



INTRODUCTION

Corridor and planning studies provide the opportunity for a focused and comprehensive examination of transportation issues in the OKI region. These studies, by design, consider every feasible alternative to addressing transportation issues. Concepts new to the region can be explored for their applicability and potential benefit for addressing regional transportation goals.

By applying planning to regional transportation issues, a conceptual “step back” can be taken to examine the actions required to create a desired transportation future for the OKI region. Planning is essential to the creation and refinement of long-term transportation solutions. The region is influenced by many factors and is in constant flux. By drafting forecasts using the best data and principles known to exist at the given time, multiple factors can be comprehensively examined and an array of scenarios considered.

COMPLETED CORRIDOR STUDIES AND PLANS

The study of a corridor provides a level playing field among all modes of transportation because it was conceived jointly by the Federal Highway Administration and the Federal Transit Administration (FTA). The metropolitan planning regulations of October 1993 require a corridor study where there are high cost and high impact transportation alternatives being considered.

In large measure, the corridor study process focuses on how to do a better job of connecting the planning process with project development in a way that provides a stronger rationale and basis for sustaining those investments. The corridor study is a unique problem solving tool that adds value to the planning process and leads to better decisions. It focuses on defining problems to be solved within a corridor or sub-area and then builds a process to reach a consensus on appropriate solutions. The process focuses on building consensus by involving local communities and interests early and often. Local involvement includes identifying a broad range of alternatives and a comprehensive evaluation of those alternatives so decisions address problems, needs and objectives. This evaluation includes consideration of multimodal alternatives such as transit as well as bicycle and pedestrian travel. It adds value by ensuring that a broad range of alternatives is considered and by offering an opportunity to streamline the overall planning and project development process. For the corridor study process to work as intended there must be strong working relationships among all interested agencies and a proactive public involvement program.

This plan includes many projects that were identified as priority projects in completed corridor studies. Other projects outside corridor study areas will require further analysis, especially those that may impact the primary system which consists of interstates. The plan leaves a modest amount of the projected available funds to projects not yet identified. This is intended to permit flexibility and the ability to amend the plan relatively easily as future corridor studies are conducted or if the scope of existing recommendations changes significantly.

In addition to corridor studies, OKI has been active in countywide transportation planning efforts in Kentucky and Indiana. Plans or assessments for Boone (completed in 2005), Campbell (2003), Kenton (2003), and Dearborn (2004) counties include recommended priorities for federal, state, and county roadways and transit improvements; an evaluation and inventory of the complete listing of roads the county is responsible to maintain; and, a vision for a multimodal system that touches upon the full spectrum of transport modes compatible with and supportive of each county's land use plan.

The following documents are listed in chronological order from most recently completed.

Household Travel Survey, March 2012

The household travel survey was the first large-scale GPS travel survey undertaken in the United States. In this project, 1,352 households were surveyed with each survey participant (13 years and older) carrying a personal global positioning system (GPS) device that tracked all travel via all transportation modes. This data is used in conjunction with the transit on-board survey data to assist in OKI's Traffic Demand Model calibration.

OKI Regional Freight Plan, August 2011

There are a total of 58 recommendations in the OKI Regional Freight Plan to address regional freight deficiencies. Each recommendation contains a cost estimate and priority ranking. The Freight Plan also makes 12 high priority recommendations for the region for which the total estimated cost in current year dollars is \$3,085,053,000. Seventy-four percent of this total is from the cost of the Brent Spence Bridge replacement project.

Transit On-Board Survey, June 2011

The transit on-board survey was a survey of transit riders on the Southwest Ohio Regional Transit Authority's (SORTA) Metro, Transit Authority of Northern Kentucky (TANK), and Clermont Transportation Connection (CTC) systems. This survey used both paper survey forms and personal interviews documented with personal digital assistants (PDA) or handheld mobile devices. Combined survey methods resulted in responses from 6,623 transit riders in the region. This data is used in conjunction with the household travel survey data to assist in OKI's Traffic Demand Model calibration.

American Recovery and Reinvestment Act, March 2009

In response to funding made available through the American Recovery and Reinvestment Act (federal economic recovery program bill), OKI received more than 600 infrastructure project requests totaling more than \$1.8 billion. Out of those requests, OKI was able to fund 30 projects. The state departments of transportation allocated \$30

million in Ohio, \$8.8 million in Kentucky and \$147,500 in Indiana. On March 12, 2009, the OKI Board of Directors approved an amendment to the OKI 2030 Regional Transportation Plan and TIP to incorporate these projects.

