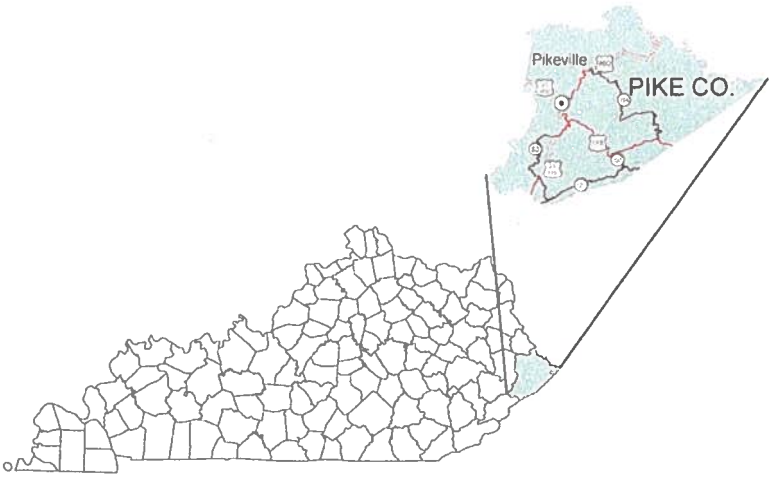
Final Report

Pikeville Urban Area Transportation Study



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Division of Multimodal Programs

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EDUCATION PAYS

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I. INTRODUCTION

Background

The Kentucky Transportation Cabinet (KYTC), through its Division of Multimodal Programs, has the responsibility of assisting urban areas of the Commonwealth with an examination of their transportation systems. To this end, the Cabinet, in cooperation with local governmental officials and the U.S. Department of Transportation, has sponsored urban transportation studies for areas having populations greater than 5,000 persons.

Study Purpose

These urban transportation studies, sponsored by the KYTC, provide for the development of long-range and short-range highway improvements eligible for state and federal highway funding. The studies are primarily oriented to the analysis of present and future automobile travel and identify, on a system-level basis, existing deficiencies and forecasts of future deficiencies in the urban area's roadway system.

Transportation improvements to alleviate those deficiencies are subsequently developed, with projects largely involving improvements to state and federal highway system facilities. The study does, however, address multimodal and intermodal transportation concerns within the study area, including bicycle and pedestrian facilities, transit service, trucking operations, rail facilities, and aviation issues.

Scope

The Pikeville Urban Area Transportation Study (UATS) consisted of two phases of project activities. Phase I consisted of model development, which included data collection, compiling the information into a geographic information system (GIS) or other appropriate format, travel model development and future year traffic forecasting. The Pikeville Traffic Model is a sequence of computer routines that use zonal socioeconomic data (population, employment, and dwelling units) and the physical characteristics of the transportation network as input. The model is calibrated by developing mathematical relationships between the data variables and existing traffic volumes on the study area roadway system. Once the model is calibrated satisfactorily to simulate existing traffic, it can be used to forecast future traffic under the premise that future travel demands will be related to the same factors that influence existing travel patterns. Much of the information on the traffic model development activities for Pikeville has been documented in the *Model Validation Report*.[1]

Phase II consisted of the urban transportation study activities, which are documented in this report. The activities included the development of goals and objectives, identification of existing and future transportation deficiencies, preparation of alternative highway networks, identification of funding sources, development of a cost feasible transportation plan, and incorporation of local/public involvement.

[1] *Model Validation Report, Pikeville Urban Area Transportation Study;* Kentucky Transportation Cabinet, Division of Multimodal Programs, prepared by Wilbur Smith Associates, June, 1999.

