

## CHAPTER SEVEN

### INTRODUCTION

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. For this reason, it is important that a study of the county's transportation system be included in the City of Columbia Comprehensive Plan. As roadways are the predominate means of transportation in Adair County, roads will be discussed first, followed by rail, air, public transportation, and bikeways.

### ADAIR COUNTY ROADWAYS

#### Trucking Classifications

Adair County's road system consists of federal and state roads maintained by the state, county roads maintained by the Adair County Road Department, and city roads maintained by the City of Columbia. State maintained roads are classified by truck weight capacity. Kentucky Revised Statute (KRS) 189.222 requires the Kentucky Transportation Cabinet to establish weight limits on the state-maintained highway system. To implement this statute, Kentucky Administrative Regulations (KAR) designating these weight limits are promulgated and updated frequently. The last such update occurred on December 18, 2003. Designated "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 as Class "A" trucking highways with a 44,000 pound gross load limit. Figure 7-1 shows the trucking classifications for roads in Adair County. As previously stated, these classifications were updated on December 18, 2003.

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The Louie B. Nunn Cumberland Parkway, KY 80, KY 55 (north of Columbia) and a portion of KY 61 (south of city limits) have a weight classification of “AAA”. It is important to note that the Louie B. Nunn Cumberland Parkway has been designated as part of the National Highway System (NHS). The NHS is a 160,000 mile interconnected system of interstate and principal arterial routes which serves major population centers, international border crossings, ports, airports, public transportation facilities, and travel destinations. “AA” Trucking Highways include KY 55 (south of Columbia), KY 61 (north of Columbia), KY 551, KY 206, and KY 76. The remainder of state maintained roads in Adair County are classified as “A” Highways. Roads not maintained by the state or county are maintained by the Adair County Road Department or the City of Columbia (within city limits).

## **Functional Classification Systems**

The analysis of existing roadway systems includes the assessment of the function 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, the functional roadway classifications for Adair County and the City of Columbia are shown on Figure 7-2. The functional classification system for Adair 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 char-

acteristics: 1) Link cities and larger towns (and other traffic generators, such as major resort areas, that are capable of attracting 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 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.

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According to the Kentucky Transportation Cabinet, the Louie B. Nunn Cumberland Parkway, and KY 55 (north of the Parkway) are classified as “Rural Principal Arterials”. Only one road, KY 61 north of Columbia city limits, is classified as a “Rural Minor Arterial”. Roads classified as “Rural Major Collectors” include KY 61 (south of city limits), KY 55 (south of city limits), KY 80, KY 206, portions of KY 76, and KY 551. “Rural Minor Collectors” include KY 551, KY 76 (between Knifley and Neatsville), KY 206 (north of the Green River Lake W.M.A., KY 2971, KY 682, KY 531, KY 1729, KY 767, KY 439, KY 2287, KY 2290, KY 3491, KY 768, KY 1702, KY 704, KY 92, KY 900, KY 553. The remaining roads in Adair County are considered to be state maintained rural 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 Columbia differs slightly from those in the County as shown on Figure 7-2. 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 city limits, the Louie B. Nunn Cumberland Parkway and KY 55 (north of city limits) are the only two roads classified as a “Urban Principal Arterials”. KY 61 is the only “Urban Minor Arterial” route in Columbia. Roads classified as “Urban Collector Streets” include KY 61, KY 206, KY 80 and KY 55 (south of city limits). Roads categorized as “Local Access” include state supplemental roads and other local roads used solely for internal traffic circulation within residential, commercial or industrial developments.

## **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. Figures 7-3 and 7-4 are the Kentucky Transportation Cabinet Traffic Count Maps for Adair County and the City of Columbia (released in November 2005). These maps show the average daily traffic counts for major state maintained roads within Adair County and the City of Columbia. The majority of traffic counts were taken between the years 2002 and 2004. As can be seen from reviewing the maps, the most highly travelled routes in Adair County are the Louie B. Nunn Cumberland Parkway, KY 55 (north of city limits), KY 61, and KY 551. It is surprising to note that the traffic counts on KY 55 north exceed that of the Parkway. Least travelled routes are KY 553, KY 1792, KY 1702, KY 768, KY 553, and KY 704. In the City of Columbia, KY 55, KY 61, KY 206, KY 767, KY 2290 KY 80, KY 439, and KY 2287 carry the most traffic. In conjunction with functional classification system, the data provided in Figures 7-3 and 7-4 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.

