio River. From a freight standpoint, the OKI region would cease to function if the Brent Spence Bridge fails. While freight traffic can now back up many miles because of congestion on the bridge, a failure of the structure would be catastrophic, causing truck freight to gridlock, or to bypass the region altogether. Inability to serve freight traffic would have deleterious effects on business, employment, and regional income.

It is important to note the interplay between railroad and highway freight congestion in the region. Key rail freight corridors are nearly at capacity now and will certainly be overcapacity when rail volume increases 38 percent as forecasted.

But it is most likely that trucks would carry the burden of any rail freight overflow, which would make congestion on the Brent Spence Bridge and other regional freeways even worse.

This situation provides a perfect illustration of the interdependence among different modes of freight transportation and the need to think comprehensively in developing freight transportation strategies and projects.

While the Mill Creek Valley railroad bottlenecks and the Brent Spence Bridge are the biggest regional freight concerns, there are a number of other freight deficiencies that require attention to ensure mobility over the next 30 years. These include:

- Truck congestion on interstate routes, including I-75 (Thru the Valley and Mill Creek Expressway) and I-471
- Truck congestion on a number of local roads, which provide the “last mile” of freight mobility to and from customer locations
- Overweight trucks and the damage inflicted on the highway system
- NS Sharon Yard (Sharonville), where rail operations routinely block Reading Road
- Safety of at-grade highway-rail crossings
- Developing regional barge terminals to their full potential
- Capitalizing on the air freight assets of CVG for regional economic development

Regional freight deficiencies are addressed comprehensively in the regional freight plan, with recommendations for policy actions and capital investments.

Meeting the Region's Future Freight Needs

There are a total of 58 recommendations in this plan to address regional freight deficiencies, now and in the future. Each recommendation contains a cost estimate and priority ranking. The following lists the high priority freight recommendations for the region in alphabetical order:

- Activate the “Port” in the Port of Greater Cincinnati Development Authority, \$300,000 annually for new barge freight related administrative staff and responsibilities. The Port Authority can enhance the profile of regional waterway assets as a lever for economic development.
- ARTIMIS Message Signs, \$1,388,000. Responding to input from trucking companies, this recommendation would add four new changeable message signs in the region to improve guidance of commercial vehicles.
- Brent Spence Bridge, \$2,300,000,000. Replacement of the aging Brent Spence Bridge is vital to regional freight mobility; the bridge handles an estimated \$487 billion in commercial cargo annually.
- CVG Air Cargo Park, \$50,000,000. With appropriate capital improvements in and around the airport, CVG can use its position as an air cargo hub to develop logistics business in the area.
- East Sharon Road Study, \$250,000. This recommendation is to analyze the segment of East Sharon Road, including both the intersection of Medallion Drive and entrance/exit to Sharon Yard, to determine a comprehensive strategy for improving multi-modal transportation movements that benefit both the Sharonville and Evendale communities, as well as facilitate potential growth in NS freight activities.
- Grand Avenue Improvement, Taylor Mill, \$4,500,000. This recommendation would improve truck flow along KY 177 (the Decoursey Pike area) in Kenton County and improve the attractiveness of the Decoursey Yard brownfield redevelopment site.
- Hamilton-Mason Road Mouse Hole: Rail Underpass Widening and Reconstruction, \$12,000,000. As the highest priority of many deficient railroad underpasses in Butler County, improving this mouse hole will improve east-west freight mobility through the county.
- Hopple Street Passing Track and Crossovers, \$8,000,000-\$10,000,000. At the Hopple Street overpass, the CSX mainline narrows from three to two tracks to pass through the bridge piers. Addressing this choke point will improve operations for all three railroads in the region.
- I-75 Mill Creek Expressway and Thru the Valley, \$644,900,000. Widening I-75 in Hamilton County will improve mobility for automobiles and trucks alike; however, these projects are not fully funded by the Ohio Department of Transportation (ODOT).
- I-471 Reconstruction, \$36,615,000. This recommendation addresses an important freight connector for northern Kentucky businesses. With future improvements planned for the I-75 corridor and Brent Spence Bridge, even greater emphasis is placed on the need to maintain and improve I-471 to handle the additional volumes of diverted passenger and freight traffic.
- Reading Road Grade Separation, Sharonville, \$25,000,000. This recommendation will address the at-grade crossing of NS railroad tracks and Reading Road in Sharonville, which is repeatedly blocked by NS switching operations in the Sharon Yard.
- Regional Public-Private Freight Rail Partnership, \$100,000 annually. Collaboration between the public sector and railroads is critical to implementing a number of the recommendations in this

freight plan. This recommendation requires a modest investment for administrative costs, to advance the public/private partnerships required to implement railroad projects.

The total estimated cost of top regional freight priority recommendations is \$3,085,053,000. Of this total, 74 percent represents the cost of the Brent Spence Bridge replacement project.

The Economic Future

The OKI regional freight plan is more than a list of projects. It provides a blueprint for improving freight mobility, including the formation of critical public-private partnerships to address railroad and barge transportation challenges.

OKI has also identified actions to implement freight plan recommendations, and keep current on future freight trends in order to adjust strategies and address unforeseen changes in global supply chains.

Ultimately, the success of the regional freight plan will depend on the partnerships and collaboration of the public and private sectors. Railroads, trucking interests, barge terminals and air cargo carriers will need to collaborate to address the transportation challenges facing OKI over the next 30 years.

While collaboration is the most important ingredient for successful implementation, progress can be measured by the economic vitality of regional businesses, which depend so greatly on the adequacy of the freight network.