

CHAPTER SEVEN

Transportation has always been a major contributor to a region's prosperity and quality of life. For this reason, it is well known that increased mobility, accessibility and efficiency of a region's transportation system can be a stimulant to population growth, residential development and have a pronounced effect on the location of industrial and commercial land uses. The effect that transportation has on land use dictates that a study of the planning area's transportation system be included in the comprehensive plan.

Cincinnati's emergence as a gateway to the west and Northern Kentucky's subsequent development can be attributed to the Ohio River which served as a point of convergence for people and goods in the late 1700's. In addition, the Miami-Erie Canal and the railroad system established this region as a commercial and transportation center during the 1800's. These improved methods of transportation also facilitated population growth. By the year 1880, the mean center of the population for the United States was located in Northern Kentucky. Today, the region has developed and continues to cultivate a diverse and efficient transportation system.

For the City of Alexandria, its location near major transportation routes, namely I-275 and the "AA" Highway, have enabled the city to continually grow even as other cities have lost population in Campbell County. As roadways are the predominant means of transportation within the planning area, roads will be discussed first, followed by public transportation, rail, air, bike, and water related transportation facilities. Figure 7-1 depicts the planning area's major transportation facilities.

REGIONAL TRANSPORTATION SYSTEM

It important to recognize the fact that Alexandria's transportation network is component of a regional, metropolitan transportation system. This metropolitan region consists of eight counties in the three (3) states of Ohio, Kentucky and Indiana (as shown in Figure 7-2). The responsibility for transportation planning in this region rests with the Ohio-Kentucky-Indiana (OKI) Regional Council of Governments.



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OKI has assumed responsibility for all transportation planning efforts in order to ensure that all modes of transportation are carefully coordinated as the region prepares to meet future transportation and land use needs.

In September 2001, OKI published the *2030 OKI Regional Transportation Plan* which is an update to the previous long range plan developed in 1998. The most recent update extends the planning period for an additional ten (10) years from 2020 to 2030 and responds to federal planning requirements enacted since 1998. In addition, the revised plan further refines and expands upon recommendations contained in the 1998 document and places additional emphasis on environmental justice issues and Intelligent Transportation Systems. Issues addressed as part of the planning process are the “metropolitan planning factors” which are a product of TEA-21. The impacts of the federal directives of TEA-21 are evident in the plan’s recommendations which place emphasis on expanding modal alternatives and improving the transportation system’s efficiency. Specifically, the recommendations for improving highways are accompanied by recommendations for improving bus service and developing rail transit, using advanced technologies to move traffic more efficiently, applying strategies to help reduce drive-alone commuting, promoting ride sharing and bicycle and pedestrian travel, upgrading highway operating efficiency, and further exploring options for achieving plan objectives. In addition to meeting the future travel needs created by growth and development, the plan’s recommendations address requirements for congestion management, air quality conformity, and financial constraints. The plan also states that the transportation system envisioned for the metropolitan area is an intermodal system that expands travel options and improves and maintains transportation infrastructure in order to:

- Support economic vitality
- Increase safety
- Increase accessibility and mobility options
- Protect and enhance the environment
- Enhance the integration and connectivity of the transportation system
- Promote efficient system management and operation
- Emphasize the preservation of the existing transportation system

Overall goals for the improvement of the region’s transportation system, as written in *2030 OKI Regional Transportation Plan* include:

GOAL: Improve mobility for people and goods. To enable people and commodities to be moved with greater speed and safety, major investments are needed to improve the transportation system and reduce congestion. Improvements are needed both for expanding the present system and improving its efficiency. Improvements should be sensitive to differences in development patterns and community needs with special consideration given to safe use of the transportation system by our region's older population.

GOAL: Protect environmental quality. Air quality is a major environmental issue in the OKI region. Much progress has been made in reducing mobile source emissions, but the impact of travel growth on total emissions could threaten the region's ability to maintain federal clean air standards. Emission reductions are needed to protect air quality. Strategies that would reduce mobile source emissions would also have a beneficial effect on other environmental issues and quality of life.

GOAL: Develop new transportation funding sources and strategies. Financial resources are needed to maintain the region's transportation system and address its deficiencies. In light of limited federal and state resources, there is a real need to generate funds from within the region for transportation improvements. New funding sources are needed, particularly for capital formation, and strategies to use funds prudently.

GOAL: Improve travel safety. The transportation system should provide for reducing the risk of accidents that cause death or injuries and provide for the security of transportation users.

GOAL: Provide transportation opportunities in an equitable manner. The transportation system should provide for a balanced transportation system in which no group or groups of people assume a disproportionate share of positive or negative impacts.

GOAL: Strengthen the connection between land use and transportation planning. The transportation system, along with other infrastructure, has a significant impact on future land use. Transportation decisions should be consistent with local land use policies, resulting in travel and land use patterns that promote multi-modal travel alternatives and reduced vehicle trips.

Campbell County Transportation Plan

In addition to the OKI Plan, Campbell County developed its own transportation plan in September of 2003 in order to address specific transportation needs within the county. This study was initiated in 2002 upon the request of the Campbell County Fiscal Court and OKI Regional Council of Governments. As part of the planning process, a Campbell County Transportation Task Force was



appointed for input during the development of the plan. The plan includes summary information on the planning process, assessment of existing roadway conditions, prioritizing of roadway needs, identification of transit, bicycle, and pedestrian transportation, financial and implementation strategies. Where applicable, information from the Campbell County Transportation Plan is incorporated into the text of this document.

