

## **CHAPTER 6**

### **SPENCER COUNTY TRANSPORTATION PLAN ELEMENT**

#### **PURPOSE**

The process of transportation planning is important for a variety of significant reasons. One crucial reason is the precarious financial situation of public works projects that generally persists, especially for transportation projects. Rising construction costs and diminishing revenues make it incumbent on public officials to spend funds in the most effective way possible. Project expenditures can best be made with a background of sound planning, fiscal programming and within the context of overall system considerations.

The multiple local, state and federal agencies which are charged with project implementation responsibilities are a further reason for an effective planning process. Coordinated expenditure of the various sources of transportation funds is crucial; and, therefore, all agencies that control these funds should continue to actively participate so that funds are programmed to be available on a timely basis.

Furthermore, adoption of the transportation plan element as well as the concept of the entire comprehensive plan serves as notice to the general public agencies of the framework for transportation construction and improvements so that other development and redevelopment projects can be designed with this knowledge. In addition, the adoption of the plan provides a basis for the enforcement of zoning, subdivision and other ordinances as they relate to right-of-way reservations, set back controls, design standards and access controls.

The transportation plan element provides an analysis of the existing transportation system; specifically, the current bridge and road conditions, and current average daily traffic two-way volumes (ADT's), indicating those highways that can be expected to be carrying traffic volumes in excess of their capacities since the year 2000. This has occurred due to the growth in the county. The KDOT adequacy rating for Spencer County addresses these issues in the next section.

Standards for improvements to accommodate adjacent land development and to meet safety requirements including cross sections, access controls, access spacing and design criteria are provided in the plan element. The transportation plan also determines an administrative classification system for the transportation network, linking the basic functional classification of the major roads with their federal and state administrative classifications for the purpose of identifying funding sources for improvement and for transportation of these roads, as shown on Map 10.

The suggested standards for improvement, the classification system and the analysis of the existing system are studied within the context of the impact

that they and the adopted transportation goals and objectives of the comprehensive plan will have on the future improvement and development of the overall transportation system of Spencer County for the planning period.

From this analysis, a limited list of priorities for improvements to the transportation system has been identified, and can be pursued by local officials and state authorities.

## **THE EXISTING TRANSPORTATION NETWORK**

Transportation is a vital service function along with sewers, water-supply and other infrastructure utilities. The transportation system should support the collective mobility goals of the people in the area that is covered by the system.

Transportation planning efforts should concentrate on managing the transportation system as the construction of large scale facilities has already taken place, or is designed to take place providing construction funds remain available.

In Spencer County not only should the existing system be studied in terms of its adequacy for serving present and future populations, but it should be analyzed in terms of its impact on land development.

Due to approximately 80 percent of the labor force commuting outside the county for work, this has put a major stress on the road systems in Spencer County. The average daily traffic counts (ADT's) gathered from the KDOT adequacy rating report have been exceeded on several roads in the county. The level of service (LOS) indicates that S.R. 44, S.R. 55, and S.R. 155 are at a LOS of 'C' or higher, which determines that section will be carrying more vehicles per day than their capacity can accommodate. As shown on table 6-4, KDOT unscheduled project list, these roads are needing some redesign and reconstruction and have been marked for improvements.

Land development along these routes should also be controlled so as not to be in conflict with traffic movement. Generally, an arterial such as U.S. 31E should not have residential development directly abutting onto the arterial, although commercial property can have direct access, and should carry between 10,000 to 25,000 vehicles per day. Major collectors (including Kentucky highways 55/155, 44, 48, 248, and 2239) can have residential development adjoining either side and can carry over 1,500 vehicles per day. Minor collectors (including Kentucky highways 623, 1060, 1319, 652, 1066, 1633, 1169, 1795, 636, 1251, 1416, and 1392) should not serve more than 150 dwelling units and should have 8 foot parking lanes on either side of the road, and should not have more than 1,500 trips per day.

When development occurs in sufficient densities to be subject to subdivision regulations, roads will have to be provided that meet the subdivision regulations' standards and allow adequate access to individual lots, as well as

compatibility with arterial and collector routes. At this time several substandard roads have been located that lead to isolated residential development around the lake that may eventually be subject to improvements.

