

*Boone County Transportation Study*  
*Working Paper #1 (Revised)*  
*Key Issues and Project Goals*

Submitted to:

Ohio-Kentucky-Indiana Regional Council of Governments

and

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## Working Paper #1 Key Issues and Project Goals

### INTRODUCTION

The Boone County Transportation Study has been initiated to develop a new, county-wide transportation plan. This study updates the original plan that was developed in 1996.

A series of working papers is being developed to document the study process and summarize the findings and results at key stages of the project. *Working Paper #1 – Key Issues and Project Goals*, addresses the key issues that are to be addressed in conducting the study and goals to be achieved that will result in the successful completion of the transportation plan.

### KEY ISSUES

With input from Boone County officials and the Ohio-Kentucky-Indiana (“OKI”) Regional Council of Governments, the following issues must be addressed as this study moves forward:

### Growth

From 1990 to 2000, Boone County was the fastest growing county in Kentucky, as the population increased by nearly 50 percent. As reflected in **Exhibit 1-1** below, this trend is anticipated to continue, with population projected to almost double again by 2030. Boone County must continue to deal with this growth, especially with the provision of services and infrastructure, including transportation.

On the employment side, the number of jobs in Boone County is anticipated to increase by nearly 50 percent, from 72,957 in 2000 to 108,049 in 2003 (source: OKI).

### Development

Boone County is an attractive place to live and work, as reflected by the recent rapid growth in population and employment. The County’s challenge will be working with developers and the State to provide new infrastructure supportive of this anticipated

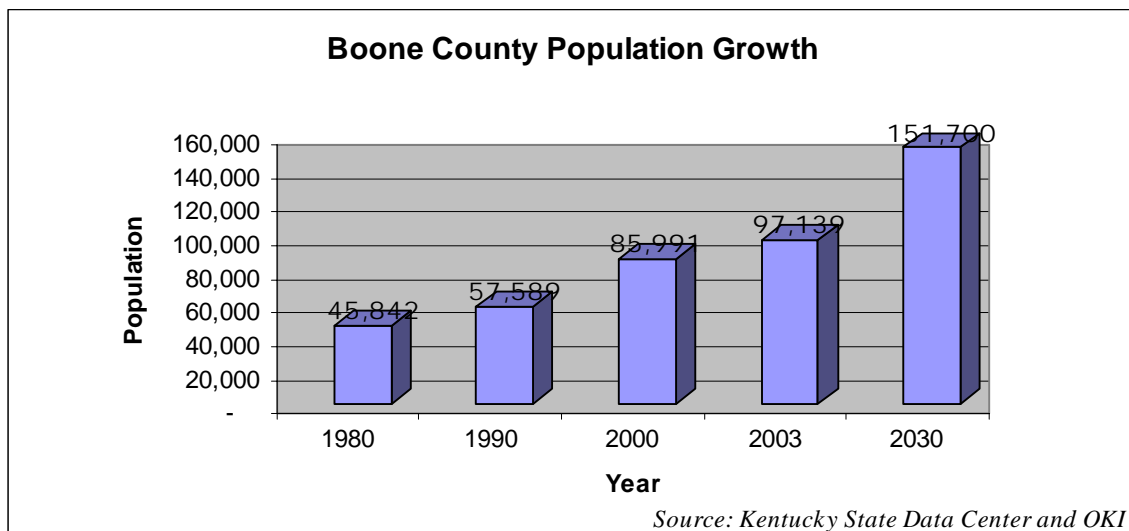


Exhibit 1. Boone County Population Growth

continuing development.

Comparison of the 1999 Existing Land Use Map (**Exhibit 1-2**) and the 2025 Future Land Use Map (**Exhibit 1-3**) dramatically illustrates the magnitude of this growth potential. Significant growth and shifting land use patterns are obvious in several key areas:

- Suburban Density and High Suburban Density Residential – the acreage nearly triples, from 11,666 acres to 30,702
- Business Park and Industrial – the acreage more than doubles, from 5,563 acres to 13,413 acres
- Agricultural, Rural, Open Space, and Developmentally Sensitive lands – acreage will decrease by more than one-fourth (27 percent), from 113,899 acres to 82,860 acres

A comparison of acreages by land use category between the 1999 and 2025 adopted land use maps is shown in **Exhibit 1-4**.