Study Area

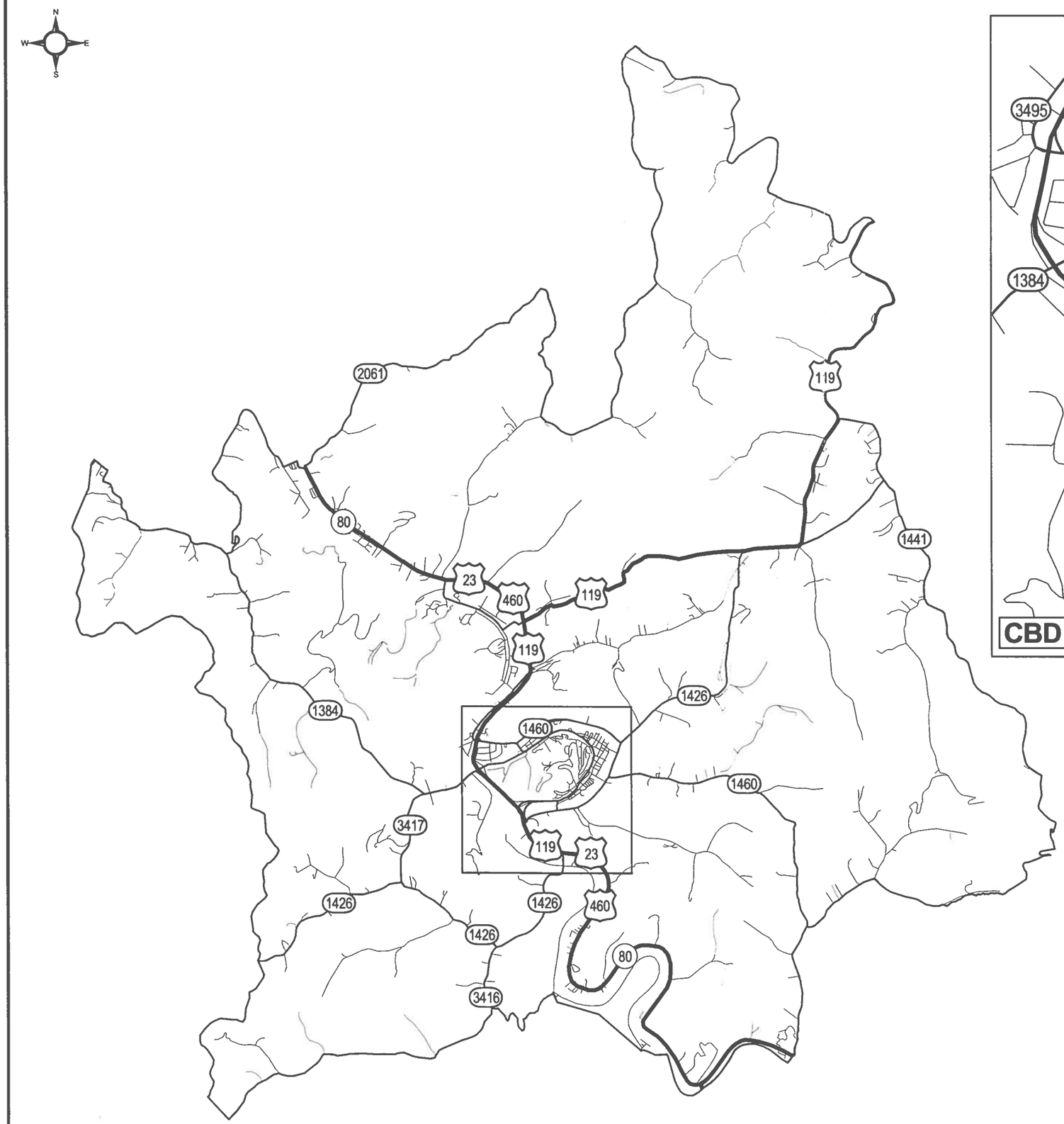
The city of Pikeville, illustrated in **Figure I-1**, is located in Pike County, in far eastern Kentucky in the central Appalachian Mountain Region. Highway access is provided to the city of Pikeville via US 23, US 460, US 119 and KY 80. These facilities connect the city to the rest of Kentucky along with West Virginia, Virginia, and the Interstate Highway system.

Intermodal transportation service to Pikeville and Pike County is provided by the Norfolk Southern and the CSX Transportation railroad systems and via the Pike County airport, located north of the city. The airport facility includes two 5,000 foot runways and offers general aviation, air charter and air taxi services.

Throughout its history, much of the city's growth and development has been defined by highway and transportation facilities. Completed in 1987, the Pikeville Cut-Thru Project represents one of the largest engineering projects east of the Mississippi River. The project served to relocate the four major highways (US 23, US 119, US 460 and KY 80), along with the railroad and the Big Sandy River. In addition to the engineering achievements of this project, the Pikeville Cut-Thru provided important land use changes and development opportunities for the city that have resulted in long-term benefits to the community.

Figure I- 1. Study Area Location

Much of the analysis for the project focused upon the immediate Pikeville Area, illustrated in the study area map provided in **Figure I-2**. Consideration of transportation improvements and needs, however, may go beyond the boundaries of this area in order to more effectively address the scope and impact of major highway improvements.