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## **Traffic Analysis**

Another important facet of transportation planning is the analysis of travel patterns in relation to existing land use. This analysis assists the county to assess the existing road network, determine future travel projections, and address deficiencies that must be improved to meet future demand. In turn, it becomes necessary to recognize that the amount of traffic in Adair County and Columbia depends upon a number of factors. These include 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 in determining travel patterns is to differentiate between the types of trips that are taken. These trips can be classified into one of three main categories:

1. Internal Trips: Both the origin and destination of the trip are within the planning area.
2. External Trips: Either the origin or the destination of the trip is within the planning area while the other is in another town or county.
3. Through Trips: Both the origin and destination of the trip are outside 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 Adair County residents. As of the year 2000, there were 7,222 workers who lived in Adair County. Of this number, the majority (62.3%) of workers lived and worked in the county. Of the 5,431 workers who work in the county, 17.1% commute into the county from elsewhere. Therefore, approximately one third of the workers leave the county to work. This trend indicates that a moderate volume of traffic is entering and leaving the county each day. The majority of those travelling outside of the county to work travel along the Louie B. Nunn Cumberland Parkway, KY 80, KY 61, and KY 55 mostly to Russell and Taylor Counties. Those who commute into Adair County to work predominately come

from Russell and Taylor Counties and also travel along these primary routes.

The primary avenues for through trips within the Columbia Planning Area are also the Parkway, KY 55, KY 80 and KY 61. The traffic volumes along these 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 county are also important to consider in the analysis of traffic patterns. The land uses that generate the heaviest traffic volumes are as follows:

1. Adair County School District Campus along KY 439
2. Columbia's Central Business District (CBD)
3. Strip commercial area along KY 55 South.
4. Lindsey Wilson College
5. Westlake Hospital
6. Adair County Industrial Park
7. Fairgrounds on a seasonal basis.

In the future it is anticipated that traffic will increase in the following areas:

1. KY 55 Strip Commercial Areas
2. Columbia's CBD (unless a by-pass is developed).
3. KY61/80 to west of the city limits due to the airport, industrial areas and new residential neighborhoods.

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## **MAJOR TRANSPORTATION ISSUES**

The major transportation problem within the Columbia planning area is that all major highways except for the Louie B. Nunn Cumberland Parkway direct traffic through Columbia by way of the Courthouse Square. Routes that lead directly to the square are KY 55 and KY 80. Several other major routes including KY 61, KY 439 and KY 704 feed traffic into KY 80 and KY 55. All major trucking traffic must travel through downtown Columbia by way of the Courthouse Square as there are no alternative routes. This leads to severe congestion at the square as all traffic must stop, merge and then exit from the square. If an accident or other obstruction occurs on one of the roads leading off of the square, traffic backs up on the square and traffic on all other major routes through the city literally come to a stop.

In addition to the high traffic volumes in this area, the movement of manufactured housing, large boats, and steeples through the square causes major delays for motorists, school buses and emergency vehicles as traffic in all directions must stop as these large objects are maneuvered around the square. Incidents like these occur frequently as there is a steeple manufacturer on KY 55, and numerous boat manufacturers in the region. Columbia's location near Lake Cumberland and the Green River Lake also reinforce the need to transport boats and houses through the city to these resort areas.

A second traffic problem area is the intersection KY 55 and KY 80 in the south part of town (Jamestown Road traffic signal). While traffic at this intersection is fairly heavy throughout the day, problems peak in the morning and afternoons when the factories at the industrial park south of the Louie B. Nunn Cumberland Parkway change shifts. A majority of vehicles from the factories must pass through the Jamestown Road intersection to reach most of Columbia, areas to the north of Columbia, and KY 80 to travel east to Russell County.

