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# 1.0 PURPOSE AND NEED

## 1.1 INTRODUCTION

This section of the Draft Environmental Impact Statement (DEIS) identifies the need for transportation improvement in the Cincinnati-Northern Kentucky metropolitan area. The Interstate-71 (I-71) Corridor study area is a 19-mile corridor that connects Covington, Kentucky on the south to the rapidly growing suburb of Blue Ash, Ohio on the north. The I-71 Corridor connects the metropolitan areas four largest employment centers: the Covington central business district (CBD); the Cincinnati CBD; Uptown district including the University of Cincinnati and medical center complex; and the suburban community of Blue Ash. The majority of the I-71 Corridor is composed of moderately high-density urban development, along with many of the major activity centers in the region.

## 1.2 NEED FOR TRANSPORTATION IMPROVEMENTS

Over the past 25 years, the metropolitan area of Cincinnati has experienced considerable growth and changes in employment, population, and development patterns; ultimately resulting in a significant need for more transportation alternatives to serve both local and regional needs. The I-71 Corridor, one of the most traveled corridors in the Cincinnati metropolitan area, serves nearly 25 percent of all vehicle trips within the Ohio-Kentucky-Indiana Regional Council of Governments (OKI) jurisdiction. The I-71 Corridor is one of the most diverse urban travel corridors in the United States, specifically because it traverses portions of two states, two counties, and seventeen local jurisdictions. This is a high priority corridor for investment in the region, as it is critical to the vitality and livelihood of Greater Cincinnati and Northern Kentucky.

### 1.2.1 PROJECT DESCRIPTION AND BACKGROUND

The I-71 Corridor is one of the most important transportation corridors in the Cincinnati metropolitan area. It serves four of the largest activity centers, business districts, multiple cultural districts, sports complexes, universities, and state government facilities. This area is home to a variety of land uses, ranging from high-density office and residential districts to large-lot suburban style residential areas, and some of the most diverse neighborhoods in the region. Increased transportation options are vital to the mobility of the I-71 Corridor and the entire metropolitan area.

OKI identified this corridor for study of alternative modes of transportation to improve mobility in the corridor and this recommendation was adopted by the OKI Board of Trustees. The study area includes a 19-mile long corridor that traverses through the following areas, listed by segment:

- Covington, Kentucky
- Ohio River Crossing
- Cincinnati Riverfront
- Downtown Cincinnati
- Over-the-Rhine
- Mount Auburn Tunnel

- University of Cincinnati
- Avondale to Norwood
- Norwood to Blue Ash
- Blue Ash

The local jurisdictions directly served by this corridor include Covington, Cincinnati, Norwood, Columbia Township, Silverton, Deer Park, Sycamore Township, and Blue Ash. Park & ride facilities are proposed in seven of the twenty-five stations that are currently planned. The light rail transit (LRT) alignment traverses the existing roadway network by operating in a variety of environments along the corridor. In general, it is proposed to operate in railroad right-of-way, parallel to the roadway, above grade level in a tunnel, and in some instances in the roadway.

### 1.2.2 I-71 CORRIDOR TRANSPORTATION STUDY

In response to a recommendation in the 2010 Regional Long Range Transportation Plan (LRTP), the I-71 Corridor Major Investment Study (MIS) was initiated in 1995. At the onset of the I-71 Corridor MIS, a committee of approximately 80 representatives from local and state government agencies, businesses, citizen groups and environmental groups was formed by OKI. This committee was ultimately responsible for guiding the decision-making process and making recommendations to the OKI Board of Trustees. This committee, named the I-71 Corridor Oversight Committee, was formed to identify goals and objectives for the study; to review and evaluate the technical analysis of a range of modal solutions; and to gain feedback from the public.

The I-71 Corridor MIS identified conceptual mode and alignment alternatives which were discussed in public meetings throughout the corridor and ultimately evaluated by the I-71 Corridor Oversight Committee. The preliminary set of alternatives resulted from an expansive public involvement effort called the “MIS Scoping Meetings”. Alternatives were defined in the *I-71 Corridor Transportation Study Scoping Report (March 1996)*. These alternatives included no-build, highway widening, high-occupancy vehicle (HOV) lanes on I-71, an exclusive busway, transportation system management (TSM), LRT, and commuter rail transit.