Fiscal Impact Model, Fall 2009

OKI developed a Fiscal Impact Analysis Model to give decision makers a better understanding of the budgetary implications of land use proposals. The need for a fiscal impact analysis tool was identified as part of OKI's Strategic Regional Policy Plan, adopted in 2005. Transportation investments stimulate land use change and economic development. The Model assists local governments to capitalize on the potential land use changes related to these transportation investments by analyzing the impact of alternative land use scenarios on their jurisdiction's budget. As communities better understand the associated costs and revenues of development through fiscal impact analyses, they will be better able to plan for investments to serve new development or to fix existing deficiencies. This can impact the regional transportation funding process and make more efficient use of tax dollars at the local and federal levels.

I-471 Corridor, October 2008

The I-471 corridor spans from the Ohio River to the US 27 intersection with the AA Highway (KY 9). This nine mile corridor in Campbell County, encompassing I-471, US 27, I-275, KY 8 and KY 9, accommodates close to a million vehicle miles of travel every day. Since the opening of I-471 more than 25 years ago, daily Ohio River crossings have quadrupled. Likewise, travel demand throughout the corridor has experienced dramatic growth, a trend that is expected to continue. The I-471 Study focused on gaining a clear understanding of the land use and transportation dynamic, as well as determining strategies to enhance the quality of life and economic potential of Campbell County. The study identified multimodal options to address areas with safety and traffic flow problems. As part of the study, an access management plan and traffic signalization optimization plan were completed for sections of US 27 also known as Alexandria Pike.

Southeastern Indiana Gateway: US 50 Transportation and Land Use Plan, September 2007

Dearborn County is the 10th fastest growing county in the state of Indiana, yet economic development opportunities in southeastern Indiana are limited by the inability of US 50 to handle current traffic volumes effectively and safely. The 18 mile long corridor has more than 400 existing access points, a number of ill-defined or ill-placed commercial driveways, and numerous conflict points that are exacerbated by two stretches of a continuous center left turn lane. A committed new bridge over Tanners Creek as well as ongoing commercial development and redevelopment throughout the corridor also dictate the need to improve mobility and safety in the corridor, to eliminate congestion, and to create more functional land development.

In March 2004, the Indiana Department of Transportation (INDOT) lead a corridor planning/assessment study conducted as a joint Environmental Assessment (EA) /Corridor Study under the INDOT Environmental Streamlining Process. To supplement INDOT's EA study, the Dearborn County Commissioners and Dearborn County Council funded The Southeastern Indiana Gateway: US 50 Transportation and Land Use Plan (US 50 Gateway Study). This study supplemented the INDOT study by looking at the land use opportunities in the corridor, by better defining access management and transportation operation improvements and by assisting a public discussion that resulted in an appropriate vision for the corridor. The goals of the study were to improve

safety and mobility and to create functional development patterns.

The study was completed in September 2007 and included several overall corridor recommendations. First, the study recommended the creation of a US 50 corridor collaborative of government officials from Dearborn County, Greendale, Lawrenceburg, Aurora, and Dillsboro to assure consistency and sustainability along the US 50 Corridor. Second, the study recommended that each community should independently adopt the conceptual zoning recommendations of the US 50 Gateway Study and access management regulations developed by INDOT. In addition, the US 50 Gateway Study made several corridor section-by-section recommendations.

Western Hamilton County Transportation Study, February 2007

The Western Hamilton County Transportation Study provided a strategic plan to improve mobility and safety throughout western Hamilton County. The study area, home to about one-third of Hamilton County's population, encompassed approximately 178 square miles. Completed in February 2007, major recommendations from the study included: continued improvements on Colerain Avenue from Kirby Road to Raeann Drive; upgrades to Cheviot Road to enhance its viability and safety as an alternative route to Colerain Avenue; intersection improvements, signal timing adjustments, lane additions and road widenings along a one mile section of Bridgetown Road; numerous improvements on Glenway Avenue between Cleves Warsaw and Crookshank including access management, turn restrictions and operational improvements; numerous improvements on a two mile stretch of Anderson Ferry Road including access management techniques, sidewalks and turn lanes; and, numerous improvements along an eight mile stretch of River Road including turn lanes, roadway widenings, parking restrictions, signage, access management techniques and sidewalks.

Uptown Transportation Study, January 2007

Completed in January 2007, the Uptown Transportation Study was a two part study undertaken to develop a comprehensive transportation plan for the Uptown area in Cincinnati. Uptown is the second largest economic engine in the OKI region behind downtown Cincinnati. Part A of the study was a comprehensive review of all elements of the transportation system within a broad area encompassing the Cincinnati neighborhoods of Avondale, Clifton, Corryville, East Walnut Hills, Evanston, Mt. Auburn, North Avondale, Walnut Hills, and Clifton Heights, University Heights, and Fairview (CUF). Major recommendations resulting from the Part A study included: upgrade of ML King, Burnet Avenue and Vine Street; signal system coordination; development of additional parking structures; development of a comprehensive package of new directional signage; development of a Travel Management Association to facilitate transportation improvements; improvements to pedestrian and bicycle facilities; and, improvements to transit service, wayfinding signage, and facilities.