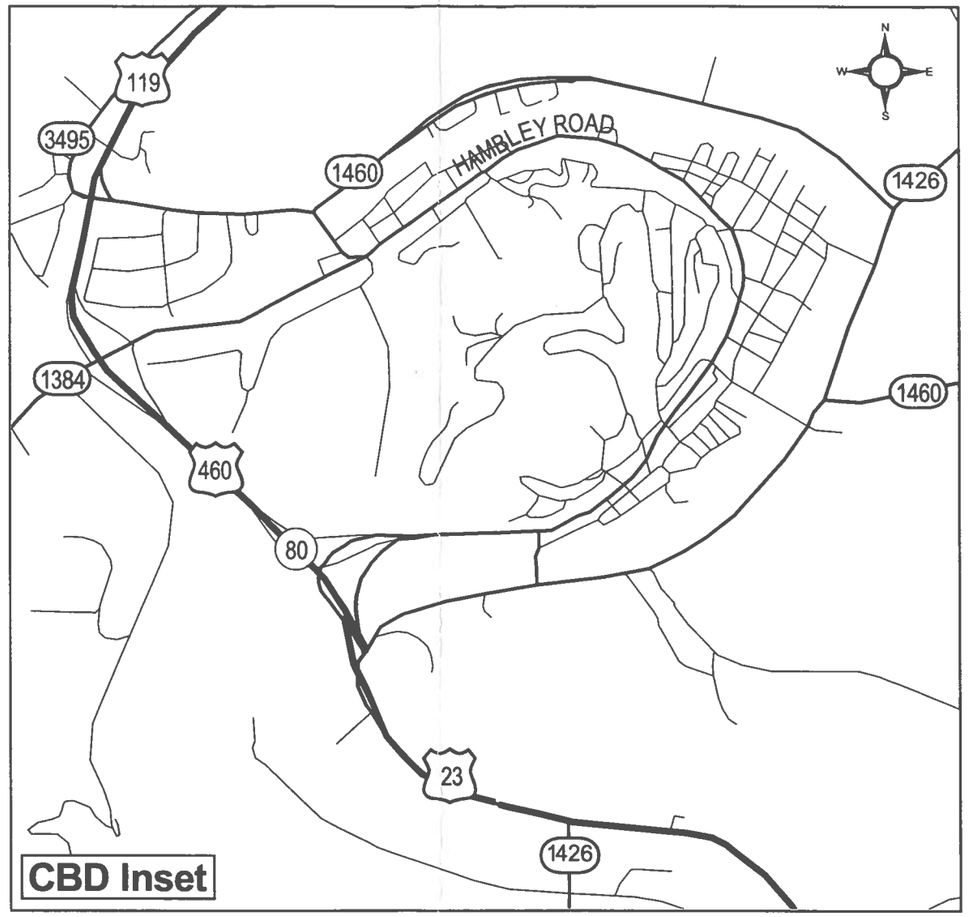


Figure I - 2

Study Area Map

Pikeville Urban Area Transportation Study

References and Information Resources

To insure a consistent and comprehensive transportation planning process, the following list of references and information resources were reviewed and incorporated into the study effort.

- *Recommended Six Year Highway Plan FY 1999 – 2004;* Kentucky Transportation Cabinet, June 1998.
- *Statewide Transportation Plan (FY 1995 – 2014);* Kentucky Transportation Cabinet, January 1995.
- *Unscheduled Highway Plan Needs;* Kentucky Transportation Cabinet, February 1999.
- *Comprehensive Plan Update, Pikeville, Kentucky;* Will Linder & Associates, Inc., August 1993.
- *US 23 Project Scoping Summary;* Kentucky Transportation Cabinet, Division of Design, prepared by Wilbur Smith Associates, 1997.
- *Model Validation Report, Pikeville Urban Area Transportation Study;* Kentucky Transportation Cabinet, Division of Multimodal Programs, prepared by Wilbur Smith Associates, June, 1999.
- *Other State and Local Planning Resources, including:*
  - *Land Use Maps;*
  - *Aerial Photos;*
  - *County Building Permits; and,*
  - *Interviews with Local Officials.*

II. PUBLIC INVOLVEMENT

The objective of the public involvement process was to provide for local input through a technical advisory committee of elected and agency officials. Through a series of advisory committee meetings, officials were able to provide input to the study decision making process and ultimately in the development of the Pikeville Long-Range Transportation Plan. This process achieved the desired objective of providing for a study process and transportation plan that was responsive to local highway needs.

Technical Advisory Committee

A Technical Advisory Committee (TAC) was formed at the onset of the study to provide guidance to the Kentucky Transportation Cabinet and its consultant, and to serve as a channel for input from the general public. The Pikeville Urban Transportation Study TAC was comprised of representatives from the following organizations or groups:

- KYTC District Twelve Highway Department Office
- Big Sandy Area Development District (BSADD)
- City of Pikeville, Mayor's Office
- City of Pikeville, Planning/Public Works Office
- Pike County Chamber of Commerce

In addition to the participants on the Technical Advisory Committee, other local officials with other agencies and organizations were contacted throughout the study process. These agencies included:

- Pike County
- Pikeville College
- Eastern Kentucky Exposition Center Corporation

Goals and Objectives

Goals and objectives were developed at the beginning of the transportation study in coordination with the TAC. Goals, either formally or informally stated, are the basis of all decisions. Once goals are identified, objectives can be developed so that it is possible to measure the extent to which the goals have been obtained.