## **STANDARDS FOR TRANSPORTATION FACILITY DESIGN AND DEVELOPMENT**

The principles and elements of geometric design for rural transportation facilities provide a set of minimum standards for the construction and improvements of the county's road system. These design criteria may vary somewhat as they should be tailored to meet the individual locale's transportation characteristics such as traffic speeds, traffic composition, lengths and purposes of trips, etc.

For the urbanized areas of the county and for new subdivision development, one set of design standards that can be used as a basis for a comprehensive street plan was developed by the National Committee for Traffic Safety in 1961. Over the years, these standards have been extensively used and accepted, and have resulted in functional street systems for both vehicle movement and pedestrian safety. It should be understood that these are suggested standards that can be adapted and modified to meet local conditions and requirements, and implemented through subdivision regulations.

### **CITY ROAD REQUIREMENTS:**

Curb and gutter shall be required in residential subdivisions and city streets for the purpose of drainage control, safety and the delineation and protection of the pavement edge. Minimum pavement widths shall be 24 feet. The road should consist of 4 inch compact stone and 4 inch compacted DGA stone, also, three inches of base asphalt and 1 ½ inches of finishing asphalt. Please refer to City Development Plan for subdivision and road regulations.

### **COUNTY ROAD REQUIREMENTS:**

Curb and gutter not required for county roads. Ditching issues are to be determined by county road foreman. County roads are to be a minimum of 20 feet in width and a 2 foot gravel shoulder. The road should consist of 4 inch compact stone and 4 inch compacted DGA stone, also, three inches of base asphalt and 1 ½ inches of finishing asphalt. For more information concerning county roads contact either Spencer County Road foreman or Planning and Zoning.

## **ADMINISTRATIVE AND FUNCTIONAL CLASSIFICATION OF THE TRANSPORTATION SYSTEMS**

In the most basic accepted standards for design work, highways and streets are given designations based on the travel desires of the public, land access requirements based on existing and future land use, and continuity of the

system. In rural areas, these functional designations can be grouped into: 1) Principal arterial system; 2) Minor arterial roads; 3) Collector roads, and 4) Local roads. The following Table 6-1 categorizes the county's road system by designation, service function and linkage.

**TABLE 6-1**

**SPENCER COUNTY ROAD SYSTEM FUNCTIONAL DESIGNATION LISTED BY ROUTE NUMBER**

| <u>Principal Arterial</u> | <u>Minor Arterial Roads</u> | <u>Collector Roads-minor and major Local Roads</u> |
|---------------------------|-----------------------------|--|
| None                      | 55/155                      | 623, 1169, 48                                      |
|                           | U.S. 31E                    | 1795, 248, 44                                      |
|                           |                             | 1319, 1060   |
|                           |                             | 652, 1633  |
|                           |                             | 1066, 1416   |
|                           |                             | 636, 458, 1139                                     |

Source: Kentucky Department of Transportation

The basic purposes of the above highway systems so far as the various degrees of accommodation of through traffic and land access is concerned are as follows:

1. Rural Principal Arterial System – Serves corridor movements having trip length and travel density characteristics indicative of substantial statewide or interstate travel. Serve all, or virtually all, urban areas of 50,000 and over population and a large majority of those with population of 25,000 and over. Provides an integrated network without stub connections except where unusual geographic or traffic flow conditions dictate otherwise. Two subsystems are Interstate system and other principal arterials that are non-Interstate arterial systems. Functional classification is freeway or expressway.
2. Rural Minor Arterial Road System – Providing linkages between cities and larger towns. 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. Provide service to corridors with trip lengths and travel density greater than those predominantly served by rural collector or local systems. Constitute routes whose roads should be expected to provide for relatively high overall travel speeds, with minimum interference to through movement.

3. Rural Collector Road System – Generally serve travel of primarily intra-county rather than statewide importance and constitute those routes on which predominant travel distances are shorter than on arterial routes. Sub-classified as major collector roads and minor collector roads.
4. Rural Local Road System – Providing for direct access to abutting land, and for local traffic movements.