Part B of the study focused on developing a set of feasible alternatives to improve access between I-71 and the Uptown area that would reduce travel times, reduce complexity of wayfinding and promote economic vitality. After completing the first four steps of ODOT's Major Project Development Process (PDP), six build alternatives were recommended to be advanced through PDP Steps 5 through 7 to arrive at a preferred alternative and to produce the associated environmental documentation. Additional Part B recommendations included: reconstruction of the southbound entrance ramp from Montgomery Road to I-71 southbound; study of the I-71 Reading Road

interchange to evaluate the feasibility of eliminating the weaving movement from I-471 to the Reading Road exit; and, evaluation of the need for an additional lane on I-71 between the Taft/McMillan and the Dana Avenue interchange.

The Dixie Fix: Envisioning the Future of Dixie Highway, June 2006

In response to a recommendation made by the Dixie Highway Corridor Study, the Dixie Fix: Envisioning the Future of Dixie Highway resulted in an access management redevelopment plan intended to provide a long-range planning approach to relieve congestion problems and provide better access to Dixie Highway. OKI partnered with the Northern Kentucky Area Planning Commission to complete the study in June 2006. The Dixie Fix was conducted to identify specific transportation planning and design solutions along the major arterial from Covington to Florence which would result in increased safety, travel efficiency and quality of life. Results from this study included a list of 36 prioritized projects involving operational improvements and/or access management, and guidelines that serve as implementation standards such as future right of way widths, transit stop improvements, expanded bicycle and pedestrian accommodations, and increased streetscape design measures.

Southwest Warren County Transportation Study, August 2005

OKI undertook a study to identify the most effective alternatives for improving mobility in Warren County. The study area was bordered by I-75 to the west, SR 63 to the north, SR 48 to the east, and along US 22/SR 3 to the county line in the south. The study addressed the need for maintaining accessibility along major transportation corridors on the basis of the existing and future conditions. OKI's effort included responsibilities for coordination of both the technical and public involvement aspects of the study process. Completed in 2005, eight high priority projects were identified: connect Bethany Road to Mason-Morrow-Millgrove Roads and widen to three lanes between Butler Warren Road and SR 48 with right of way for five lanes; extend Waterstone Drive across I-71 to connect with Duke Drive; widen Columbia Road one lane in each direction between Kings Mill and Mason-Morrow-Millgrove Roads; widen Butler Warren Road one lane in each direction between Barrett/Western Row and Bethany Roads; conduct a feasibility study to identify a comprehensive solution for the I-71 interchange at Fields Ertel and Mason Montgomery Roads; expand the I-71 interchange at Western Row Road to a full interchange; and, improve the I-71 interchange at SR 741 and Kings Mills Road.

Dixie Highway Corridor Study, June 2005

Completed in 2005, The Dixie Highway Corridor Study provided an analysis for improving traffic flow and safety along Dixie Highway, a major, heavily traveled urban arterial in northern Kentucky between the Ohio River and the city of Florence. The study focused on the application of a coordinated, adaptive signal system, incident management coordination with I-75/I-71 linkages with ARTIMIS, and deployment of signal pre-emption by emergency vehicles. The study also included conceptual design of intersections in need of improvements and segments requiring access management. These operational improvements were expected to enhance efficient and safe traffic movement on this arterial.

North/South Transportation Initiative, October 2003

In 1999, the North/South Transportation Initiative (NSTI), Phase II of the I-75 Corridor Study, was initiated

by OKI in partnership with the Miami Valley Regional Planning Commission. This phase of the study included the I-75 corridor from northern Kentucky through Dayton to the Miami County line. The recommendations from Phase I served as the base scenario for Phase II. Completed in 2003, the study's oversight committee made recommendations for a preferred program of projects that were classified into three separate categories. The first category included system modification alternatives or those projects that would improve the overall flow of the interstate mainline, as well as improvements to parallel roadways. The second category included access modification alternatives or those projects that address new or modified interchanges on the interstate. The third recommendation category included corridor capacity alternatives or those projects, both roadway and transit, which are designed to increase the overall capacity of the interstate. These specific corridor capacity alternatives included: four continuous lanes on I-75 throughout the Ohio portion of the OKI region with an auxiliary lane to be added in areas of congestion, high frequency light rail and enhanced bus service, and study of multimodal freight movement.

The NSTI has now entered the PE/EIS phase. The PE/EIS is being conducted by ODOT in two separate segments entitled Through the Valley, I-75 Mill Creek Expressway. Replacement of the Brent Spence Bridge was also a product of the NSTI and is in the planning phases. As the I-75 connection across the Ohio River between Ohio and Kentucky, this bridge project is a joint effort of ODOT and the Kentucky Transportation Cabinet.