ROAD NETWORK

The roadway network serves as the backbone of the region's transportation system. The OKI network is typical of those in other metropolitan areas. The system includes a circular freeway that surrounds the Cincinnati Metropolitan Area and several interstate freeways that pass through the region. The network is then supplemented with a web of arterials, collectors and local streets that provide access to employment opportunities, community facilities, and residential neighborhoods.

According to OKI's *2030 Regional Transportation Plan*, more than 3,000 miles of major roadways (and an additional 6,000 miles of other roadways) are used to transport both passengers and goods via private automobile, taxi, bus, bicycle, and truck, traveling more than 34 million vehicle miles per day (based upon 1995 data). The core of the roadway network is the region's components of the National Highway System (NHS) as shown on Figure 7-1. The NHS is a 160,000 mile interconnected system of interstate and principal arterial routes which serve major population centers, international border crossings, ports, airports, public transportation facilities, and travel destinations. The 398 miles of roadway included in the NHS are as follows:

I-71, I-74, I-75, I-275, I-471, the Ronald Reagan Highway, portions of US 27 (in Ohio, north of I-74; in Kentucky, between the Ohio state line and I-471 in Southgate and between I-471 in Highland Heights and KY 9), KY 8 (between I-71/75 and I-471) and KY 9 (the "AA" Highway) in Kentucky, SR 4 (north of I-75), SR 32 (east of I-275), SR 125, SR 129 (the Butler Regional Highway) and SR 562 (the Norwood Lateral) in Ohio.

Furthermore, OKI reports that this region's NHS components carry an estimated 18,090,000 vehicle-miles per day or 53% of the daily traffic.

Campbell County's road system consists of federal and state roads maintained by the state, county roads maintained by the County Road Department and

local roads maintained by the various cities. According to the *Campbell County Transportation Plan*, Campbell County contains approximately 595 total miles of roads (118 miles of local streets, 184 of county maintained roadways and 223 miles of state and federal roads). These roads provide the primary transportation needs for approximately 89,000 residents (2000 U.S. Census) and other users. Table 7-1 includes a listing of all streets maintained by the City of Alexandria.

Kentucky state maintained roads are classified by truck weight capacity. Designated Class “AAA” trucking highways have an 80,000 pound permitted gross load limit, while “AA” highways have a 62,000 pound gross load limit. All other state maintained roads are designated Class “A” trucking highways, with a 44,000 pound gross load limit. Figure 7-3 shows trucking classifications for roads in Campbell County. These classifications were last updated by the Kentucky Transportation Cabinet on December 18, 2003. As shown on the map, the Alexandria Planning Area has two Class “AAA” highways (U.S. 27 and KY 9). Highways designated as Class “AA” include KY 10 from Alexandria east and KY 154. The remainder of state highways are classified as Class “A” trucking highways.

FUNCTIONAL CLASSIFICATION SYSTEM

The analysis of an existing roadway system includes the assessment of the various functions performed by individual facilities within the system. Functional classification is the process by which streets and highways are grouped into classes, or systems, according to the character of service that they are intended to provide. As established by the Kentucky Transportation Cabinet, and shown on Figure 7-4, the functional roadway classification for Campbell County is as follows:

Rural Principal Arterial - The rural principal arterial system consists of a connected rural network of continuous routes having the following characteristics: 1) Serve corridor movements having trip length and travel density characteristics indicative of substantial statewide or interstate travel; 2) Serve all, or virtually all, urban areas of 50,000 and over in population and a large majority of those with populations of 25,000 or over; 3) Provide an integrated network without stub connections except where unusual geographic or traffic flow conditions dictate otherwise.

Rural Minor Arterial - Rural minor arterial roads, in conjunction with the principal arterial system, form a rural road network having the following characteristics: 1) Link cities and larger towns (and other traffic generators, such as major resort areas, that are capable of attracting



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travel over similarly long distances) and form an integrated network providing interstate and intercounty service; 2) Be spaced at such intervals, consistent with population density, so that all developed areas of the state are within a reasonable distance of an arterial highway; 3) Provide (because of the two characteristics defined previously) service to corridors with trip lengths and travel density greater than those predominately served by rural collector or local systems. Minor arterials therefore constitute routes whose design should be expected to provide for relatively high overall travel speeds, with minimum interference to through movement.

Rural Collector Roads-Rural collector roads generally serve intracounty traffic where travel distances are shorter than those on arterial routes. On average, more moderate speeds occur on these roads. There are two (2) types of rural collector routes, characterized as follows:

Major Collector - These routes typically: 1) provide service to the county seat not on an arterial route and to other traffic generators of equivalent intracounty importance, such as consolidated schools, shipping points, county parks, etc. ; 2) link these places with nearby larger towns or cities, or with routes of higher classification; and 3) serve the more important intracounty travel corridors.

Minor Collector - These routes are; 1) spaced at intervals, consistent with population density, to collect traffic from local roads in order to bring all developed areas within a reasonable distance of a collector road; 2) provide service to the remaining smaller communities; and 3) link the locally important traffic generators with rural areas.