Goals are generalized statements that articulate an area's transportation needs and give direction and focus to the decision-making process. Objectives are specific statements, which grow out of general goals and represent elements that can be accomplished and measured. The goals and objectives for the Pikeville UATS were developed through a collaborative process involving the KYTC, its consultant, and the TAC, and are presented in **Figure II-1**.

Public Involvement Process

The objective of the public involvement process was to include the general public, indirectly through the Technical Advisory Committee (which served to represent the general public) and directly through public meetings, in the development of the Long-Range transportation plan. The public involvement process achieved its desired objective, resulting in the citizens having a sense of ownership to both the process and the plan.

The public involvement process was designed to facilitate direct input and guidance to the KYTC and consultant through the TAC, with opportunities for input and comment from the general public provided at public information meetings. The following is a schedule of meetings that occurred during the study, their date, and content:

Event	Date	Key Topics
Kick-Off Meeting	March 22, 1998	Study initiation
Field Study/Meet with Local Officials	October 1998	Study needs and data resources
TAC Meeting	February 4, 1999	Goals, objectives and area transportation needs
TAC Meeting	March 4, 1999	Preliminary improvement alternatives & US 23 improvements
TAC Meeting	April 29, 1999	Recommendations and Draft Final Report

PIKEVILLE URBAN AREA TRANSPORTATION STUDY GOALS AND OBJECTIVES

GOALS:
Generalized statements that articulate an area's transportation needs and can give direction and focus to the decision-making process.

OBJECTIVES:
Specific statements which grow out of general goals. Objectives should represent elements that can be accomplished and measured.

GOAL 1.	**PROVIDE A SAFE AND EFFICIENT TRANSPORTATION SYSTEM**	
	Objective 1.1.	Address existing or potential high accident locations
	Objective 1.2.	Meet appropriate design standards for all proposed facilities and retrofit existing facilities to meet design standards for all major rehabilitation or improvement projects
	Objective 1.3.	Consider provisions for pedestrians and bicycles for all major rehabilitation or improvement projects
	Objective 1.4.	Reduce congestion
	Objective 1.5.	Improve travel times
GOAL 2.	**ENHANCE COMMUNITY DEVELOPMENT OPPORTUNITIES**	
	Objective 2.1.	Maximize economic development opportunities
	Objective 2.2.	Provide for efficient movement of freight throughout the study area
	Objective 2.3.	Respond to identified local highway improvement priorities
GOAL 3.	**PROVIDE FOR A SUSTAINABLE COMMUNITY**	
	Objective 3.1.	Preserve and Enhance the Central Business District
	Objective 3.2.	Minimize disruption to neighborhoods, schools and hospitals
	Objective 3.3.	Minimize usage of residential streets by through/truck traffic
GOAL 4.	**ADDRESS ENVIRONMENTAL CONCERNS**	
	Objective 4.1.	Minimize air, noise and water pollution
	Objective 4.2.	Coordinate land use and transportation system planning

Figure II- 1. Goals and Objectives

III. EXISTING CONDITIONS

Development of a Long-Range Transportation Plan for Pikeville began with an inventory and analysis of the existing transportation network and conditions. In this section, a description of the existing transportation network and functional classification system, socioeconomic data, daily traffic volumes and levels of service, accident information, non-automobile transportation systems, and areas of traffic operational deficiencies are given for the Year 1997, which shall serve as the base year for this study.

As part of the study process and in coordination with the analysis of existing conditions, a traffic model was developed to aid in the analysis of existing highway facilities and planned highway improvements. The model will also provide a means for continual evaluation of the transportation system for future developments or projects.

Transportation Network

As previously identified, the primary transportation arterial through Pikeville is represented by US 23, US 119, US 460 and KY 80, that converge together as a four-lane controlled access facility within the Pikeville Cut-Thru.

Major arterial highways serving Pikeville from the north include US 23, US 460 and KY 80, that extend into Floyd County as a common four-lane arterial highway. Within Floyd County, US 23 and US 460 continue north to Prestonsburg and Paintsville, while KY 80 diverges west to Hazard. US 119 extends eastward as a two and four-lane facility to Williamson, West Virginia. Planned highway improvements will soon serve to fully upgrade US 119 to a four-lane facility between Pikeville and West Virginia.