Northwest Butler Transportation Study, October 2003

The Northwest Butler Transportation Study (NBTS) was an in-depth study of the transportation needs and possible solutions to transportation related problems in a 125 square mile area centered on US 27 and SR 73, spanning eight townships in northwest Butler County, Ohio. The purpose of this study was to determine a recommended long-range strategic plan of implementable improvements for future transportation in the NBTS area. The recommendations resulting from the NBTS study included: upgrading key intersections and lane and shoulder widths of several roadway sections; re-aligning US 27 and SR 129 in Millville; widening US 27 to four lanes from SR 128 to Millville; expanding US 27 to a three lane segment between Minton Road and McGonigle and between Stillwell Beckett and Chestnut Roads; adding a two lane connector between US 27 and SR 73 and between US 27 and SR 732 south of Oxford; and, considering the re-routing of US 27 over local roads. The study was completed by OKI in 2003.

Central Area Loop Study, November 2001

The Central Area Loop Study examined the need for a loop circulator system to connect the downtown areas of Cincinnati, Covington, and Newport; the traffic flow on Fourth and Fifth Streets in Covington and Newport; and possible alignments for a light rail link from the proposed I-71 light rail line to the city of Newport. The boundaries of the Central Area Loop Study were I-75 on the west, the city of Newport's eastern boundary line on the east at I-471, Central Parkway in Cincinnati on the north, and 12th Street in Covington and 11th Street in Newport on the south. Following 18 months of analysis, the study's advisory committee developed recommendations designed to decrease traffic congestion and improve mobility to downtown Cincinnati, Covington and Newport. Recommendations were made regarding loop circulator service, streetcar, personal rapid transit, Fourth and Fifth Streets in Covington and Newport, the Veteran's Memorial Bridge, and a possible Newport light rail spur. The

study was completed by OKI in 2001.

Northeast Boone County, September 1999

The Northeast Boone County MIS was initiated to explore possible transportation solutions in the vicinity of the Cincinnati/Northern Kentucky International Airport, a rapidly growing area experiencing high rates of traffic growth. The Northeast Boone County MIS was completed in September 1999. The top three recommendations were roadway projects designed to improve mobility in the corridor and included: widening North Bend Road; improving the interchanges of KY 212 and Donaldson Road with I-275; and, constructing New South Airfield Road which would skirt the eastern and southern airport property and connect Mineola Pike and KY 18.

Eastern Corridor, December 1998

Like the I-71 corridor study, the Eastern Corridor Study was an outgrowth of the OKI 1993 Regional Transportation Plan. The MIS phase of the study was completed in 1998 and the plan has now entered the PE/EIS phase. The PE/EIS is being conducted by the Hamilton County Transportation Improvement District. The Eastern Corridor study area covers nearly 200 square miles in parts of Hamilton and Clermont counties in Ohio and also part of Campbell County in Kentucky. The study area extends east from downtown Cincinnati to Milford, Batavia and Amelia before dipping into northern Kentucky along I-275 and I-471.

The MIS culminated in a plan that was recommended by the Eastern Corridor Task Force and was adopted on December 10, 1998 by OKI's board. Following consideration of public comments and group discussion, the task force, comprised of nearly 60 members representing 18 local governments in the corridor, recommended a multimodal plan with four categories of improvements including: highway improvements to preserve and expand the capacity of the roadway network; Transportation System Management to optimize the performance of existing roadway and bus transit investments and to expand pedestrian and bicycle facilities; bus service expansion to extend new routes in developed areas; rail transit on existing infrastructure to establish new east-west transit service and connect major employment centers; and, right of way preservation along the existing Wasson rail line from Xavier University to Fairfax for potential connection to the I-71 light rail transit.

I-71 Corridor Phase II, April 1998

An MIS for the I-71 corridor was completed in order to improve mobility along the northeast corridor near I-71 and its neighboring areas. The Phase II I-71 corridor extends from Florence, Kentucky and the Cincinnati/Northern Kentucky International Airport; north through Boone and Kenton counties; along I-71/I-75 into downtown Covington; through downtown Cincinnati, the University of Cincinnati/Medical Center area, the cities of Norwood, Silverton, Blue Ash, and several other Hamilton County cities; and finally terminating in southern Warren County at Kings Mills Road. Light rail transit was identified as the preferred alternative to address the transportation goals established for the corridor including improving mobility, accessibility, the physical and social environment, economic development and air quality. The preferred alternative was approved by the I-71 Oversight Committee by majority decision in March 1998 and adopted by the OKI Board of Trustees in April 1998. The Minimal Operable Segment was identified as the area between 12th Street in Covington, Kentucky and approximately Cornell Road in Blue Ash, Ohio. The Preliminary Engineering and Draft Environmental Impact

Statement (PE/DEIS) Report was submitted to FTA in July 2003. During the PE/DEIS portion of the study, the exact alignment, station locations and environmental impacts were evaluated. In 2003, a Hamilton County tax levy failed to pass public vote which would have provided the local funding necessary to initiate implementation of the preferred light rail transit alternative. This recommendation remains on hold until local funding and support can be obtained.