As the maps show, the growth will occur primarily in the central and eastern portions of the county, moving southward toward Grant and Gallatin counties. A key question is whether or not the transportation system will be able to meet the demands associated with this growth. Through this study, the County and OKI are proactively taking steps for identifying necessary actions to ensure that it does.

### **Land Use/Transportation System Compatibility**

Land uses affect the transportation system, and conversely, the transportation system affects land uses. While this principle may have been overlooked in the past, we certainly recognize its importance today. Existing levels of traffic congestion reflect an imbalance

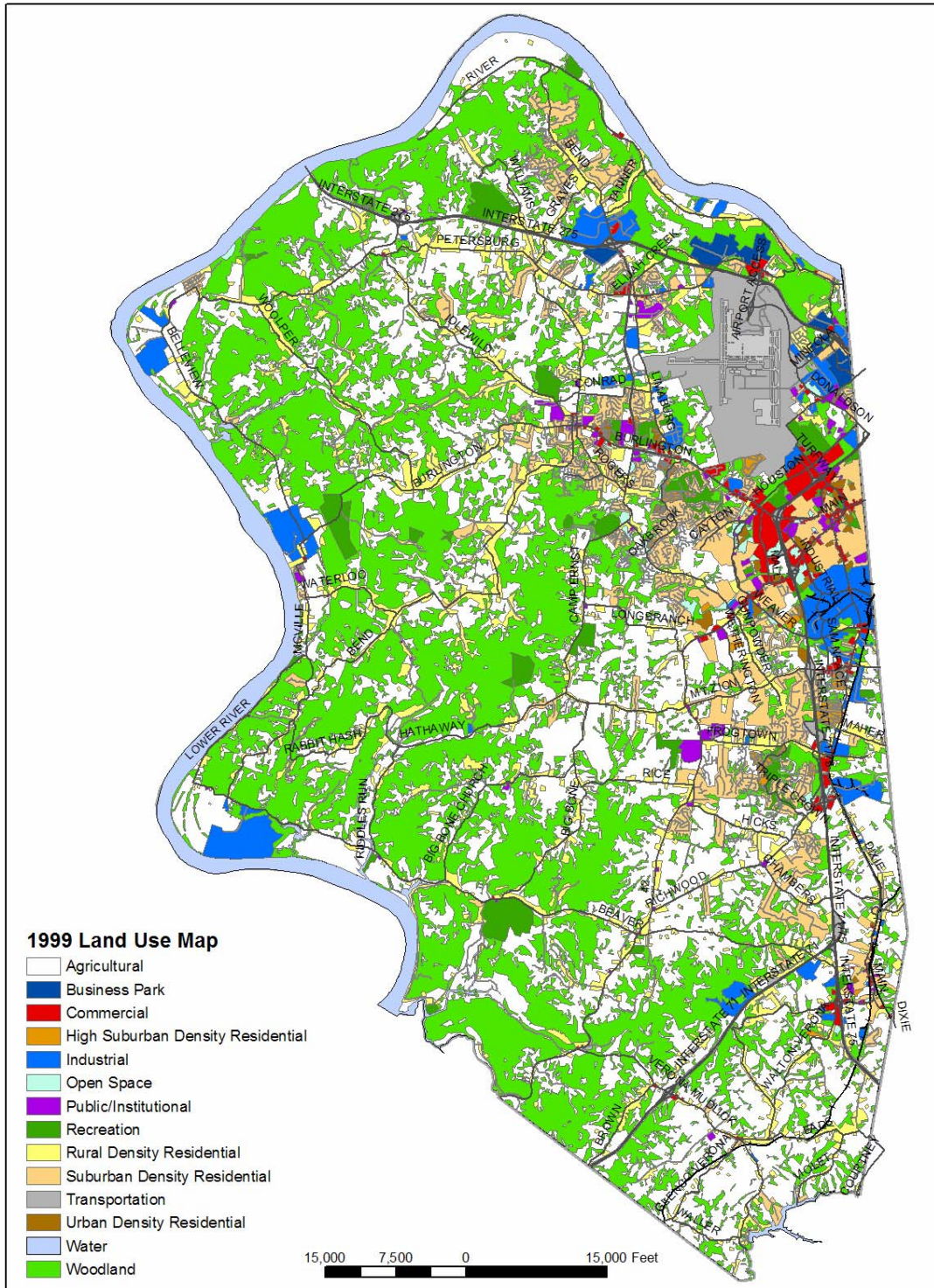
between land use and the transportation system.