Rural Local Roads - Roads within this classification have the following characteristics: 1) serve primarily to provide access to adjacent land; and 2) provide service to travel over relatively short distances as compared to collectors or other higher road classifications. Local roads account for the remainder of roadways not classified as a principal arterial, minor arterial, or collector systems.

According to the Kentucky Transportation Cabinet, Campbell County has two Rural Interstates, I-275 and I-471. The only road classified as a Rural Principle Arterial is KY 9 south of KY 547. Rural Minor Arterials include KY 547, and U.S. 27 south of Aspen Grove. Rural Major Collectors are KY 915, KY 8 (in the unincorporated areas of the county), and KY 154. Rural Minor Collectors are KY 10, KY 1997, KY 1566, KY 1996, KY 824, KY 1121 (south of Persimmon Grove), KY 2828, and KY 1936. All grey roads are classified as state maintained local roads.

The Kentucky Transportation Cabinet uses a separate classification system for incorporated or urban areas. Therefore, the classification for streets within the City of Alexandria differs slightly from those in the County as shown on Figure 7-4.

Classifications for more urban areas are as follows:

Urban Principal Arterial - This system of streets and highways serve the major centers of activity of a metropolitan area, the highest traffic volume corridors, the longest trips, and should carry a high proportion of the total urban area travel on a minimum of mileage. These roads should be integrated both internally and externally between major rural connections.

Urban Minor Arterial - These roadways interconnect with and augment the urban arterial system and provide service to trips of moderate length at a lower level of travel mobility than principal arterial routes.

Urban Collector Streets - The collector street system provides both land access service and traffic circulation within residential neighborhoods, commercial, and industrial areas. These roads differ from arterials as they penetrate residential neighborhoods distributing trips from arterials to the ultimate destination. The collector street also collects traffic from local streets in residential areas and channels it to the arterial road system. In the central business district, the collector system includes the street grid to facilitate traffic circulation.

Urban Local Streets - The local street system comprises all roads not placed in higher classifications. These streets primarily provide direct access to abutting land and access to the higher street classifications. These streets offer the lowest level of mobility. Service to through traffic movement is typically discouraged.

Within the city's planning area, U.S. 27 and portions of KY 9 (north of KY 547) are classified as a Urban Principal Arterials. Urban Minor Arterials are KY 547, KY 915, KY 536, and KY 10. One portion of KY 10 is classified as an Urban Collector Street.

Traffic Volume

Traffic volume on roadways is measured by average daily traffic counts. These counts are periodically performed on major state maintained highways by the Kentucky Transportation Cabinet, Division of Planning. Figure 7-5 is the Kentucky Transportation Cabinet Traffic Count Map (released February 2004). This map shows the average daily traffic counts for major state maintained roads within Campbell County and the City of Alexandria. The majority of traffic counts were taken between the years 2001 and 2003. As can be seen from reviewing the maps, the most highly travelled routes in unincorporated Campbell County are U.S. 27, and KY 9. Least travelled routes are those listed as Rural Minor Collector Roadways. In the City of Alexandria, U.S. 27 and KY 9 also carry the most traffic. In conjunction with functional classification system, the data provided in Figures 7-5 can assist the county and city in assessing the adequacy of major roadways for development and gives sufficient background data to request traffic impact studies on development proposals as part of a review process.

It is important to note that the *Campbell County Transportation Plan* evaluated existing traffic and operational conditions of county roads. Existing



traffic volumes (Year 2002) for select segments were summarized based on information provided in the HIS database. The county also evaluated the Level Of Service (LOS) of these roads. Level Of Service (LOS) is a qualitative measure defined in the 2000 Highway Capacity Manual, published by the Transportation Research Board (TRB), and is used to describe traffic conditions. Individual levels of service characterize these conditions in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. Six (6) levels of service are defined and are given letter designations from A to F. Typically, a minimum LOS D is acceptable in urban areas and LOS C in rural areas. Within the Alexandria Planning Area, all evaluated roads (KY 915, KY 547, KY 2924, KY 10, KY 824, and KY 1121) were rated as an LOS C or better. This classification means that traffic flow is stable, but interactions with other vehicles in the traffic stream begin to affect operations. Speed selection and maneuvering are affected by the presence of other vehicles. Delays become noticeable and general levels of comfort and convenience decline as well.

It is anticipated that KY 9 (the “AA” Highway) and U.S. 27 will continue to carry the most traffic within the planning period especially in consideration of Alexandria’s location to I-275, recent and proposed improvements to US 27, projected population growth rates and potential increase in the local housing stock. Other roads that are expected to experience a significant increase in traffic volume include KY 536 (once improved), KY 10 and KY 1121. These roadways will require regular maintenance and improvement in the future to ensure continued or improved efficient functioning. In addition, it is important that the city continually monitor traffic volumes as development is proposed along these routes. In order to maintain the functionality of these roadways, it is recommended that more stringent access management techniques are applied to these areas.