Fort Washington Way, January 1997

The Fort Washington Way section of I-71, along the central riverfront area of Cincinnati, was studied as a sub-corridor within the I-71 Phase II corridor study. The study of Ft. Washington Way, conducted separately but concurrently with the I-71 corridor study, was completed in January 1997. At the request of the city of Cincinnati, the OKI Board of Trustees agreed in September 1995 to conduct an analysis of Fort Washington Way to determine whether to rebuild, modify, or eliminate it altogether. The decision was made to redesign the facility. It became apparent that this major roadway project would prove to be the keystone for redevelopment of the Cincinnati riverfront. The redesign of the facility not only improved the performance of the roadway system but also did so on a smaller amount of right of way and freed up valuable real estate. Paul Brown Stadium, Great American Ballpark and the National Underground Railroad Freedom Center benefited from the additional land made available by the smaller Fort Washington Way roadway. A major storm water retention basin was also built into the project at the foot of the new Third Street. Staging areas for buses and other travel modes were included below the new Second Street. The main line of the new facility was fully opened by the end of 2000. This project was remarkable in terms of the amount of interagency coordination and communication required to make it possible. This major project went from concept to completion in an astounding five years.

I-275 East Corridor, 1997

As with the I-75 and I-71 corridor studies, the I-275 East Corridor MIS was conducted by ODOT in 1997 when current and projected traffic volumes resulted in unacceptable levels of congestion and delay. ODOT realized the need for alternatives to alleviate congestion problems by the year 2010. The boundaries of the study area included Five Mile Road to the south and US 50 to the north. Additional routes such as Eight Mile Road, Mt. Carmel-Tobasco Road, Glen Este-Withamsville Road, Beechwood Road, Summerside Road and Tealtown Road, were also included in the analysis to provide evaluation on a corridor scale. The preferred alternative for the I-275 East Corridor was a combination of improvements and strategies at an estimated cost of \$91,568,300. The major recommendation was to add one lane in each direction on I-275 between US 50 and Five Mile Road. This roadway widening, at an estimated cost of \$40,500,000, has been completed.

I-71 Corridor Phase I, 1996

The I-71 corridor study began in 1994 as an effort to evaluate the operations of the interstate and options to improve mobility in the corridor. The corridor is defined as the area within approximately one mile east and west of the interstate facility. The north and south boundaries of the study area were defined as SR 48 in Warren County to I-275 in northern Hamilton County. The study recommended that I-71 in Warren County be widened to four lanes in each direction between I-275 and SR 48. The study was completed by ODOT in 1996.

I-75 Corridor Phase I, 1996

The I-75 study area extended from I-275 north to SR 63. Conducted by ODOT, Phase I of this study was embarked upon due to the additional traffic expected to be generated from the construction of the SR 129 (Butler County Veterans Highway) and the Allen Road Interchange. The study was completed by ODOT in late 1996. The preferred alternative for Phase I of the I-75 corridor was estimated to cost \$54,268,500 with a combination of improvements and strategies including: the construction of an auxiliary lane in each direction of I-75 between I-275 and Cincinnati-Dayton Road and between SR 129 and Tylersville Road; expansion of bus service within the corridor; implementation of an expanded RideShare program; expansion of the Advanced Regional Traffic Interactive Management and Information System (ARTIMIS) to SR 63; implementation of an incident management program; coordination of SR 747 and US 42 signal systems; and, improvement of access management along SR 4, SR 747, and US 42.

RECOMMENDED FUTURE TRANSPORTATION RELATED ACTIONS AND PLANNING STUDIES

Policy Action/Partnership-Building Recommendations

- **Activate the “Port” in the Port of Greater Cincinnati Development Authority.**

The OKI Regional Freight Plan lists the deficiencies of current port or river facility development and identifies existing organizations that could serve as the implementing agencies for each initiative. One of the top 12 Freight Plan priority recommendations identified the Port of Greater Cincinnati Development Authority to serve as the lead implementing agency to address current river freight related deficiencies. This



assignment was due to the agency’s port authority status and jurisdiction, which encompasses the majority of current barge terminal operations in the OKI region. Port authorities can exercise significant powers to develop transportation, such as planning and promotional activities, and the authority to tax and issue debt to finance capital improvements. An annual cost estimate of \$300,000 is intended to cover only administrative costs for the Port of Greater Cincinnati Development Authority to assume this role. Land acquisition, remediation or construction costs are not included in the estimate. The Port Authority can enhance the profile of regional waterway assets as a lever for economic development.