The Intermodal Surface Transportation Efficiency Act of 1991 identifies federal funding sources for road, highway, transit, and other transportation related improvements. ISTEA provides flexibility of funds, empowerment of local jurisdictions in assigning project priorities, public participation in planning and decision making. ISTEA provides funding for principal arterial systems and minor rural arterials in non-urbanized areas. Provide funding for safety improvement projects and projects that provide improvements for rural roads and bridges. Other funding programs include:

1. Kentucky Rural Secondary Highway Aid Program: Program to improve and maintain a system of rural and secondary roads. The rural secondary road network consists of all state maintained roads of the minor collector level and lower. The development of annual rural secondary programs by KYDOT is based on recommendations made by the District 5 Office of the Bureau of Highways. These recommendations are based on suggestions made by county fiscal courts, other public officials, civic organizations and interested citizens.
2. County Road Aid (CRA): Program to improve and maintain local roads. All roads included in this program remain the responsibility of each county although KYDOT sometimes provides technical assistance and the necessary machinery for maintenance and improvement.
3. Kentucky State Highway Contingency Fund (Acct. #210): Funds are allocated by the Kentucky General Assembly for unexpected highway projects for the non – urban portions of Kentucky.
4. Municipal Aid Program: Funds for the maintenance of local street networks. Annual plans which outline the construction and/or maintenance projects for which the money will be spent are prepared by the mayors and city councils in incorporated areas, and by fiscal courts for unincorporated urban areas.
5. Transportation Enhancement Funds: Provides funding for projects that enhance the aesthetic quality of any area. Projects could include maintenance and construction of facilities that provide access to pedestrians and bicycles, scenic and historic preservation and rehabilitation of historic transportation buildings and historic railroad facilities, and preservation of abandoned railway corridors.

## **TRANSPORTATION GOALS AND OBJECTIVES AND THEIR IMPACT ON LAND DEVELOPMENT**

The adopted goals and objectives of the comprehensive plan reiterate the concept of implementing transportation facilities and service concurrently with other proposed land use development projects in order to protect land from development prior to its being adequately served by transportation and other facilities and utilities, to maximize safe transportation through the avoidance of conflicts between construction activities and travel, and to ensure the mobility of the county's residents. This practice is especially important in the lake area as it affects the need to upgrade and enlarge roads leading to the lake; and as current roads in other areas can be expected to carry traffic in excess of their capacities following the increased construction of subdivision and residential areas.

Following the status of, and ensuring the completion of those road projects on the major arterial and collector highways of the county is an objective that affects subdivision and commercial development that may take place along these routes, and the level of service provided to present and future traffic volumes.

Based on the information and data in chapter 8, there is a major need for the upgrades of state and county roads. Looking at the KDOT Six Year Plan, Table 6-3, and the KDOT Long Range Plan, Tables 6-2 and 6-4, studies of these areas are being done to correct the aforementioned problem areas, but making these improvements actually relies on state and local funding for the projects.

The provision of adequate parking is also a stated concern of county residents, and influences the size and location of both public and private developments, especially commercial enterprises. Adequate parking in the downtown business district of Taylorsville will help to revitalize the area as a major shopping facility for the community by providing easy access to stores and business. Adequate and approximately designed off-street parking for designated and commercial areas along major highway routes will ensure safe and convenient access to future commercial development implemented in these areas.

Finally, the objective of establishing some form of public transit for the county would ensure the continued mobility of commuters to places of employment outside the county, and thus help to ensure the continued freedom of choice of location of residences within Spencer County.

At present, there is no public transit system available to Spencer County residents. The economic analysis of the county indicated that nearly 80 percent of the work force commutes to places of employment outside of the county. This figure indicates the need for some type of transportation to ensure the mobility of the work force of the county in the face of consistently increasing transportation costs.

## **IMPROVEMENT PRIORITIES OF THE SPENCER COUNTY HIGHWAY AND ROAD SYSTEM**

The analysis of deficient bridges and road conditions, and the forecasts of average daily traffic volumes on major roads in the county point out anticipated problems associated with construction needs and heavy traffic.