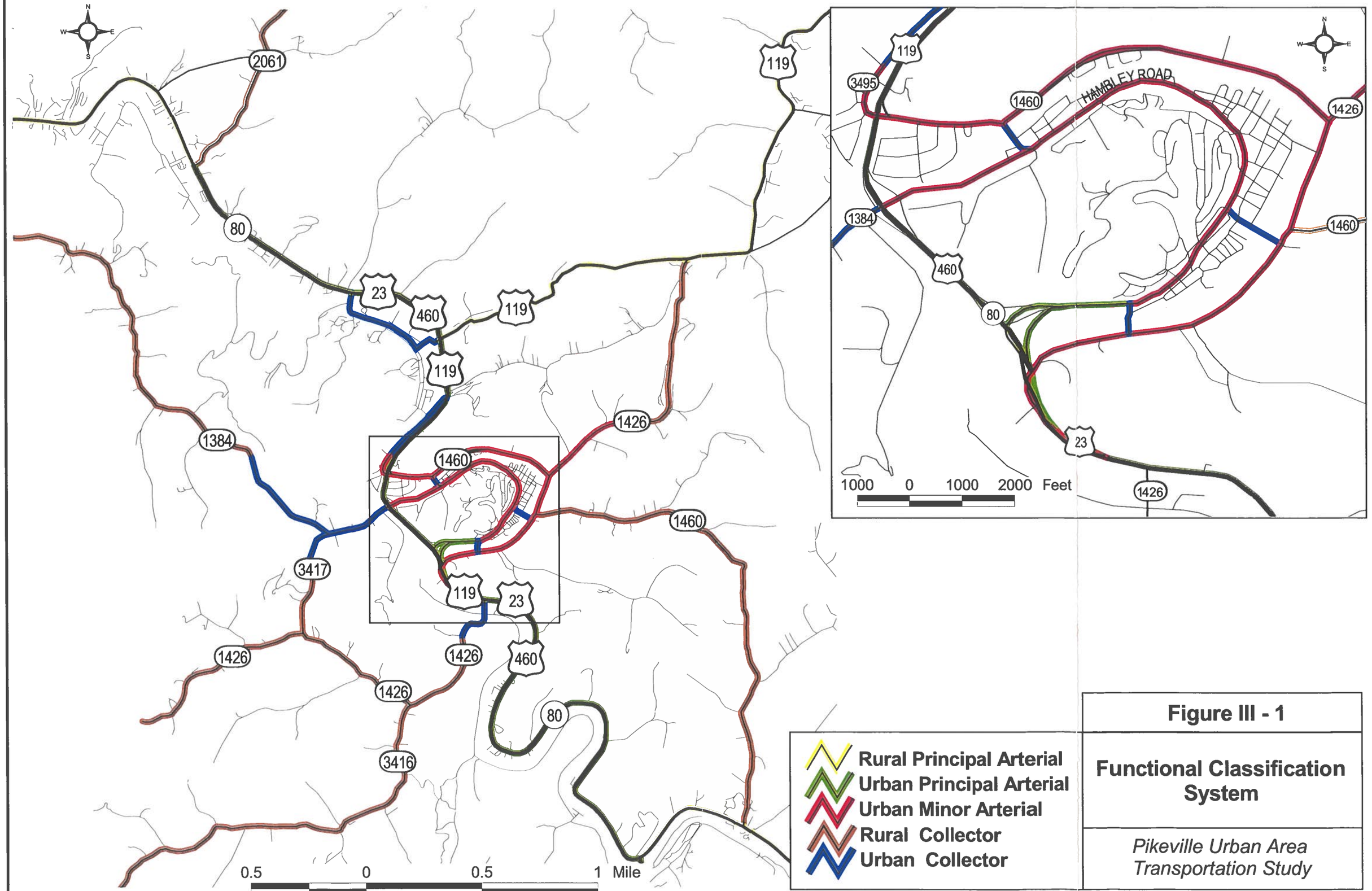
Major arterial highways serving Pikeville from the south include US 23 and US 119, that extend southwest toward Virginia and Whitesburg, Kentucky as a common two and four-lane facility. To the southeast, US 460 and KY 80 extend as a common two and four-lane facility toward Virginia. On both of these routes, highway improvements are currently programmed that will provide for improvements to upgrade the routes as four-lane facilities.

In addition to these major arterial highway facilities, minor state highway facilities provide access into the city of Pikeville, and these include KY 1426, KY 1384 (Cedar Creek Road), and KY 1460 (Chloe Creek Road). These facilities originally served as the old U.S. highway routes into the community. In addition, several other local state and county routes provide access into the city. Many segments of these facilities do not meet current design standards for state highways.

Within the community, much of the commercial, business and residential development is located within or near the central business district (CBD) along Hambley Boulevard. A new commercial development in the northern part of the community is located along Cassidy Boulevard. Most other developments within the area are generally situated along and served by the state-maintained facilities previously mentioned.

Functional Classification System

The Pikeville study area's transportation network and highway functional classification system are presented in **Figure III-1**. Functional classification describes a facility's role in providing movement of through traffic or access to adjoining land within the study area. The functional classification of highway facilities and their respective role in providing traffic movement and traffic access are important considerations in developing plans for future system improvements.



Rural Principal Arterial
Urban Principal Arterial
Urban Minor Arterial
Rural Collector
Urban Collector

Figure III - 1

Functional Classification System

Pikeville Urban Area Transportation Study

The following is a brief description of the four functional classes of highway facilities considered as part of the Pikeville UATS:

1. Principal Arterials

Principal arterials are designed to provide major travel between, across and within urban areas. Expressways within this system do not provide access to adjacent land. Principal arterials are intended to carry high traffic volumes and serve the longest trip lengths.