A third problem with traffic patterns in Columbia is the lack of lateral routes for travel around the city. Most traffic must travel on radial routes into downtown, around the square and back out again to reach other parts of Columbia. Two streets, Tutt Street and Lowes Lane – Young Street are used



by many as lateral short cuts to avoid Court Square. However, these routes are narrow, residential in nature and not designed to handle heavy volumes of traffic.

## PLANNED ROAD IMPROVEMENTS

Traffic in Adair County and the Columbia planning area are expected to moderately increase. In conjunction with this increase, traffic congestion in the Columbia downtown will continue to be the source of major problems unless improvements are made to the existing transportation system or a by-pass is constructed. The need for a by-pass around the downtown area of Columbia has become increasingly acute over the past several years. Improvements to KY 55 from Columbia to Campbellsville had increased truck traffic traveling through Columbia to get to the Louie B. Nunn Cumberland Parkway. All truck traffic must currently pass through the Courthouse Square. An alternative route for this traffic and other traffic around Columbia is needed.

A by-pass for Columbia has been in the Kentucky Transportation Cabinet's Strategic Six-Year Program for many years. However, in the May 2006 Six Year Highway Plan FY 2006-2012, the Western KY 55 By-Pass, which will be 5.3 miles in length, has been planned for and budgeted with an estimated construction cost of \$22,000,000. Construction on the By-Pass is expected to start in 2007. Work is underway on the following two segments of KY 61 and is expected to be completed in 2007:

1. KY 61 Reconstruction (8-162.65) from milepoint 11.751 to 12.879. Construction contract awarded on June 30, 2005 in the amount of \$7,185,300.
2. KY 61 Reconstruction (8-162.61) from milepoint 10.571 to 11.757. Construction contract awarded on May 10, 2005 in the amount of \$7,149,030.

In addition to the proposed construction of a by-pass, the following other projects are also listed in the six year plan (Figure 7-5):

1. Design of a priority section of the Heartland Parkway (KY 130) in 2006.

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2. A scoping study for the eastern Columbia Bypass in 2008.
3. KY 61 Reconstruction (8-162.10) from milepoint 6.1 to 10.571. Construction is estimated to begin in 2006 at an estimated cost of \$18,500,000.
4. Repaving of the Louie Nunn Parkway in Adair County with portions scheduled for 2006, 2007 and 2008.
5. KY 704 Reconstruction (8-118.00) from milepoint 2.504 to milepoint 3.104 to eliminate two dangerous curves and install guardrail. Design authorized in January 11, 2001. Right-of-ways and utility relocation scheduled for 2006 and construction in 2007.
6. CR 1289 Bridge Replacement (8-1039.00) to replace bridge and approach. Design authorized April 11, 2005. Rights-of-way and utility relocation in 2007, and construction in 2009.
7. KY 92 Bridge Replacement (8-1029.00) to replace bridge and approaches at Cedar Creek. Design authorized on January 13, 2003. Rights-of-way and utility relocation in 2006, and construction in 2007.
8. KY 80 Bridge Replacement (8-1034.00) to replace bridge over Russell Creek. Construction is expected to begin in FY 2006.
9. KY 551 Bridge Replacement (8-1035.00) to replace bridge over tributary of Casey Creek. Design authorized on April 11, 2005. Rights-of-way and utility relocation in 2006, and construction in 2007.

It is also important to mention the construction of the Heartland Parkway which was identified in the Kentucky Transportation Cabinet's Six-Year Highway Plan. The project is identified as Item No. 4-132.00 and will connect the counties of Adair, Green, Marion, Taylor, and Washington from the Louie B. Nunn Cumberland Parkway to the Martha Layne Collins Bluegrass Parkway. The study area for the corridor encompasses the existing corridor routes of KY 55, US 68, and KY 555, and an area two to three miles east and west of the existing routes. The study for the project identifies the southern termini as the new interchange for KY 61 on the Louie B. Nunn Cumberland

Parkway, and the northern termini as the KY 555 interchange on the Martha Layne Collins Bluegrass Parkway. This new corridor will provide for the continuous flow of traffic, reduce truck traffic on existing routes, and will only require minimal maintenance of traffic during construction.