This existing analysis suggests a limited list of improvement priorities that should be pursued by local officials and state authorities. This list is as follows:

1. Improvement and maintenance projects to the collector highways and bridges of the county are listed in the following tables. However, they are not prioritized. Rather, there must be an effort by local officials to pursue the appropriate funding for all of these projects as the availability of particular funds become known. This will require an understanding by local officials of what highways and roads are eligible for specific funds (Map 10); and the preparation of annual plans as well as lobbying efforts at KYDOT to ensure that Spencer County receives due consideration of its transportation needs.
2. As new subdivision development takes place in the growth areas of the county, great care should be taken to ensure that local residential street construction is properly undertaken by the developer of the subdivision; and that minimum standards of street design as set forth through subdivision regulations are followed.
3. The need for traffic control and safety through the use of signalization has been identified. Signalization will be especially important as lake visitation swells the normal traffic flow. The installation of adequate signalization should be pursued for all school zones and increased residential areas.
4. The need for some form of public transportation was identified in the adopted goals and objectives. Presently, no public transportation exists in the county. There is some financial assistance available from the federal government which consists of Section 3 of the Federal Transit Act Amendments of 1991. Section 3 funds primary use is for major one-time investments in mass transit systems and for the construction of completely new systems. The funds can be used to pay for 80 percent of equipment costs. Section 16 of the Federal Transit Act provides funds that can be used by private, not-for-profit groups for the purchase of vehicles and related equipment for the transportation of elderly and disabled persons. Section 18 of the FTA provides funding for capital and operation assistance to public transportation projects in areas other than urbanized. The federal share of costs is up to 80% for capital projects and 50% for operation expenses. These sources of funds can be actively pursued by local officials and interested individuals. Additionally, ridesharing or

carpooling by commuters whose places of employment are in close proximity could be established on a volunteer participant basis. KYDOT and other communities with similar programs should be contacted to determine if there are start-up funds available, and if existing methodologies can be applied to Spencer County's commuter characteristics.

5. It was noted in Chapter 3, Spencer County Economic Inventory and Analysis that transportation modes other than highway and road systems are severely limited in Spencer County. The nearest rail service is available at Shelbyville, 20 miles from Taylorsville. The nearest piggyback service is at Louisville, 32 miles northwest of Taylorsville. Access to major interstate routes is also limited with I-64 located 16 miles to the north via Kentucky 44. There are sixteen common carrier trucking companies, providing both interstate and intrastate motor carrier service to Taylorsville. The nearest scheduled airline service is available at Standiford Field in Louisville, 30 miles to the northwest. These limitations make it extremely difficult to attract new manufacturing concerns to the county; and thus inhibits the county's economic growth.

The following Table 6-2 identifies the current projected projects that are included in the State transportation plans.



**TABLE 6-2**

**STATEWIDE TRANSPORTATION LONG RANGE HIGHWAY PLAN**

| <b>Long Range Corridor Plan for US 31E</b> |   |                           |                        |                            |
|--|---|---------------------------|------------------------|----------------------------|
| <u>County</u>                              | <u>Project</u>  | <u>Length<br/>(Miles)</u> | <u>Length<br/>(Km)</u> | <u>Cost<br/>(Millions)</u> |
| Spencer                                    | Relocation from Salt River Bridge to KY 480 near High Grove in Nelson County                              | 3.5                       | 5.6                    | 10.5                       |
| <b>Long Range Corridor Plan for KY 44</b>  |   |                           |                        |                            |
| <u>County</u>                              | <u>Project</u>  | <u>Length<br/>(Miles)</u> | <u>Length<br/>(Km)</u> | <u>Cost<br/>(Millions)</u> |
| Spencer<br>Bullitt                         | Reconstruction from Taylorsville to Mount Washington Bypass   | 12.1                      | 19.5                   | 32.0                       |
| <b>Long Range Corridor Plan for KY 555</b> |   |                           |                        |                            |
| <u>County</u>                              | <u>Project</u>  | <u>Length<br/>(Miles)</u> | <u>Length<br/>(Km)</u> | <u>Cost<br/>(Millions)</u> |
| Spencer<br>Anderson<br>Washington          | Extension from Bluegrass Parkway to KY 248 near Tanner Road (KY 3358) in Anderson County                  | 7.0                       | 11.3                   | 11.0                       |
| Spencer<br>Shelby                          | New construction from 248/KY 44 intersection near Little Mounity to I-64/KY 53 interchange at Shelbyville | 9.6                       | 15.4                   | 18.7                       |

Table 6-3 shows the six year plan projects for Spencer County. Also reference the inserted KDOT project map.