- **Regional Public-Private Freight Rail Partnership.**

The OKI region suffers from major rail bottlenecks affecting both Class 1 railroad operators: Norfolk Southern (NS) and CSX. These operators share trackage rights in the Mill Creek Valley and must carefully coordinate daily operations to minimize delays. Congested railroad operations in the region also raise significant public policy concerns. Blocked grade crossings are frequently cited as an issue in every OKI county and one that could be exacerbated given the forecasted growth in rail traffic over the next 30 years. Also, coordination between the freight railroads and local communities needs to improve on critical matters such as closing grade crossings for maintenance activities.

The status quo of communication between railroads and local public officials is not acceptable. The two sectors must engage to resolve public-private conflicts, develop projects that will improve freight transportation in the region and



take action to see immediate results. Every railroad recommendation that follows in this section will depend on communication, cooperation and partnership between railroads and the public sector. An example of such a partnership comes from Chicago, where the Chicago Region Environmental and Transportation Efficiency (CREATE) program was formed to address and resolve regional railroad issues. CREATE partners include six freight railroads, Amtrak, commuter rail agencies and local and state elected officials. CREATE has developed a comprehensive program of freight infrastructure projects that will improve safety, reduce congestion for rail passenger and freight trains and provide environmental benefits. CREATE has also been successful at applying for federal grants and leveraging private dollars to fund infrastructure improvements that have public and private benefits.

A similar collaboration between the public sector and railroads is critical to implementing a number of the recommendations in the OKI Regional Freight Plan. One of the top 12 Freight Plan priority recommendations stated that a modest investment for administrative costs be directed to advance the public/private partnerships required to implement railroad improvements throughout the region.

- **Regional Truck Size and Weight Regulation**

Truck weight regulation is a top policy concern of the transportation community. Heavy trucks cause severe pavement damage, especially on the local road system which often does not have sufficient pavement thickness to handle heavy loads. The adequacy of local bridges to handle heavy trucks is also a critical safety concern. Not surprisingly, there are some roads and bridges that are deteriorating under heavy trucks accessing the the Gest Street Yard including Spring Grove Avenue, Winton Road, North Bend Road, and Hamilton Avenue.

In spite of these legitimate policy concerns, there is industry and political pressure to increase truck weight limits. The reason for increasing weight limits lies with productivity: with driver shortages, increased fuel costs, and more strict insurance and safety regulations, trucking productivity is in decline. One way to increase truck productivity is to allow



higher weight limits per truck which brings into play all of the public policy concerns indicated above.

While interstate size and weight regulations are determined at the federal level, there is latitude at the state level for issuing oversize/overweight truck permits. A state, region or local jurisdiction can rely on federal officials to manage truck size and weight regulations or work constructively with the trucking industry and state regulators to shape the parameters of overweight permits and regulations. It is recommended that regional leaders take the latter approach and actively engage with the trucking industry and state regulators to address, at a minimum, the following critical policy issues:

- Identify appropriate truck routes for overweight trucks based on sufficiency in terms of geometric design, pavement thickness and bridge condition.
- Modify existing ODOT permit language, as appropriate, to define the routes that are most adequate for heavy trucks.
- In establishing permit routes with state government, extract state maintenance or improvement funding for roads if the routes are currently inadequate from a structural standpoint.
- Map and communicate eligible heavy truck routes and terminals to freight stakeholders (e.g., specific terminals and commodities, like agricultural exports from NS Gest Street and CSX Queensgate Yards, or general permit conditions like Ohio three steel coil permit).
- Include law enforcement officials to ensure strict enforcement of routes and permits. If appropriate, consider a necessary fee structure to finance heavy truck enforcement.
- Identify other businesses in the tri-state area that would benefit from heavy truck routes and develop a regional permit as appropriate.

An overarching objective of this recommendation is to provide local governments with a voice in determining oversize/overweight permit routes, so that the state regulatory agencies will select routes with the least public impacts in terms of maintenance cost, safety, and congestion.

To carry out this recommendation, regional leaders should meet with trucking industry representatives and state transportation officials from Ohio, Kentucky, and Indiana to investigate the parameters of existing overweight permits, modify the route specifications if necessary, and explore options for regional permitting of heavy trucks where there is evidence of economic benefit.

Corridor Study Recommendations

This plan also identifies corridors, sub-areas and special transportation related topics requiring study of potential major improvements. The recommendations resulting from these corridor studies may then be incorporated as a future update to this plan however, this plan must remain fiscally constrained and meet air quality conformity requirements.