2. Minor Arterials

Minor arterials are moderate volume streets and roads that interconnect with and augment the principal arterial system. More emphasis is placed on land access than for principal arterials, but the primary emphasis is on the movement of traffic. Also, travel desires typically are shorter for minor arterials than for principal arterials.

3. Collectors

Collector streets penetrate neighborhoods and the urban core, collecting and distributing trips from arterials to the local street system. Collectors provide both access to adjoining land and through movement of traffic.

4. Locals

The sole function of local streets is to provide access to abutting land. Local streets often comprise the largest portion of total street mileage in an urban area but carry only a small portion of the total vehicle-miles traveled. Local streets were not evaluated in this study.

Traffic Analysis Zones

For purposes of data collection, analysis and traffic modeling, the study area was divided into 69 traffic analysis zones (TAZs), as shown in **Figure III-2**. Definition of zonal boundaries and size were based on considerations such as land use, natural features or barriers, existing streets and roads, census tract boundaries and socioeconomic characteristics. Planning data such as population, employment and dwelling units were aggregated on the basis of this zonal system. Also, there were 9 external zones or stations, for which traffic data were collected for the purpose of modeling traffic movements into, through and out of the study area.

Socioeconomic Data

Existing year socioeconomic data were compiled for 1997 conditions using various information sources. Population and dwelling unit information was originally derived from 1990 U.S. Census Bureau data, with block-level data being aggregated into the prescribed TAZs. Estimates of 1997 population totals for Pikeville were obtained using new housing starts from 1990 to 1997, identified through the Pikeville Building Inspector's Office. These starts were used to predict the location and magnitude of population growth within the city between 1990 and 1997.

Employment data for 1997 was obtained through the Workforce Development Cabinet and were provided in the form of a data file containing quarterly employment estimates and mailing addresses for employers in the Pikeville area. An extensive manual effort was then undertaken to verify the location of the employers included in the listing and to reference them to the TAZ system. In many instances employment data was incomplete, failed to recognize multiple work sites, or referenced employers not located in the Pikeville area.