**TABLE 6-3  
KENTUCKY TRANSPORTATION CABINET  
SIX YEAR PLAN**

| <b>County</b>      | <b>Route</b> | <b>Project Description</b>   | <b>Cost Estimate</b> |
|--------------------|--------------|--|----------------------|
| Spencer            | KY-44        | KY-44 Widening from Oak Tree Way to KY-1633 (Mile Point: 7.45 to 8.45) | \$4,800,000          |
| Spencer<br>Bullitt | KY-44        | KY-44 Corridor Study from Taylorsville to Mt. Washington               | \$300,000            |
| Spencer            | KY-55        | Replace Salt River Bridge in Taylorsville (Mile Point: 6.234 to 6.434) | \$9,500,000          |
| Spencer            | KY-55        | Replace Salt River Bridge in Taylorsville (Mile Point: 6.243 to 6.434) | \$4,000,000          |

**TABLE 6-4****2007 SPENCER COUNTY  
KENTUCKY TRANSPORTATION CABINET UNSCHEDULED PROJECT LIST**

| <b>County</b>     | <b>Route</b> | <b>Project Description</b>   | <b>Miles</b> | <b>Cost<br/>(Millions)</b> |
|-------------------|--------------|--|--------------|----------------------------|
| Spencer           | KY 55        | West Bypass of Taylorsville from KY 44 at KY 1251 to KY 55 at KY 2239 South of Taylorsville  | 5.0          | 21.5                       |
| Spencer           | KY 55        | Reconstruction/Relocation from KY 44 in Taylorsville to KY 2239 – See Section 1 in January 2001 Scoping Study (Mile Point: 2.922 to 6.518) | 3.6          | 15.1                       |
| Spencer           | KY 55        | Reconstruction/Relocation from KY 2239 to KY 1066 – See Section 2 in January 2001 Scoping Study (Mile Point: 0.316 to 2.922)               | 2.6          | 14.5                       |
| Spencer           | KY 55        | Major Widening from KY 44 to KY 155 (Mile Point: 6.518 to 11.270)  | 4.8          | 22.5                       |
| Spencer<br>Shelby | KY 55        | Major Widening from KY 155 to I-64 (Spencer Mile Point: 11.270 to 13.560) (Shelby Mile Point: 0 to 6.240)                                  | 8.5          | 40.5                       |
| Spencer           | KY 155       | Major Widening from KY 55 to Jefferson County Line (Mile Point: 0 to 4.240)  | 4.2          | 20                         |
| Spencer<br>Shelby | KY 555       | New Construction from KY 248/KY 44 intersection near Little Mount to I-64/KY 53 interchange at Shelbyville                                 | 9.6          | 48.0                       |
| Spencer           | KY 1169      | Widen from KY 1060 to KY 55 (Mile Point: 0 to 4.960)   | 5.0          | 8.090                      |
| Spencer           | KY 1169      | Widen Bridge over Elk Creek (Mile Point: 4.638 to 4.658)   | 0.1          | 0.585                      |
| Spencer           | KY 1169      | Widen from KY 55 to Meadowlake Drive (Mile Point 4.960 to 7.140)   | 2.2          | 5.8                        |

The lack of a variety of transportation modes again emphasizes the importance of upgrading and maintaining the major highways of the county.

There is a newly formed aviation board in Spencer County consisting of 6 people. A feasibility study for the development of a small airport is being undertaken. Three proposed sites have been chosen and will be presented to the County in March 2008. This airport could attract light manufacturing to the area. Such an airport might also have the effect of attracting individuals who own private aircraft, and would like to utilize the facilities at Taylorsville Lake by flying from their origin to the lake area.

**SUMMARY**

The task of transportation system evaluation continues subsequent to completion of the Spencer County Comprehensive Plan and this transportation policy plan element. System evaluation requires interagency coordination to

ensure that desired improvements are implemented. The necessity of continuing program is evidenced by the changing nature of financial resources and evolving governmental priorities and policies. The continuing planning program must assess changes in the availability of funds for new construction and improvement of facilities, as well as to monitor alterations in governmental goals and objectives which may ultimately affect financial capability to implement proposed projects.

Moreover, new developments will be proposed and constructed, new highway facilities will be completed, and new circulation concepts will require analysis. All of these factors will impact the future effectiveness of the transportation system, and therefore must be continually evaluated for their adequacy and adherence to planned implementation strategies.