Following three years of study, the I-71 Corridor Oversight Committee recommended to the OKI Board of Trustees that LRT in conjunction with the TSM Alternative, was the best solution for addressing the future transportation needs of the I-71 Corridor. The OKI Board of Trustees formally adopted this recommendation as the Locally Preferred Strategy (LPS) on March 26, 1998. This decision was made based on the following evaluation criteria which the I-71 Corridor Oversight Committee developed (listed in priority order):

- Transportation Service
- Environmental Impacts
- Community Impacts
- Costs
- Engineering Difficulty

- Public Input
- Economic Impacts

### 1.2.3 OKI LONG RANGE TRANSPORTATION PLANS

The *Managing Mobility: Year 2010 Regional Transportation Plan* was a long-range plan adopted by OKI in 1993. This plan was the kick-off to the present process of analyzing the proposed LRT concept in the I-71 Corridor. The overlying issues addressed in this plan included problems with traffic congestion, decreased transit usage, and decreasing air quality. OKI's analysis of future traffic indicated that highway and arterial traffic throughout the I-71 Corridor were projected to increase and operate at near congestion levels in the year 2010.

To address these issues, OKI committed to establishing a regional rail transit system serving southwest Ohio and northern Kentucky as a viable alternative mode of transportation. Based on existing and forecasted mobility needs, potential for high ridership, and right-of-way availability, the I-71 Corridor was identified as the region's priority for a transit corridor. It was proposed to be the "spine" of the recommended transit system. Additionally, other measures to meet future travel demand were recommended to be assessed, such as HOV lanes, busways, highway expansion or widening, and TSM.

The 2020 Long Range Transportation Plan, termed *Looking Ahead: 2020 Metropolitan Transportation Plan*, is the update to the 2010 Regional Transportation Plan. This document addresses the future needs of the metropolitan area due to growth and development, while responding to the requirements of mitigating congestion, meeting financial constraints, addressing air quality and other environmental, social, and financial issues. The regional objectives outlined in the plan were as follows:

- Improve traffic operations using access management, traffic signal integration, and intersection widening
- Improve transit by implementing four alignments of light rail and one alignment of commuter rail, constructing transit centers and hubs, and increased coordination among transit agencies
- Expand certain highways such as Fort Washington Way, and segments of I-71, Interstate-75 (I-75), and Interstate-275 (I-275)
- Apply Transportation Demand Management strategies to reduce single occupant vehicles
- Conduct studies to determine future corridor needs

The *OKI 2030 Regional Transportation Plan*, adopted by the OKI Board in October 2001, establishes a blueprint for transportation solutions to challenges that will occur due to continued growth and development of the region. The plan was designed to meet the projected population of over 2.3 million people and projected increase in employment by over 40 percent between 1990 and 2030. The outlined goals of this plan include:

- Improve mobility for people and goods
- Protect environmental quality
- Develop new transportation funding sources and strategies
- Improve travel safety

- Provide transportation opportunities in an equitable manner
- Strengthen the connection between land use and transportation planning

Many of the recommendations presented in this plan involve improvements to the public transportation system. They included the expansion of the bus transit service, development of rail transit, development of transit centers and park & ride lots, and various initiatives to connect transportation systems in the OKI region. Six alignments for rail transit (five light rail alignments and a commuter rail line) have been recommended for the metropolitan area. Overall, it is planned that regional mobility improvements will have to come from improvements and enhancements to the public transportation system in the OKI region.

### 1.2.4 DEMOGRAPHICS AND LAND USE IN THE STUDY AREA

The proposed I-71 Corridor LRT alignment would serve a diverse mix of population, employment, and land uses, including some of the highest density developments of residential and employment uses in the metropolitan area. Cincinnati has experienced significant growth in population and employment. The OKI region had a population of 1,646,396 people in the year 2000, making it one of the top 30 metropolitan areas in size. This region is projected to grow to over 2.3 million people by the year 2030, a 33 percent increase over 1990<sup>1</sup> population.

This corridor, one of the densest in population and employment in the metropolitan area, is home to a high concentration of people who depend on transit for access to jobs, health care, shopping, and other destinations. According to data from the United States Census and OKI, there were 277,019 people living within ½-mile of the alignment in 1990. Over 15 percent of the total population in the metropolitan area is located near this 19-mile alignment, as illustrated in Table 1.2.1.