• East Sharon Road Study

One of the top 12 OKI Regional Freight Plan priority recommendations calls for further study of East Sharon Road due to its regional significance for freight flow and direct impact on local communities. This recommendation is to analyze the segment of East Sharon Road, including both the intersection of Medallion Drive



Figure 8-1: East Sharon Road Entrance to Norfolk Southern Railroad's Sharon Intermodal Yard

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 of NS intermodal freight activities. In February 2012, the double stack clearance project was completed between Rickenbacker Intermodal Facility in Columbus and the Sharon Yard. The full impact of this improvement on rail to truck freight volumes and roadways in the OKI region will be driven by market demand. This study should account for future such growth. The estimated cost for this study, in 2011 dollars, is \$250,000.

• Accessibility Between the Licking River and I-275 in Kenton County

During the development of the Regional Freight Plan in 2011, OKI learned from Kenton County of the redevelopment potential that exists on the western banks of the Licking River, near the I-275 crossing. Much of this stretch of riverfront was formerly occupied by CSX and its Decoursey Yard rail operations. The former L&N classification yard at Decoursey closed when CSX initiated operations at Queensgate in 1981. Over the last several years, the use of this property for yard service has diminished. As a result, CSX has removed large amounts of yard rail track from this area, leaving prime undeveloped parcels with good rail and water access available for brownfield redevelopment. Efficient truck access between I-275 and the Decoursey Yard area along KY 177/Decoursey Pike is lacking. A recommended solution included in the Regional Freight Plan involves the improvement of Grand Avenue between KY 177/Decoursey Pike and KY 16/Taylor Mill Road, so that it can better handle truck traffic. Improvement of mobility from the river to I-275 would also assist in reducing the amount of freight traffic traveling through Ritte's Corner in Latonia and other local roadways to the north.



Figure 8-2: Grand Avenue in Taylor Mill, Kentucky

A second Regional Freight Plan recommendation spoke to the lack of truck access south of I-275 as well. Locust Pike is a north/south route that runs parallel on the west side of the Licking River. This roadway cannot handle large volumes of heavy trucks because of its narrowness and geometric limitations. Improving connections to KY

177 and KY 16 via Porter and Wolf roads was another possible solution to these I-275 truck access problems offered in the OKI Regional Freight Plan.



Figure 8-3: Truck Access South of I-275

During the update of this plan, this accessibility was heard once again from Kenton County and Taylor Mill representatives. However, it was unclear whether Grand Avenue was the chosen corridor on which improvements should be invested and truck traffic directed. OKI recommends that this area of Kenton County be studied so that the appropriate corridors can be identified for responsible, future public investments.

• I-275 South Between I-75 and the Ohio River

There is local interest supporting a future corridor study of the I-275 corridor between I-75 and the Ohio River in Kenton and Campbell counties. The study will evaluate options for improving traffic flow and improving safety.

• Route 8 in Bellevue and Dayton, Kentucky

KY 8 is a key east-west route in Northern Kentucky which suffers from inadequate level of service and poor operational capabilities. The I-471 Corridor Study completed in 2008 identified the need to initiate a detailed analysis of the section through Bellevue and Dayton.

Congestion Management, Safety and Multi-Modal Enhancement Study Recommendations

To reduce congestion along the region's arterials, improve reliability and safety, and expand affordable travel modal options for all transportation users, new and creative efforts or studies are recommended to identify and analyze alternatives for potential implementation beyond those which have been applied in the OKI region up to the present time.

• At-Grade Crossings Safety Study

At-grade railroad or highway crossings are a large safety concern of local governments in the OKI region. As train volumes increase, the potential for collisions at these crossings grows as well. The rail freight growth forecasted for the region adds to the concern of local agencies. This recommendation originated in the Regional Freight Plan and suggests that OKI coordinate efforts with rail grade crossing safety programs administered by Ohio, Kentucky and Indiana, and where appropriate, to assist in funding grade crossing safety improvements. The intent of this recommendation is for OKI to coordinate with existing rail grade crossing safety programs so that the region can maximize public funds.



• **Alternative Routing System**

The regional freeways are heavily traveled and major incidents such as spilled loads and crashes can tie up traffic for several hours. Although ARTIMIS is a valuable tool for providing traffic information to motorists, an alternative routing system should be identified to reduce delays and enhance safety, economic, and environmental implications. In addition, an alternative routing system could maximize the overall system efficiency by encouraging the use of nearby parallel arterial highways, especially for shorter local trips, when freeways are congested. By collaborating with state and local governments, OKI could develop a system of alternate routes generally parallel to freeways.