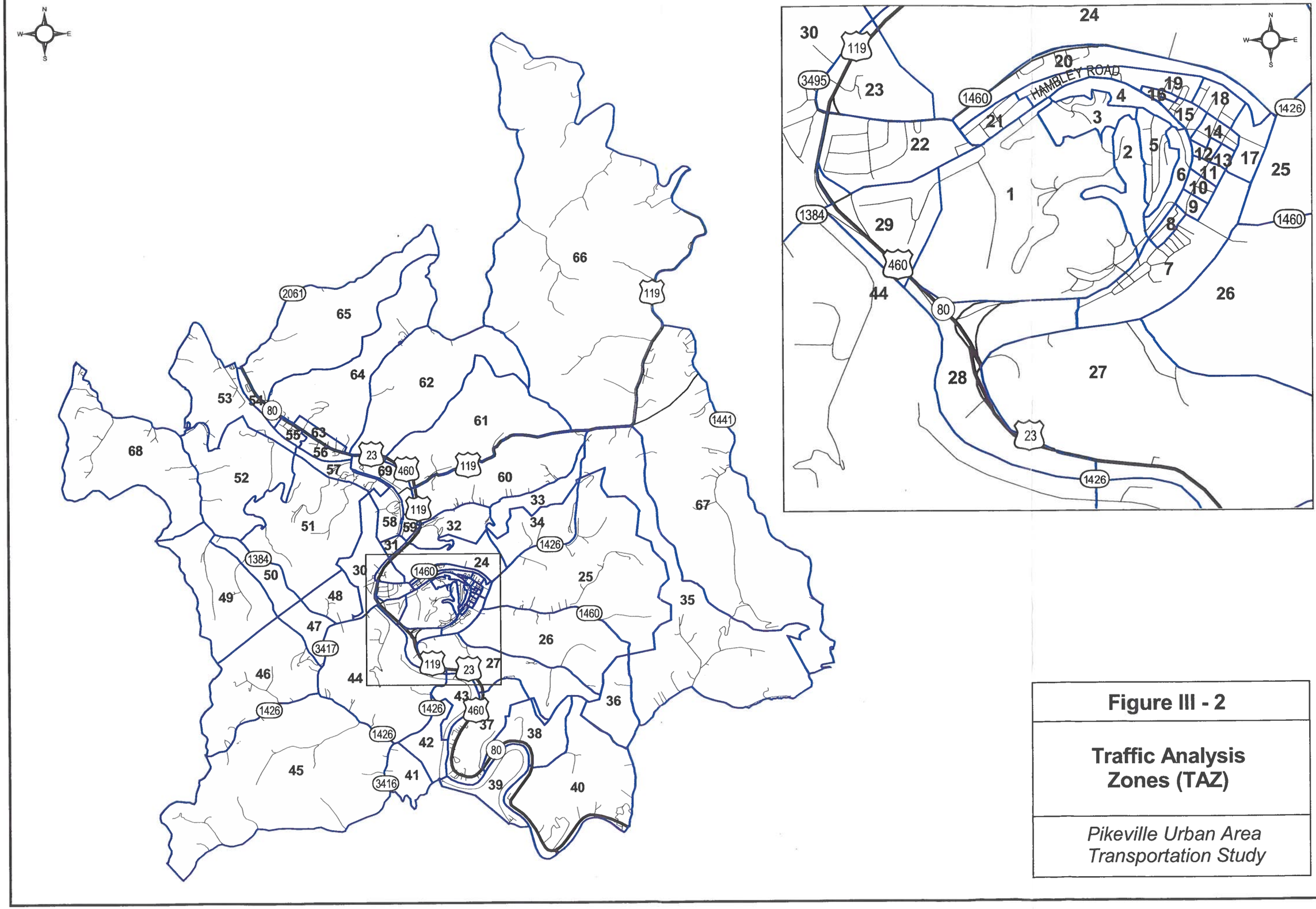


Figure III - 2

Traffic Analysis Zones (TAZ)

Pikeville Urban Area Transportation Study

While every reasonable effort was undertaken to provide for an accurate representation of employment conditions throughout the study area, it is certain that a degree of inaccuracy exists in the final data set due to the quality of available data. The resulting socioeconomic data estimates for 1997 conditions are provided in **Table III-1**. As indicated, the Pikeville study area includes 5,425 dwelling units, 13,281 residents, and 12,671 employees. The large number of employees, relative to residents, highlights the role that the study area serves as a regional center for employment.

Table III-1. 1997 Base Year Socioeconomic Data

Zone Number	Dwelling Units	Population	Industrial Employment	Commercial Employment	Public Employment	Total Employment	Zone Number	Dwelling Units	Population	Industrial Employment	Commercial Employment	Public Employment	Total Employment
1	219	521	20	27	51	98	36	7	17	0	0	0	0
2	57	190	0	19	0	19	37	66	180	408	135	0	543
3	166	360	2	0	0	2	38	15	37	0	14	0	14
4	17	42	0	22	0	22	39	46	102	26	0	0	26
5	194	527	0	14	293	307	40	180	321	0	43	0	43
6	314	431	21	72	293	386	41	1	2	84	0	0	84
7	158	365	16	244	940	1200	42	17	41	4	1	0	5
8	17	27	0	28	36	64	43	16	38	0	1	0	1
9	1	1	3	239	0	242	44	340	979	10	104	0	114
10	8	8	0	254	76	330	45	184	492	10	4	0	14
11	2	2	158	108	4	270	46	312	762	7	20	0	27
12	6	7	0	60	15	75	47	26	63	0	0	0	0
13	2	2	6	23	0	29	48	79	192	0	0	0	0
14	40	62	0	14	0	14	49	56	152	53	3	0	56
15	30	55	9	82	0	91	50	23	67	0	0	0	0
16	33	84	0	5	41	46	51	102	258	3	4	0	7
17	4	6	5	150	7	162	52	75	204	0	5	0	5
18	94	173	7	3	0	10	53	99	264	30	4	0	34
19	94	200	0	86	0	86	54	99	215	0	721	105	826
20	121	281	23	0	0	23	55	60	136	30	117	20	167
21	74	160	2	18	0	20	56	39	97	9	216	0	225
22	72	210	145	57	0	202	57	85	199	6	0	0	6
23	30	72	8	172	244	424	58	28	73	0	10	0	10
24	40	98	0	14	0	14	59	44	95	13	109	0	122
25	69	167	85	527	33	645	60	121	304	7	6	0	13
26	32	78	33	76	88	197	61	10	26	0	12	89	101
27	13	27	37	1,645	4	1,686	62	100	286	3	42	0	45
28	36	182	15	374	16	405	63	8	31	89	123	0	212
29	2	4	0	241	1	242	64	15	47	27	586	0	613
30	107	267	36	404	338	778	65	41	120	0	0	0	0
31	7	18	8	184	0	192	66	345	907	0	8	0	8
32	56	171	0	6	0	6	67	309	816	8	0	0	8
33	66	160	0	0	0	0	68	99	259	0	4	0	4
34	32	78	11	128	60	199	69	74	213	27	816	0	843
35	91	250	9	0	0	9	Total	5,425	13,281	1,513	8,404	2,754	12,671

Daily Traffic Volumes

Base year (1997) daily traffic volumes for the Pikeville transportation study network were obtained through the Kentucky Transportation Cabinet or from traffic counts conducted for the Pikeville UATS. These existing traffic volumes were used to evaluate existing conditions and calibrate the area traffic model. Average daily traffic volumes as high as 35,000 vehicles per day (vpd) exist north of the Pikeville Cut-Through along US 23/US 119/US 460/KY 80. Throughout the study area, US 23/US 460 carries in excess of 24,000 vpd. In the downtown area, Hambley Boulevard carries around 14,000 vpd just east of US 23, as does Baird Avenue between Hambley Boulevard and KY 3496.