Accident Data

Accident data for designated routes were also examined in the *Campbell County Transportation Plan*. Crash data for the routes were considered for a three (3) year period from January 1, 1999 to December 31, 2001. A spot location or segment of roadway is considered to have a high crash rate when the total crash rate is higher than the critical crash rate for similar roads in the area. As part of the process, each crash was classified into one (1) of three (3) categories based on the degree to severity: fatal, injury, or property-damage only. During the period studied

there were six (6) fatal, 273 injury, and 735 property-damage only crashes along designated Campbell County routes. High accident segments were identified along KY 8, KY 10, KY 547, KY 915, KY 1121, and KY 2238. Smaller spot locations were also identified throughout Campbell County along designated routes. In the City of Alexandria, high vehicle crash points were identified on KY 10 (just south of KY 547) and KY 547 at Gilbert Ridge Road. Within the Alexandria Planning Area, high crash areas are located at the intersection of KY 10 and KY 915 (to the west of city limits), U.S. 27 in Claryville, and KY 1121 (just south of Shaw Hess Road).

TRAFFIC ANALYSIS

Another important facet of transportation planning is the analysis of travel patterns in relation to existing land use. This analysis aids in the determination of future travel projections and assessment of network deficiencies that must be improved to meet future demand. Thus, it becomes necessary to realize that the amount of traffic in Campbell County and Alexandria's planning area depends upon a number of factors. These include the population, the amount and location of industrial, commercial, public facility and higher density residential uses, and the degree to which automobiles are used.

The most useful method of determining travel patterns is to differentiate between the types of trips that are taken. These can be classified into three main categories:

1. **External-Internal Trips:** Either the origin or destination of the trip is within the planning area while the other end of the trip is in another city or county.
2. **Through Trips:** Both the origin and destination of the trip are outside the planning area.
3. **Internal Trips:** Both the origin and destination of the trip are in the planning area.

External-Internal trips are of greater importance in terms of transportation planning and are easily assessed by reviewing the commuting patterns of Campbell County residents. In 2000, commuting patterns indicated that the majority of workers living in the county (63.9%) worked elsewhere. Of those commuting into the county, 61.7% commute from other Kentucky Counties. This pattern is even more



prevalent in the Alexandria planning area which primarily serves as a bedroom community to residents. These trends indicate that a moderate volume of traffic is entering and leaving the county each day. The majority of trips to work occur on the “AA” Highway and US 27 as most traffic accesses I-275 to travel north to other northern Kentucky counties or into Ohio. Those who commute into Campbell County to work predominately come from Kenton and Boone Counties in Kentucky or Hamilton County, Ohio.

The primary avenues for through trips within the Alexandria Planning Area are the “AA” Highway and U.S. 27. The traffic volumes along these two routes far exceed those on other county roads due to the volume of pass through traffic. In terms of land use planning, pass through traffic encourages the development of commercial services along these routes, having the potential to create congestion where traffic management techniques are not utilized.

Internal trips within a city are also important to consider in the analysis of traffic patterns. The land uses that generate the heaviest traffic volumes are as follows:

1. Village Green Shopping Center (as well as the strip commercial corridor along US 27).
2. The Campbell County School District Campus including offices and the middle, elementary and vocational schools.
3. Campbell County High School
4. Bishop Brossart High School
5. Alexandria’s Old Town Business District.
6. Kahn’s

PLANNED ROAD IMPROVEMENTS

Traffic in Campbell County and the Alexandria planning are expected to continue to increase in conjunction with the abundance of employment opportunities in the region, population growth and anticipated increases in the housing stock. The completion of the “AA” Highway and improvements to U.S. 27 have greatly enhanced accessibility and traffic movement in the planning area.

Because Campbell County is within the OKI metropolitan planning area, planned road improvements for Campbell County are addressed in three (3) documents: *Kentucky Department of Transportation 2002 Six-Year Plan*, *OKI 2030 Regional Transportation Plan* approved September 2001, and *Campbell County*

Transportation Plan, adopted September 2003. Figure 7-6 shows the location of these improvements.

Major planned improvements that affect the Alexandria Planning Area are described as follows:

1. Owl Creek Bridge Replacement on KY 2925. Design for this project is scheduled for 2005 with construction anticipated in 2008.

2. U.S. 27 ramp widening project. This project was awarded to JPS Construction Company on 2/24/2003. The contract amount was \$127,557.33. The project is currently 90% complete.

3. KY 547 Reconstruction from the “AA” Highway to KY 10 (including sidewalks at the western end of the project). Design is scheduled for 2005 for this state funded project

4. U.S. 27 Reconstruction (Major Widening) from the Campbell County Park to 1.0 miles south of KY 10. Project construction started in 2002 with estimated total construction costs of \$30,300,000.

5. U.S. 27 Reconstruction (Major Widening) from KY 154 to Campbell County Park. Project construction is scheduled to start in 2004 with an estimated construction cost of \$22,500,000.

6. U.S. 27 Reconstruction from the Licking River Bridge at Falmouth to KY 154 in Campbell County. Design for this project is scheduled for 2005.

7. Extension of Pond Creek Road from U.S. 27 to “AA” Highway via a portion of KY 10/KY 1997 Corridor (New KY 536). Right-of-way acquisition is scheduled for 2006, with utility relocation in 2007.

In addition to road improvements identified in the aforementioned documents, the City of Alexandria typically maintains a Road Rehabilitation and Resurfacing Needs List. However, at the present time the city has planned to undertake the total reconstruction of Viewpoint Drive. As it is anticipated that this project will take from 2004 to 2006, the city has not scheduled any additional projects. Once Viewpoint is complete, the city will reevaluate the need for improvements on other roadways. In the meantime, the city will continue to evaluate streets on an annual basis and maintain them as necessary.