## **ADDITIONAL LOCALLY IDENTIFIED PROJECTS**

Other projects which are not a part of the Kentucky Transportation Cabinet’s Six-Year Plan but have been identified by residents of Columbia as needed and desired include:

1. Bomar Heights Street – Bomar Heights Street needs to be improved to replace Tutt Street as a lateral route on the west side of town. The Hudson Street (KY 61) intersection with Burkesville Street should be reconfigured to meet Bomar Heights Street. Bomar Heights Street should be widened and straightened from KY 61 to KY 55.
2. Fairgrounds Road- Fairgrounds Road should be widened and straightened from KY 55 to Green Hills Road. This will improve access to Young Street and Green Hills Road.
3. Greensburg Street- Greensburg Street should be widened and straightened from the Adair County School Campus to the Columbia by-pass or KY 61. The existing road is narrow and without shoulders in most places.

Road improvements are also needed in other areas of Columbia. The existing streets are often inadequate to accommodate existing traffic or traffic from new land development. When new development is proposed, the city should require traffic impact studies, dedication of additional rights-of-way for future road widening or ensure that existing streets serving the new development be upgraded to accommodate increased traffic flow. New development plans should also be carefully reviewed and inspected to ensure that any proposed new roads meet subdivision regulation standards, and are sufficient to meet traffic projections and future needs.

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## **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 Columbia Road Department is responsible for making repairs to city streets while the Adair County Road Department is responsible for maintaining county roadways. Likewise, the Kentucky Department of Transportation is responsible for maintaining state roadways.

As a formal program of maintenance and safety improvements are important, the City of Columbia should consider adopting a capital improvements 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 are important to the upgrading of local roadways. At the present time, the city annually identifies roads to be resurfaced.

## **ACCESS MANAGEMENT**

Roadways serve a dual function of facilitating traffic movement and providing access to abutting properties. Where those two functions conflict, optimal 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.

It is recommended that the Columbia Planning Commission review their current access management regulations (especially along the KY 55 corridor) and incorporate any modifications into the zoning ordinance and subdivision regulations. Special access management regulations for the KY 55 By-Pass area should also be studied and incorporated into these documents as well.

## **PUBLIC TRANSPORTATION**

The principle alternative to the automobile for local travel is public transit. The Kentucky Transportation Cabinet describes the Kentucky public transportation system as having several components which provide statewide comprehensive services. These services can be broken down into four classifications which are: (1) inter-city and interstate buses that move passengers and freight, (2) rural public transportation vehicles that move passengers in rural areas of the state, (3) public transportation vehicles for the elderly and disabled which meet the special needs of their users, and (4) bus/transit systems in the cities that provide scheduled passenger service.

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Currently, Adair County has elderly and disabled public transportation service, however, there is no fixed route bus/transit system, interstate bus station or terminal or a rural public transportation service. Three independent companies provide transportation to elderly and disabled persons on an as-needed basis. There are no privately or publicly owned mass transit facilities serving the citizens of Adair County. One taxi company currently serves the Columbia planning area.

## **RAILROAD TRANSPORTATION**

Adair County has never been directly served by railroad transportation. The closest rail lines (two counties removed in both directions) are Norfolk Southern located to the east of the county and CSX railroad running to the west of the county. Norfolk Southern and Burlington Northern provide the nearest intermodal facilities in Louisville, Kentucky.

In past years, the Louisville and Nashville Railroad (L&N) provided rail service to the City of Greensburg via a spur line from Lebanon. However, the Greensburg Depot was the end of the line. These tracks were abandoned in July of 1980.

## **AIR TRANSPORTATION**

The Columbia-Adair County Airport is located west of Columbia along KY 80. The airport is small and primarily serves local privately owned small planes. The airport has one paved runway which is 2,630 feet long and is 60 feet wide. Runway lights can be activated by incoming planes. A rotating beacon light operates from dusk to dawn off of a photocell. Facilities at the site include a building approximately 7,800 square feet (60'x130') in size. This building was recently expanded from its original 4,800 square feet (60 x 80) size in order to enlarge the hangar. Currently, the building contains administrative offices and a hanger that will hold up to eight (8) small planes. Fuel has been available to the airport since 1992. The airport is not manned but will respond to requests for assistance on an as needed basis. Five (5) planes are usually based at the airport. Until recently, flight instructions and a ground school were available.