Intense development pressures have placed a burden on the transportation system that simply cannot be met during peak times. Furthermore, this imbalance is usually carried forward in the formulation of future land use plans and the development of long range transportation plans.

Although a comprehensive plan contains a transportation element, there has not always been a strong connection between the future land use plan and the transportation element. In other words, traffic generated by full buildout of the future land use plan may not be adequately served by the proposed highway network, not only in terms of capacity, but also quality of service.

The Boone County Transportation Study will take steps to ensure a compatible relationship by “testing” the proposed future land use plan against the anticipated transportation system. Deficiencies will be identified and recommendations will be made for improvements to the transportation system based on those projected needs. The County’s Comprehensive Plan is being updated concurrent with this study. Recommendations from this study to the Comprehensive Plan update could be in the form of reductions in land use and development intensity.

An efficient transportation system includes a proper functional hierarchy among its freeways, arterials, collectors, and local streets and roads in order to maintain the proper balance between movement of traffic and access to abutting land. This hierarchy is illustrated in **Exhibit 1-5**. The challenge is to plan future improvements that enable the roadway system to maintain this functional hierarchy while addressing the cumulative impacts of growth.



*Exhibit 2. 1999 Land Use Plan*



Land Use	No. Acres		Percent Change
	1999 Comp. Plan	2025 Comp. Plan	
Agricultural (A)/Rural Land (RL)	55,989	40,065	-28%
Hydro/Water (H)	8,070	8,121	1%
Recreation (R)	3,150	4,828	53%
Business Park (BP)	882	3,879	340%
Commercial (C)	2,020	3,593	78%
Industrial (I)	4,681	9,534	104%
Urban Density Residential (UD)	610	1,487	144%
High Suburban Density Residential (HSD)	652	2,530	288%
Suburban Density Residential (SD)	11,014	28,172	156%
Rural Density Residential (RD)	13,115	11,023	-16%
Public/Institutional (P)	1,124	1,228	9%
Transportation (T)	6,436	8,398	30%
Open Space (O)/Woodland (W)/ Developmentally Sensitive (DS)	57,910	42,795	-26%

Exhibit 4. Land Use Comparison

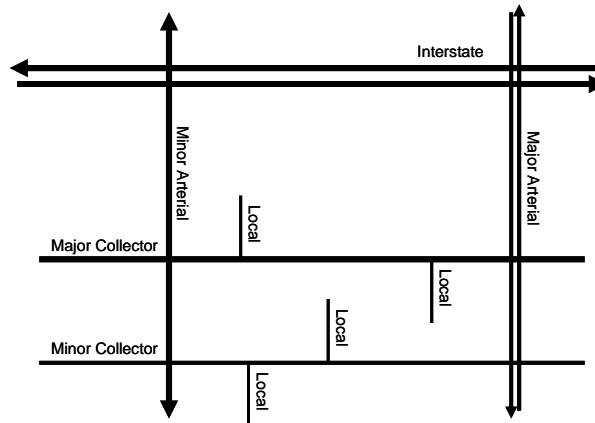


Exhibit 5. Functional Street Hierarchy

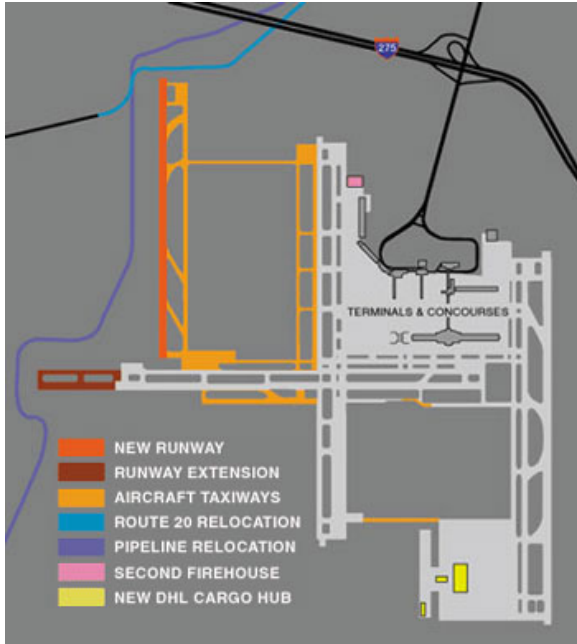
Access management is defined as the “systematic control of the location, spacing, design and operation of driveways, median openings, interchanges, and street connections to a roadway.”<sup>1</sup> Proper access management provides access while preserving safety and efficiency, thus ensuring balance. The Boone County Transportation Study will incorporate access management recommendations in the development of the long range transportation plan.