ADDITIONAL LOCALLY IDENTIFIED PROJECTS

As part of the planning process for the development of the *Campbell County Transportation Plan*, local officials were asked to identify transportation needs within their jurisdictions. Needs that were identified for the City of Alexandria include the completion of the KY 536 extension, and upgrading of KY 547 from KY 10 to the “AA” Highway. Other projects which are not a part of the plans for Campbell County, OKI or Kentucky Transportation Cabinet but have been identified by residents of Alexandria as needed and desired include:

1. Realignment and widening of Poplar Ridge Road to include three (3) lanes and a bikeway.
2. Improvement of U.S. 27 traffic carrying capacity through redevelopment and improved access management.
3. Upgrading of KY 2925 to four lanes (with a turn lane) in order to accommodate existing and future development along this route.

ROAD MAINTENANCE

In addition to constructing new roadways, it is important for a city to maintain their existing transportation system in an operationally safe and efficient condition. As stated in previous sections of the plan, the Alexandria Road Department is responsible for making repairs to city streets while the Campbell County Road Department is responsible for maintaining county roadways. Likewise, the Kentucky Transportation Cabinet is responsible for maintaining state roadways. Other incorporated areas within Campbell County are also responsible for maintaining city streets that are not a part of the state or county system. Campbell County has implemented a formal process for evaluating and maintaining county roadways through the newly adopted *Campbell County Transportation Plan*.

At the present time, the City of Alexandria maintains an inventory and maintenance log for city streets. The inventory of city streets includes information on each roadway, such as the year the road was constructed, length, width, sq. ft., road type, curbing, and cul-de-sacs. The city’s maintenance log details the date and type of improvements made to city streets. While these documents are effective tools, the City of Alexandria may want to consider a adopting a more formal capital im-

provements program as well as continue to commit increasing resources to street maintenance as the city continues to develop. Potential safety projects would include the straightening of sharp curves, removal of hills that obstruct views, adding and paving shoulders, lane widening and intersection controls. These maintenance functions, while not discussed beyond the city's paving program, are important to the upgrading of local roadways. Once improvements are made to Viewpoint Drive, a list of scheduled improvement projects should continue to be developed and updated yearly.

ACCESS MANAGEMENT

Roadways serve a dual function of facilitating traffic movement and providing access to abutting properties. Where these functions conflict, roadway design capacity will not be achieved resulting in congestion and an increase in traffic accidents. Therefore, it is important to mention another category of roadway improvements referred to as access management guidelines. The implementation of access management guidelines enhance the overall transportation system by ensuring that each roadway continues to function at its capacity level.

Although access to local streets is regulated solely by local government, the Kentucky Transportation Cabinet must authorize new access points (or curb cuts) onto state-maintained roadways from abutting properties. However, the cabinet's standards are in effect, minimum standards since local governments may not approve access denied by the state. However, local governments may establish and enforce their own more stringent access standards through zoning and subdivision regulations.

Access management guidelines help to assure that a roadway will operate at its design capacity by identifying factors that need to be considered when access points from individual properties to a roadway are approved. Along arterials and major collectors, for example, driveways should be kept at a minimum. Measures that should be considered as part of access management include provision for:

- Parallel service roads
- Frontage roads
- Interconnected parking lots
- Shared driveways
- Limitation on turning movements (especially left turns).
- Limitations on new access points for subdivisions.



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It is recommended that the Alexandria Planning Commission review their current access management regulations (especially along the U.S. 27 corridor) and incorporate any modifications into the zoning ordinance and subdivision regulations. These regulations should be extended to include the newly constructed KY 536 corridor prior to extension of this roadway and development in this area.

PUBLIC TRANSPORTATION

The principal alternative to the automobile for local travel is public transit. There are currently seven (7) major public transit systems operating in the OKI region. They are as follows:

Butler County Regional Transit Authority (BCRTA)
Catch-A-Ride (formerly Southeast Indiana Transit-SEIT)
Clermont County Transportation Connection
Middletown Transit System (MTS)
Southwest Ohio Regional Transit Authority/Metro (SORTA)
Transit Authority of Northern Kentucky (TANK)
Warren County Transit System (WCTS)

In addition, it is important to note that intercity bus services is provided by Greyhound Bus Lines and numerous taxicab services.

Public transportation in Northern Kentucky is provided by the Transit Authority of Northern Kentucky (TANK). TANK provides a fixed route bus operation consisting of 117 coaches operating along more than 30 routes with both local and express service. In 1999, 4.3 million miles of transit service were provided to nearly 3.9 million passengers. TANK operates seven (7) days per week, with 98 vehicles in service during peak hours. Fares for TANK Service are currently \$1.00 for adults, 50 cents for students, and 35 cents for senior citizens and the disabled. Fares on the Southbank Shuttle are currently 50 cents. Lift equipped service has been available on 100% of TANK's fleet since 2000 and insures fixed-route transit accessibility to all segments of the population in Northern Kentucky. According to the OKI *2030 Regional Transportation Plan*, ridership on TANK has expanded from 3,647,817 in 1996 to 4,315,779 in 2000, an increase of 18.3%.

In addition to its fixed route service, TANK operates a specialized transportation service for people who cannot use the regular fixed route system. This

program is known as RAMP and provides curb-to-curb service in the fixed route areas. The RAMP fleet includes eleven (11) lift-equipped vehicles. In 1999, 49,000 persons were transported via RAMP. The fare for RAMP service is 75 cents.