**Table 1.2.1: OKI Metro Area Demographic Characteristics**

	<b>Eight County Metropolitan Area</b>	<b>I-71 Corridor<sup>3</sup></b>	<b>Percentage of the Metropolitan Area</b>	<b>Percent of Corridor Studied</b>
Total Population	1,646,395	277,019	100%	100%
Total Households	734,145	115,468	100%	100%
Minority Population	284,668	99,093	15.1%	35.8%
Mobile Youth	552,724	44,709	29.3%	16.1%
Elderly (65+ Years)	221,093	40,540	11.7%	14.6%
Persons Living in Poverty <sup>1</sup>	174,815	46,574	9.3%	16.8%
Zero Car Households <sup>2</sup>	76,103	N/A	10.4%	N/A

Source: United States Census Bureau 2000

<sup>1</sup>United States Census Bureau 1997

<sup>2</sup><http://www.oki.org>

<sup>3</sup>United States Census Bureau 1990

<sup>1</sup> OKI 2030 Regional Transportation Plan, October 2001

As shown in Table 1.2.1, there is a large transit-dependent population and a high demand for public transportation for mobility in the I-71 Corridor. This corridor has the highest density of population, persons living in poverty, elderly persons, mobile youth, and minorities in the region. Much of the population in the I-71 Corridor depends on public transit, regardless of their characteristics, resulting in one of the highest transit ridership areas in the metropolitan area.

This region is home to some of the most prominent industries and corporations in the nation, including fourteen of the top 1,000 companies in the United States, according to Fortune. Two of the largest corporations, Kroger and Procter & Gamble are leaders in their respective fields and ranked in the top 25 overall firms in the nation. Many of these large corporations are headquartered or have major offices or facilities in the I-71 Corridor. These employers depend on a reliable transportation system, not only for their employees to get to work, but also for freight movement purposes. The three largest employment centers in this corridor and metropolitan area are the downtown Cincinnati CBD, the Uptown district, and Blue Ash.

As reported by local employment agencies, in 1998, the available labor force in the OKI region was 975,198. The number of people who were employed in the OKI region was 942,699<sup>2</sup>. By the year 2020, the OKI metro area is projected to accommodate over 1.1 million jobs. This region experienced approximately a 12 percent increase in jobs between 1990 and 1995. It is projected to increase by another 19 percent in the next 25 years (See Table 1.2.2).

**Table 1.2.2: Employment Growth in Corridor Counties**

County	Total Employment 1990	Total Employment 1995	Employment Growth (# of Jobs)	Percentage Change	Projected 2020 Employment (#of jobs)
Hamilton	532,100	563,670	31,570	5.93%	585,360
Kenton	52,260	62,130	9,870	18.89%	76,550
<b>Total in Corridor</b>	<b>584,360</b>	<b>625,800</b>	<b>41,440</b>	<b>7.09%</b>	<b>661,910</b>
<b>Total in OKI Region</b>	<b>845,170</b>	<b>947,670</b>	<b>102,500</b>	<b>12.13%</b>	<b>1,125,720</b>

Source: OKI

The I-71 Corridor is highly developed with a variety of uses including offices and industry, major institutions and medical centers, moderate to high-density residential areas, cultural institutions, sports arenas, and parks. The highest concentrations of urban activity, government, commerce, education, regional services, transit and highways for the region are all located in the I-71 Corridor. The I-71 Corridor includes both of the CBDs of Covington and Cincinnati, along with multiple suburban communities. This corridor encompasses the University of Cincinnati campus and Hospital district, Xavier University, and several stable and significant central and neighborhood business districts. Recent redevelopment of the Ohio River riverfront called The Banks is one of the largest redevelopment projects in the United States and includes:

- Paul Brown Stadium for the Cincinnati Bengals football team
- Great American Ballpark for the Cincinnati Reds baseball team
- US Bank Arena, indoor arena for sports, shows, and other events
- National Underground Railroad Freedom Center

<sup>2</sup> <http://www.oki.org>, OKI Regional Council of Governments

- Riverfront Transit Center
- Riverfront Park (70 acres) to accommodate festivals and special events
- Mixed-use district with 900-1,300 housing units, 400,000-500,000 square feet of retail and entertainment, 100,000 to 200,000 square feet of offices, and a hotel with 200 to 400 rooms

## **1.2.5 SPECIFIC TRANSPORTATION PROBLEMS AND NEEDS IN THE STUDY CORRIDOR**

Over the past 25 years, investments in roadway capacity and transit have not kept pace with the increased travel demand created by growth in population and employment in the area. In addition, decentralization of employment from the downtown CBD to the outlying suburban communities, increased automobile ownership, highway expansion, and more single-occupant vehicle have resulted from this population, economic, and land growth. Currently, there is an increasingly congested highway system producing longer travel times, greater reliance on the single-occupant vehicles and decreasing air quality.