• **Regional Express Truck Lanes Feasibility Study**

Traffic forecasts for the regional highway network suggest that most roadways will experience severe peak-hour congestion by 2030. This includes all sections of I-71, I-74, I-75 and most of I-275. These forecasts include the improvements underway on I-75 (Mill Creek Expressway and Thru the Valley projects) and the most recent investment study for I-71 from downtown Cincinnati to Kings Mill which, by OKI policy, sets capacity at three lanes in each direction.



Larger urban areas, with more acute highway and freight congestion, are considering new programs to accommodate current and future truck growth—including dedicated truck lanes, which can be self-financed by tolls. Looking forward, such truck toll policies may become the norm for regional freight mobility, but are currently only considered or implemented in the most-congested parts of the country (e.g., Los Angeles, Atlanta, New Jersey).

In light of the OKI region's freight growth and regional traffic congestion, there are two provocative questions for area transportation policy makers to consider:

- If the OKI region implemented truck toll lanes, what competitive advantage would the region have in 30 years, compared to regions that did not implement truck lanes?
- Conversely, what logistical disadvantages would the OKI region have if competitive regions such as Columbus and Indianapolis developed truck toll lanes and the OKI region did not?

The OKI region could take the offensive and move forward in terms of freight mobility by evaluating and implementing toll truck lanes on a regional basis or on specific freeway corridors. The Regional Freight Plan recommends that OKI sponsor a study of truck lane potential and feasibility for the region at an estimated cost of \$250,000. Truck lanes could offer a competitive advantage for the region and an opportunity for the OKI region to advance ahead of the status quo in most Midwest urban areas.

• **Congestion Pricing**

Under congestion pricing, motorists pay for the use of certain roads and bridges or for entering a congested area. Motorists may face usage fee schedules ranging from peak only fees to fees that vary by time of day, facility or level

of use. Congestion pricing provides incentives for travelers to take congestion costs into account when making trip decisions, thus leading to more efficient use of facilities and potentially avoiding construction of expensive new capacity.

A future OKI study investigating congestion pricing will evaluate the potential this technique has in alleviating congestion in the OKI region.

• **High Occupancy Vehicle Lanes**

High occupancy vehicle (HOV) lanes are intended to encourage the use of buses, carpools and vanpools. On facilities dedicated to their exclusive use, transit and rideshare vehicles can travel at faster speeds than they would in mixed traffic.

An HOV lane may be constructed as a separate roadway or it may be added to or removed from an existing roadway. On an existing facility, the HOV lane may be physically separated from adjacent lanes by barriers or it may be designated by signs, pavement markers, or other means. In some cases, the same HOV lane accommodates both inbound and outbound traffic by having its direction reversed for morning and afternoon peak hours. These types of lanes require investments for enforcement and, in the case of reversible HOV, significant investments in operations and safety. In addition to lanes, other facilities that support HOV use include metered ramps or bypass lanes that give buses and rideshare vehicles priority access onto interstate highways.

A future OKI study is recommended to evaluate the potential for HOV lanes to alleviate congestion in the OKI region.

• **Electronic Roadway Tolling**

Governments are increasingly unable to raise the funds for new transportation facilities or to adequately maintain existing ones. Electronic tolling is an innovative tool for easing congestion and funding major transportation projects. Advancements in tolling technology can also help add capacity to the roadway system. A toll that varies by time of day is one way to manage the existing roadway system. Higher toll rates during peak commute times promote trips outside the peak traffic times and encourage drivers to choose alternative commuting options.

A future OKI study investigating electronic roadway tolling will research techniques and opportunities for tolling and other “pay as you go” options for the OKI region.

• **Scenario Planning**

A technique known as scenario planning can identify alternatives for growth and related transportation needs and future trade-offs. Understanding the impacts of various possibilities or scenarios for the future can assist local governments identify cost effective strategies to adapt to changing circumstances.

Scenario planning involves the identification of growth trends and community needs. Typically, trends in transportation and congestion, land use, safety, demographics, health, economic development, and the environment

are assessed. Transportation impacts and outcomes based on these trends are then visualized and illustrated. This process facilitates enhanced decision making that can help to manage limited resources for public facilities such as transportation. The scenario planning process can help people understand forces of change and their collective choices.

The consideration of how implementing new transportation services and facilities based on scenario growth trends and community needs deserves consideration, as appropriate, in future corridor or special studies.

SUMMARY

Corridor, special studies and plans represent a subset of this regional transportation plan and an opportunity for more detailed study and enhanced public involvement opportunities. OKI recognizes the importance of corridor and special studies and has devoted significant resources to them in the past and will continue to do so in the future. The transportation issues facing the OKI region require new and creative approaches. Future corridor, special studies and planning efforts will examine potential opportunities and offer fiscally-responsible and efficient transportation solutions for the OKI region.