Figure 7-1 shows the area served by fixed transit service, TANK, and existing park and ride lots in Alexandria (Village Green, Alexandria, “AA” near KY 547). In the recent update of the *OKI 2030 Regional Transportation Plan* it is recommended that another park and ride lot be provided at Four Mile as shown on Figure 7-6.

RAILROAD TRANSPORTATION

Railroads in the OKI Planning Area address both national and regional transportation needs. According to OKI, the region serves as an important point for consolidating and re-routing rail freight. Regionally, the railroads provide the area with access to the national rail system for out-going goods and a terminal for goods with local destinations. The north-south rail corridor produces most of the railway activity. Two railroad companies, CSX and Norfolk Southern have rail lines connecting Detroit, Michigan with Atlanta, Georgia. According to *OKI's 2030 Regional Transportation Plan*, the section of railroad track with the highest gross tonnage moved per year is a 3.5 mile section of the CSX mainline in Cincinnati which parallels Mill Creek. It is estimated that this track carries approximately 100 million gross tons of freight per year. The Norfolk Southern right-of-way, which extends from Cincinnati to Chattanooga, Tennessee is owned by the City of Cincinnati and leased to Norfolk Southern for the operation of its trains. There are two (2) truck-to-rail intermodal hub facilities in the region that are operated by CSX Transportation and Norfolk Southern. CSX's Queensgate Yard, which includes an intermodal facility and a classification yard for sorting freight cars for continued travel, can handle about 5,000 freight cars per day. This facility is one of the nation's largest classification railroad yards. Norfolk Southern's Gest Street Yard, located at the Queensgate Yard, is also a combination of an intermodal and classification facility.

Rail service to Cincinnati and Hamilton County, Ohio is provided three (3) days per week by Amtrak's "Cardinal" route, operating between Chicago and Washington D.C. Amtrak uses the Bi-level "Superliner" with passenger equipment pulled by diesel locomotives for the Cardinal. The Cincinnati station, located in the Union



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Terminal-Museum Center, provides full service to passengers, including a ticket office, special handicapped service, and checked baggage service. The Hamilton, Ohio station is just a stopping point for the train with no other services provided. CSX trackage is used for most of the Cardinal's Route between Chicago and Washington D.C. Included in Amtrak's operating agreement with CSX are provisions for the Cardinal to be given priority over freight trains which assists Amtrak to keep its schedule.

The Ohio Rail Development Commission (ORDC) is considering the development of high speed passenger service along the Cincinnati-Columbus-Cleveland (3C) Corridor. The alignment that has been identified by ORDC as being the best suited for this corridor is the Norfolk Southern (formerly Conrail) freight line which runs between Cincinnati and Cleveland passing through Middletown, Dayton, Springfield, Columbus, Galion, and Berea. In addition, a new high-speed passenger rail line connecting Cincinnati with Chicago is now being considered as part of a Midwest Regional Rail Initiative. The Midwest Regional Rail Initiative is a cooperative effort among nine (9) Midwest states (Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Nebraska, Ohio, and Wisconsin), Amtrak, and the Federal Railroad Administration (FRA). The goal of this initiative is to evaluate the potential for implementation of a Midwest Regional Rail System. The preferred service option chosen for the services are Diesel Multiple Units (DMUs) capable of achieving a top speed of 100 mph.

The railroad line in the region which is most likely to be chosen for the Cincinnati-Chicago Route is the Central Railroad of Indiana's line from Downtown Cincinnati to Shelbyville, Indiana. Since this rail line comes directly into the Cincinnati Riverfront, the ORDC is recommending that Amtrak move its passenger station from the Union Terminal to the riverfront. ORDC's recommendation is also based on CSX's Transportation's unwillingness to let Amtrak expand its services at the terminal. Amtrak's Cardinal temporarily blocks the CSX mainline for the time that is required to unload and load passengers. On the other hand, the riverfront station would have tracks that dead end at the station (requiring back-up moves for trains). Since the main line would not be blocked, it is ORDC's contention that a riverfront station could accommodate Amtrak's Cardinal, the new Cincinnati-Chicago train, and future new routes.

Campbell County is flanked on the east and the west with CSX rail lines. In addition, both CSX and Norfolk South bisect the tip of northern Campbell County. However, it is important to note that there no rail lines that run through Alexandria's

planning area. It is anticipated that the level of rail service within the planning period is sufficient as there are not an abundance of industries within the planning area that require rail service. Therefore, it is not anticipated that there will be additional demand brought about by future industrial expansion. At the present, the availability of passenger service at Union Terminal in Cincinnati also appears to be sufficient.

Figures 7-7 and 7-8, excerpted from the *OKI 2030 Regional Transportation Plan*, show the location Passenger Rail and Freight Transportation Facilities in the OKI Region.

AIR TRANSPORTATION

The Cincinnati/Northern Kentucky International Airport, owned by the Kenton County Fiscal Court, is the primary airport serving all of Northern Kentucky and the Metropolitan Region. The airport, located in northeastern Boone County, serves as the base for sixteen (16) airlines, including one (1) of seven (7) hub operations for Delta Airlines. The airport is also the base for five (5) regional carriers, including the hub location for Comair (Delta Airlines' regional carrier), that provides commuter operations to local destinations and smaller cities nationwide. Delta Airlines operates a total of 550 daily flights to 110 cities around the world. In 1999, over 10.8 million passengers boarded planes at the Cincinnati/Northern Kentucky International Airport, ranking it the 21st busiest airport in the United States.