The reliance on the automobile has steadily increased over the past 30 years, both in the metropolitan area and nationally, as owning and operating an automobile has become more affordable. Since 1975, there has been a significant increase in population, employment, automobile ownership, number of licensed drivers; vehicle miles traveled, and vehicle trips per person. Additionally, there has been a considerable decrease in vehicle occupancy rates. It is projected that by 2020, 59 percent of all vehicle trips in the I-71 Corridor will be made by single-occupant vehicles. The increase of vehicles on the roadway places unnecessary demands on the deteriorating capacity of the existing transportation network. This can cause increased travel times for automobiles, freight movements and public transit systems, and negatively impacts traffic safety related issues.

By the year 2010, it is estimated that there will be 22 locations within the corridor operating at congestion levels, including locations on the interstate system and along some of the major parallel arterial roadways. It is projected that with this continued growth, all segments of I-71 will operate at or near traffic gridlock by the year 2020. Congestion has already made much of the I-71 Corridor inefficient. Congestion related expenses due to lost time and wasted fuel are borne by travelers.

## **1.2.6 SUMMARY OF TRANSPORTATION NEEDS TO BE ADDRESSED**

Eight statements were developed by the I-71 Corridor Oversight Committee to define the need for transportation improvements. These eight statements can be grouped in three general categories.

### **1.2.6.1 Transportation and Mobility**

**Improve Corridor mobility by providing a balanced transportation system to efficiently and effectively move people and goods.**

Currently, the transportation system in Cincinnati is highly dependent on the single-occupant vehicle. It has been projected that nearly 59% of all vehicle trips in the I-71 Corridor will be in single-occupant vehicles by the year 2020. This type of trip adds to the local and national trend of increasing vehicle miles traveled and number of vehicles that are on the road. This leads to unnecessary congestion and longer travel times for all vehicles on the roadway. Congestion and longer travel times not only affects commuters, but impacts the movements of goods. Encouraging more people to use transportation

alternatives will limit the number of single-occupant vehicles on the roadway. In addition, expansion of the available public transportation system may encourage more people to use the system because they will be able to get to more locations throughout the metropolitan area. Reducing congestion and improving access and mobility throughout the metropolitan area will provide a more efficient and balanced transportation system.

### **Provide better access to downtown Cincinnati, Covington, and the central riverfronts.**

The CBDs of Cincinnati and Covington are the traditional market for significant public and private investments in infrastructure, buildings, and special event venues. The emergence of a new, revitalized landscape along the riverfronts of both Cincinnati and Covington continues the strategy to attract more people to live and work in the CBDs. New riverfront developments, including the Paul Brown Stadium, Great American Ballpark, the Underground Railroad Museum, Northern Kentucky Regional Convention Center, Kenton County Courthouse, and The Banks mixed use development, are evidence of the continued investment in the downtown districts. It is vital that both CBDs conveniently accommodate and be accessible to public transportation, and highways. This allows the free flow of automobile, transit, and pedestrian traffic into these areas, which will add to the attraction of the downtown districts.

### **Provide a higher level of mobility to people who rely on public transportation.**

Today, much of the public transportation system is focused on commuter service from the suburbs to the downtown CBDs. Much of the service provided has not changed with the growing demands, especially in the suburban communities. Limited public transportation service is available to some of the suburbs and currently there is limited suburb-to-suburb service. Much of the existing service provided by both SORTA and TANK is oriented strongly towards the downtown districts.

## **1.2.6.2 Economic Opportunity and Investment**

### **Develop a system that meets changing urban-suburban development patterns and travel behavior.**

New urban-suburban development patterns in the region accommodate the expansive growth that has impacted the normal travel behaviors and patterns over the last 25 years. The suburban communities surrounding Cincinnati have had considerable development of new high-density office complexes. Today, the suburban communities are comprised of more office space than the downtown area, 15.6 million square feet in the suburbs and 14.2 million square feet in the CBD. As the trend of sprawled growth continues, combined with the trend of new employment centers being established around the outer belt of suburban communities, there will be new demands on the transportation network.

Congestion continues to be a problem for people traveling to the CBD during peak hours, but today other drivers are faced with increasingly congested highways on their way to work in the suburbs. The movement of households and jobs from Cincinnati to the suburbs has resulted in an overwhelming demand for “reverse” commuting during the peak periods. This travel demand to the suburban employment centers has been largely neglected by the existing public transportation system. The result is that large segments of the Interstate and other major arterials are operating over capacity as volumes continually increase.