The airport is owned by the Columbia-Adair County Airport Board. This board was created by a joint city-county ordinance. The board consists of six members who serve four year terms. Three are appointed by the county and three are appointed by the city. The airport is funded equally by the city and the county and currently has a operating budget of approximately \$95,000 per year. By 1996, the loan used to construct the facility was paid off. In 1998, a new loan was obtained in order to enlarge the airport's hangar. It is anticipated that this loan will be paid off by the year 2007. In addition to loans, the airport recently received a \$5,000 grant from the state and repaired cracks in the airport runway. The Statewide Transportation Improvement Program (STIP) for FY 2005-2007 (approved September 2004) lists FY 2006 improvements to the Columbia-Adair County Airport as an "Airport Safety Security System Preservation Project". This project involves the construction of a six unit T-hangar with an estimated cost of \$180,000 to be paid for with state funds.

In the long term, the airport plans to expand its runway to 3,500 feet with a parallel taxiway. In addition, the runway width would be increased to 75 feet. However, this type of expansion would require the acquisition of additional land from adjacent property owners.

The largest and nearest scheduled commercial airline service serving Adair County is the Louisville International Airport. This airport is 97 miles northwest of Columbia. Other airports that have passenger service are the Bowling Green-Warren County Airport which is located in Bowling Green. And the Bluegrass Airport, located in Lexington.

## **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 us-

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age 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 designated and 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.

As shown in Figure 7-6, Kentucky's bicycle tour guide identifies one bikeway route which crosses Adair County from north to south. This bikeway route is referred to as the "Central Heartlands Tour" and follows the route of KY 61 through the county. The Central Heartlands Tour originates along the Ohio River near Warsaw and the Markland Locks and Dam. The tour continues to cover the Cities of Carrollton, Shelbyville, Taylorsville, Bardstown, New Haven, Loretto and Campbellsville. The tour concludes at Dale Hollow Lake near the Tennessee border. It is the state's goal to improve designated bikeway routes across Kentucky in order to increase safety and use of the routes.

In Kentucky and the Columbia planning area, the major bicycle corridors are primarily shared roadways. At the present time, formal plans are not being developed for bicycle or pedestrian ways within the planning area. Major roadways are typically used for cycling purposes in and around Columbia. Therefore, the main cycling route is KY 61. It is recommended that Columbia Planning Commission outline potential recreational areas and linkages to these areas with bike routes. It is also important that the planning commission encourage the integration of bicycle routes into the planning process when reviewing plans for new-developments along the by-pass (should the planning commission have jurisdiction of this area). As a follow-up to the comprehensive planning process, it is also recommended that the planning



commission develop a strategic plan and investigate funding mechanisms for the development of bicycle and pedestrian facilities.

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 may require the reduction of 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 route 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.

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## **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 (with bikeways or pedestrian pathways) 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 Chapter One) 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 developers 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 for the proposed by-pass corridor and other major transportation routes.
  
- Consistently apply road standards to all developments while remaining flexible enough to adjust or amend these standards should modifications be necessary.

- 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 additional rights-of-way for properties developed along existing arterial roadways in order to facilitate transportation improvements.

- Promote the creation of additional bike and walking paths through the county by asking developers to install these alternative transportation systems when new development occurs especially along the KY 55 By-pass.

- Coordinate all local road improvements with Columbia Utilities in order to facilitate utility improvements in conjunction with road improvements.

- Strictly employ access management techniques on new and existing roadways in order to avoid unnecessary traffic congestion especially in the KY 55 By-Pass area.

- Noise assessments should be conducted where developers propose to locate residential areas next to the airport, major transportation corridors, and commercial or industrial areas. An assessment and potential abatement should also be required should large commercial or industrial developments be proposed adjacent to residential uses.

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