Other General aviation airports and operations are listed below:

Facility	Annual Operations
Cincinnati-Blue-Ash	35,000
Cincinnati Lunken Field	117,300
Cincinnati West	30,200
Clermont County	30,650
Butler County Regional Airport	61,700
Lebanon/Warren County	24,950
Miami University	16,700
Middletown-Hook Field	40,050
Waynesville (Red Stuart Airfield)	16,800

Source: OKI Regional Transportation Plan (September 2001) and FAA 5010 Airport Master Records (12/00)



Commercial air transport is provided by several companies. DHL World-wide Express, a major air cargo company, uses the Cincinnati/Northern Kentucky International Airport as its hub. Nearly one (1) million pounds of cargo are unloaded, sorted, and reloaded onto DHL's fleet of planes daily. DHL is the process of constructing a new facility south of its present location which will have a larger terminal and more ramp space for aircraft. Federal Express also has air cargo service to the Cincinnati/Northern Kentucky International Airport. One (1) flight per night travels from Cincinnati to Memphis, TN, which is a hub that connects with other cities in the Federal Express air cargo system. Other major airlines also provide air cargo service on a limited basis at the Cincinnati/Northern Kentucky International Airport. Some provide contract carrier service for DHL cities not in DHL's network.

According to the OKI regional transportation plan, helicopter (rotocraft) operations have begun to slightly increase in the OKI region. A number of heliports exist but are mostly associated with hospitals. At the present time, no public facility accommodates helicopter ingress and egress to the Cincinnati Central Business District. As of September 2001, there were eighteen (18) privately owned and operated heliports/helistops in the OKI region, two (2) were privately owned for public use, and one (1) publicly owned for private use.

Figure 7-7, as excerpted from the *OKI 2030 Regional Transportation Plan*, shows the location of Air Facilities in the OKI Region.

BIKEWAY AND PEDESTRIAN TRANSPORTATION

Over the past few years, the use of bicycle and pedestrian trails as viable means of transportation have substantially increased. This overall trend has been accepted as a very desirable addition to most communities as it increases the quality of life for the residents and provides linkages to other recreational or institutional facilities. Bikeway and pedestrian routes typically involve usage by all ages for recreational and educational purposes as well as providing a means of transportation to and from work. Accompanying increased usage of such routes, is the desire for improved bikeway and pedestrian facilities in order to make trips along these routes as safe as possible. This is especially important since some trips occur within existing road rights-of-way.

For the most part, there are two major categories of bicycle facilities: (1) on road and (2) separate. The most common type of bikeway is located along existing roadways. This enables the cyclists to travel to almost any destination in the region. Separate bike paths and multipurpose trails are designed specifically for the purpose of facilitating non-motorized means of transportation. In addition, trails and greenways can serve both recreational and transportation needs while creating linkages with other areas of the community.

According to the OKI *2030 Regional Transportation Plan*, most bicycle trips are generally three (3) to five (5) miles in length. However, it is not unusual for a touring trip to equal or exceed 100 miles. Data on regional on-road bicycle use is limited. As part of the OKI transportation planning process, the Cincinnati Cycle Club records an average of 30,000 miles of commuter biking by reporting members annually or an average of 800 miles for those reporting. As an indication of per rider bicycle potential, an average of 4,300 total cycling miles each was recorded in 1994 among 20 cyclists who helped with the 1995 update of the Ohio Bike Route Guides.

OKI has developed Bike Route Guides that provide maps and descriptions of roads and trails used by area bicyclists. These guides, last updated in 1995, were developed with the active involvement of area cyclists and are available for Boone, Kenton and Campbell Counties. In the OKI Region, three (3) counties, five (5) townships and sixteen (16) municipalities have prepared bicycle plans and/or are developing local bicycle transportation systems. Four (4) of the plans being developed are in Northern Kentucky and include the bikeway plans for Boone County, City of Florence, Kenton County and the City of Newport.

In Northern Kentucky and the planning area, the major bicycle corridors are primarily shared roadways. Improvements to existing roadways and other alternatives to facilitate cyclists are recommended by OKI for planning and funding priority. Potential projects include; the widening of lanes, paved shoulders, bike lanes, edge striping and signage. The most popular bike route in Northern Kentucky is Kentucky 8 along the Ohio River. It is important to note that Forward Quest, through the Quest River Path Committee, is planning a forty (40) mile bicycle and pedestrian path along the Ohio River, generally following the route of KY 8 from Pendery Park in Campbell County to Boone County. The first leg of the route from Pendery Park to the City of Melbourne has been funded. The second leg is being



planned to extend to the City of Silver Grove. Pedestrian portions of this route will utilize existing and planned walkways through the cities of Dayton and Bellevue and along the City of Newport's River Walk. The conversion of the L&N Bridge, renamed the Newport Southbank Bridge, to a pedestrian and bicycle only facility provides a connection from the City of Newport to Cincinnati.