### **Provide better access from the central city to the emerging suburban employment centers.**

The movement of jobs and businesses from the CBD to the suburbs has impacted the OKI region. First of all, numerous low-wage workers living in or adjacent to the central city are now seeking positions in these newer suburban communities because there are more opportunities and higher paying jobs than in the CBDs. Many of these workers lack the means of getting to work at these suburban locations because they do not own an automobile and the existing transit service is inadequate. For example, in the Over-the-Rhine district (a residential neighborhood adjacent to the Cincinnati CBD), approximately 80 percent of the 2,100 residents living there do not own or have access to a personal vehicle. These people rely on public transportation for access to their jobs. Additionally, travel times today to outlying suburbs can easily exceed 60 minutes.

### **Support economic development investments and opportunities with transportation infrastructure.**

Increased congestion and reduced access can negatively affect economic development. A more balanced and efficient transportation system can help to enhance economic development potential and promote a stronger, more diverse economy. Today, the metropolitan area is home to fourteen of the top 1,000 corporations in the United States. Procter & Gamble and Kroger, two of the top 25 businesses, are among those that depend on the transportation network and infrastructure for getting their employees to work and for moving freight to their clients and eventually their consumers. Transportation efficiency is important to residents and businesses and can have a direct impact on the economic vitality of the region.

The revitalization of the riverfront is also expected to create new job opportunities in the Cincinnati and Covington CBDs. The attractiveness of locating businesses in the CBD, instead of in undeveloped areas outside of the existing metropolitan area, may be improved due to the significant investments made in the riverfront developments. Better access must be provided in order to accommodate these new employment centers, especially for those workers who are dependent on transit. Tourism is also expected to increase as a result of the riverfront revitalization. An improved transportation system will certainly help to enhance the economies of both CBDs.

#### **1.2.6.3 Communities and Environment**

### **Develop a transportation system that enhances the physical and social environment of the Greater Cincinnati/Northern Kentucky region.**

The metropolitan area of Cincinnati is enhancing its physical and social environment through the development of the riverfront areas. Providing a more balanced and effective transportation system would attract transit supportive development, decrease reliance on the highway system, encourage transit ridership, and promote a cleaner environment.

### **Improve air quality.**

The Cincinnati area has previously not been in attainment of federal ozone standards, as concentrations of ozone have been measured in the region that exceed the federal 1-hour standard. Much of the ozone exceedences come from vehicle emissions that contain VOCs and NO<sub>x</sub>. In order to maintain air quality standards, vehicle travel must be reduced, especially single-occupant vehicle trips. If the region does not retain its attainment status, its classification will be decreased and strict regulations and policies will be

implemented. This could inhibit economic development and impact the quality of life for residents. LRT can promote a cleaner atmosphere because of its non-polluting characteristics. For one, a high-density transit vehicle such as LRT can reduce vehicle trips, which can lead to less congestion.

### 1.3 PROJECT PLANNING PROCESS

The Federal Transit Administration (FTA) and the Federal Highway Administration (FHWA) issued regulations on October 28, 1993 that cover all steps in the conduct of planning and development of major highway and transit projects. These regulations were revised June 9, 1998 under the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21) defining the five major steps in the process as shown on Figure S.1-3.

The five steps are:

1. System Planning and Alternatives Analysis:

System Planning – This step included the OKI 2030 Long Range Transportation Plan and the 1998-2001 Transportation Improvement Plan (TIP).

2. Major Investment Study (MIS):

This step encompasses Regional Studies, MIS and the Alternatives Analysis. Completion of the *I-71 Corridor Transportation Study Final Report* in August 1998, together with inclusion of the recommended program in the most recently adopted OKI 2030 Long Range Transportation Plan and the 1998-2001 TIP, constitutes completion of this step.

3. Draft EIS/ Preliminary Engineering/ Final EIS

This step, which is currently underway, encompasses development of preliminary engineering design, preparation of a DEIS and a proposed financing plan, and preparation of the FEIS. This step completes the NEPA compliance process.

4. Final Design

This step requires approval of the FTA and completion of the requirements under NEPA

5. Construction

Construction would commence upon completion of the requirements under Section 5309 (New Starts Criteria) of TEA-21.

Initiation of Steps 4 and 5 are dependent upon securing the non-federal portion of funding.

The FTA-approved commencement of the Preliminary Engineering/Environmental Impact Statement (EIS) Phase on December 8, 1998. This Draft (DEIS) addresses evaluation of environmental effects, identification of mitigation measures and a proposed plan for financing this project.

The EIS process formally began with the initiation of “Scoping” which includes public agency and community outreach to further define the scope of potential issues and the alternatives to be analyzed in the EIS. The alternatives presented or defined in the scoping process were then advanced to the analysis phase of the EIS as a result of public, agency and technical support. These alternatives and their potential effects are the subjects of this DEIS.