<sup>1</sup> *Access Management Manual*. Transportation Research Board, National Academies, Washington, D.C., 2003.

## Airport

The Cincinnati/Northern Kentucky International Airport is the greatest economic force in Boone County. It contributes \$3.9 billion annually into the region’s economy and employs more than 15,000 people. The Airport must plan for growth in order to keep up with rising demand. Operations are expected to increase five percent per year. This is about double the average growth rate for our nation’s large airports.

Plans are being made for a new runway and taxiways (**Exhibit 1-6**). The Airport is currently updating its Master Plan to better equip itself to serve future demands. In concert with the Airport’s long-term plans and additional planned industrial development



*Exhibit 6. Airport Runway Expansion*

in the vicinity, this study will identify transportation infrastructure improvements that will be needed. Possible examples include new collector roads and interstate access improvements.

### **Environmental Resources**

As recommendations for improvements to the highway system are developed, consideration must be given to environmental resources and environmentally sensitive features. A wealth of information is already available in GIS format through the Boone County Planning Commission. This information will be used to identify areas to avoid and areas where opportunities for new highway infrastructure exist.

### **Financing**

The costs to implement a long-range transportation plan for Boone County are likely to exceed available funding sources and opportunities. Through this study, it will be necessary to determine the magnitude of the shortfall and the implications if additional funds are not available. There is a need to

identify alternative funding sources to help close the funding gap and to develop strategies for securing those funds. Recommendations will include which agencies should implement the strategies and a general time frame for implementation.

### **Ownership of Roads**

Many local roads, which in the past served the traditional “farm to market” trips, have become commuter routes. These roads were not designed to modern safety standards and were not built to carry the increased volumes associated with today’s commuting traffic. In Boone County, many of these roads are the financial responsibility of the County. The roads are in need of major reconstruction and capacity enhancement. The County must prioritize these needs along with all the other demands for funding.

It is possible that some roads would be better served as part of the State Primary Road System. Conversely, there may be roads currently in the State Primary Road System that do not carry much traffic and would be better served under County jurisdiction. This study will consider opportunities for road conveyance or swapping between the County and the Kentucky Transportation Cabinet where practical, especially in light of financial barriers currently in place.

### **Alternative Transportation Modes**

While the automobile is the predominant mode of transportation in Boone County, this study recognizes the importance of developing alternative modes of travel to their furthest, most practical extent, in order to produce a more efficient and better connected transportation system. For transit, the focus will be on developing ways to better utilize transit, making it more efficient and effective. Potential recommended measures include adding routes, expanding service (longer hours and/or shorter headways), and improving transit stop facilities. The study will

also identify opportunities to better connect neighborhoods using sidewalks and bike lanes.

Year 2030 Boone County Transportation Plan.

## **PROJECT GOALS**

The goals for the Boone County Transportation Study will provide guidance to the overall project and help to ensure a successful completion. The following goals are stated for this project:

1. Develop a transportation system plan in anticipation of and compatible with future land use changes.
2. Enhance/improve the existing transportation system through safety and operational improvements.
3. Identify financial shortfalls and implications and develop strategies to address these shortfalls.
4. Recommend changes to policies, regulations and ordinances that will better enable the County to respond to and facilitate proposed or anticipated development. These will be detailed strategies with specific steps and responsibilities.

These goals are consistent with those stated in the current comprehensive plan – to be part of a regional, multimodal transportation system; to maintain and improve safety and mobility; and to recognize the interdependence between land use and transportation.

## **SUMMARY**

This working paper provides an important early step in the Boone County Transportation Study. It frames the key issues that will impact the study and identifies the goals that will serve to guide the process to a successful completion and the adoption of a