At the present time, formal plans are not being developed for bicycle or pedestrian ways within the planning area. However, the *Campbell County Transportation Plan* recommends the development of a county-wide bicycle plan which includes Campbell County Cities in the planning process in order to be given consideration as part of the KYTC Pedestrian and Bicycle Policy when highway projects are being planned.

Major roadways are typically used for cycling purposes in and around Alexandria. These roadways include; KY 10, KY 536 and KY 915 as shown on Figure 7-1. However, as part of the comprehensive planning process, the planning commission has outlined potential recreational areas and linkages to these areas as shown on Figure 6-4 in the Community Facilities and Services Chapter of the plan. As a follow-up to the comprehensive planning process, it is recommended that the planning commission, along with the Alexandria Park Committee, develop a strategic plan and investigate funding mechanisms for the development of bicycle and pedestrian facilities, especially in the areas along U.S. 27, KY 536 (and extension) and those that could connect the city to the KY 8 River Path.

Generally, the most effective approaches in order to encourage these alternative modes of travel are to:

- Expand facilities that enable these modes of transportation to be used safely. This will require the reduction of interaction with motorized vehicles through the development of alternative ways, trails or additional sidewalk construction.
- Interaction with motorized vehicles through the development of alternative ways, trails or additional sidewalk construction.
- Increase the connectivity between these facilities and other community and recreational facilities in the planning area.
- Creation of safe intersections or crossings where these types of facilities meet existing roadways.
- Require the provision of such facilities as properties are developed or during major roadway projects where lanes or striping can be added.

If specific bikeway or alternative pedestrian routes plans are developed for the planning area, it is important that the routes are carefully coordinated with the existing road network and traffic volumes to provide safe facilities for the biker, pedestrian and motorist. The safest bikeway is a bicycle trail that is separated from the roadway and is devoted solely to bike travel. Separate bike trails should be used where traffic along existing roadways is heavy and in locations where there are a large number of cyclists expected to travel. Other possible facilities are bicycle lanes and shared roadways. Bicycle lanes are located adjacent to an existing land or curb, while cyclists occupy the existing roadway on a shared bikeway system. These two methods should only be used in areas of low traffic volumes in order to prevent hazardous conditions to the cyclists and motorists. In addition, the availability of usable rights-of-way for bikeways should also be considered.

WATER TRANSPORTATION

The nearest ferry service is provided by Anderson Ferry Boat, Inc. Anderson operates an automobile ferry service on the Ohio River between the foot of Anderson Ferry Road in Hamilton County and River Road in Boone County near the Kenton-Boone County line. The ferry operates every fifteen (15) minutes Monday through Friday from 6:00 am until 9:30 pm and on Saturday and holidays from 7:00 am to 9:30 pm. The cost per automobile is \$3.00 per river crossing. According to the OKI plan, it is estimated that the ferry transports an average of 400-500 vehicles per day. Due to the absence of river crossing in that area, the ferry is also important for transporting bicyclists, for which the charge is 50 cents. The fare for foot passengers is 25 cents. Figure 7-7 and 7-8 show the location of water transportation and Barge Intermodal Facilities.



SUMMARY

The transportation system of a community can influence the structure of its cities in many ways. The construction of roads, by their nature, serve to form entrances into a community, create pathways for communication with other cities, and largely establish the visual perception of an area. A street, bikeway or pedestrian pathway can enhance the functionality of the existing transportation system and compliment the character of the city or it can be destructive to the quality of life. However, through careful planning the negative impacts of a community's transportation system can be avoided.

The following general recommendations are made (in addition to the transportation goals and objectives) in order to maintain the character of the community while increasing efficiency of the overall transportation system:

- Improve the existing transportation system by establishing an improvements program for the reconstruction and maintenance of city streets while meeting financial constraints and responding to local concerns.
- Ensure that roadways are functioning at (not above) their design capacity in order to accommodate growth and development while mitigating congestion. Require developer's to address the transportation impact of a proposed development by requiring the submittal of traffic impact studies for large scale developments where the function of the existing transportation system may be unable to handle increased traffic.
- Conduct studies to determine corridor needs and requirements (especially in the areas of access management and signage) that may be necessary in the "AA" Corridor, U.S. 27, and KY 536 Corridors.
- Update access management techniques and consistently apply road standards to all developments while remaining flexible enough to adjust or amend these standards should modifications be necessary.
- Conduct a study on the U.S. 27 corridor in order to facilitate redevelopment of this commercial area and create strategies for new development. This study should focus upon the implementation of access management techniques, aesthetic improvements, and the clustering the commercial and mixed used developments. In addition, bike/walkways should be developed and extended to provide connections from these commercial uses to residential areas and other bike/walk ways. The policies developed for this corridor should also be applied to the KY 536 extension.

- Coordinate with the Kentucky Transportation Cabinet and developers for the provision of sidewalks, bike lanes or other alternative pedestrian/bikeways along existing and improved roadways. In addition, consider requiring an extra fifteen (15) to twenty-five (25) feet of right-of-way for properties developed along existing arterial roadways in order to facilitate multi-modal transportation improvements. Require the extension of bike/pedestrian ways where identified in the comprehensive plan.
- Coordinate all local road improvements with utility companies, especially the Sanitation District No. 1 and Northern Kentucky Water Service, to facilitate utility improvements and extension in conjunction with road and bikeway improvements. For example, utilizing new sanitary sewer easements for connecting the city to the KY 8 River Path.