Levels of Service

Level of service is a qualitative measure used to describe traffic conditions and their perception by motorists and passengers. 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 levels of service are defined. They are given letter designations, from A to F, with level of service (LOS) A representing the best conditions and LOS F representing the worst conditions. For future planning purposes, a minimum of LOS D is typically desired in urban areas and LOS C in rural areas. Each level of service represents a range of operating conditions and is described in general terms in **Table III-2**.

Table III-2. Level of Service Descriptions

LOS	Description
A	Represents the best operating conditions. Traffic is free flowing and drivers are able to drive at their desired speed. Delays are minimal.
B	Traffic flow is stable, but the presence of other vehicles in the traffic stream becomes noticeable. Freedom to select a desired speed is not affected, but freedom to maneuver slightly declines. Delays remain minimal.
C	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 noticeably as well.
D	This represents high density, but stable, flow. Speed and freedom to maneuver are severely restricted, but traffic flow remains high. Delays are more substantial and intersection queues form frequently. Though driver comfort and convenience generally are poor, the utility or productivity of the facility is high. This is often considered to be the limit of acceptability for planning purposes in urban areas.
E	Operating conditions are at or near capacity. All speeds are reduced to a low, but relatively uniform value. Freedom to maneuver is extremely difficult and driver comfort and convenience levels are extremely poor. Delays approach an unacceptable level and operations are usually unstable.
F	Oversaturated conditions exist when demand exceeds capacity, resulting in forced or breakdown flow. Operations are characterized by stop-and-go conditions and are extremely unstable. Delays generally exceed limits of driver acceptability. Though undesirable, LOS F conditions are commonplace during peak traffic periods in major urban areas.

Source: Highway Capacity Manual, Special Report 209, Transportation Research Board, National Academy of Sciences, Washington, D.C., 1994.

The 1997 base year daily traffic volumes and levels of service are presented in **Figure III-3**. It should be noted that these are planning levels of service based on system-level analyses of daily traffic volumes. As shown, traffic congestion in the Pikeville area is minimal, with undesirable operational conditions (LOS D or worse) located only along KY 1426 and KY 1460 east of the downtown area. These conditions are largely attributable to the narrow lane and shoulder widths and sharp horizontal and vertical alignment changes along these facilities.

In addition to these facilities, a number of other facilities were identified as having problems with peak period congestion, based upon field observations and input through the technical advisory committee. These facilities include US 23/US 460/KY 80 in the northern portion of the study area, Hambley Boulevard and other downtown facilities, KY 3495 in the vicinity of the Pikeville High School, Cassidy Boulevard near the new commercial development, and KY 3417 (Cedar Creek Road) west of US 23.

Accident Summary

Traffic accident summaries for Pikeville and Pike County for the years 1993, 1994 and 1995 were obtained from the Kentucky Transportation Cabinet. The summaries are compiled based on accidents reported through the Kentucky State Police. As part of its Highway Safety Program, the Cabinet identifies high accident locations through determination of an accident rate for a location, whether it is a "spot" (0.3 miles long or less) or a segment, and comparison of that rate to a critical rate identified for that type of facility. Where the accident rate is greater than the critical rate (yielding a Critical Rate Factor greater than 1.0), a high accident location is considered to exist. Accident Rate, Critical Rate and Critical Rate Factor (CRF) are defined as follows:

> ***Accident Rate*** - For "spot" locations (0.3 miles or less), the rate is expressed in terms of annual accidents per million vehicles. For "segment" locations, it is expressed in terms of annual accidents per 100 million vehicle miles traveled. The rate allows for comparison of accident history among roadways having different traffic levels.
>
> ***Critical Accident Rate*** - A statistically derived accident rate developed for similar types of facilities throughout the state. A high accident location has an accident rate greater than the critical rate for that type of facility.
>
> ***Critical Rate Factor (CRF)*** - A comparison of the accident rate to the critical accident rate:
>
> $$\text{Critical Rate Factor (CRF)} = \frac{\text{Accident Rate}}{\text{Critical Rate}}$$
>
> A CRF greater than 1.0 indicates a high accident location. The higher the CRF, the higher the accident involvement is compared to similar types of facilities.

A summary of high accident locations in Pikeville and Pike County, based on the 1993-1995 accident data, is presented in **Table III-3**. Graphically, those locations within the study area are displayed in **Figure III-4**.

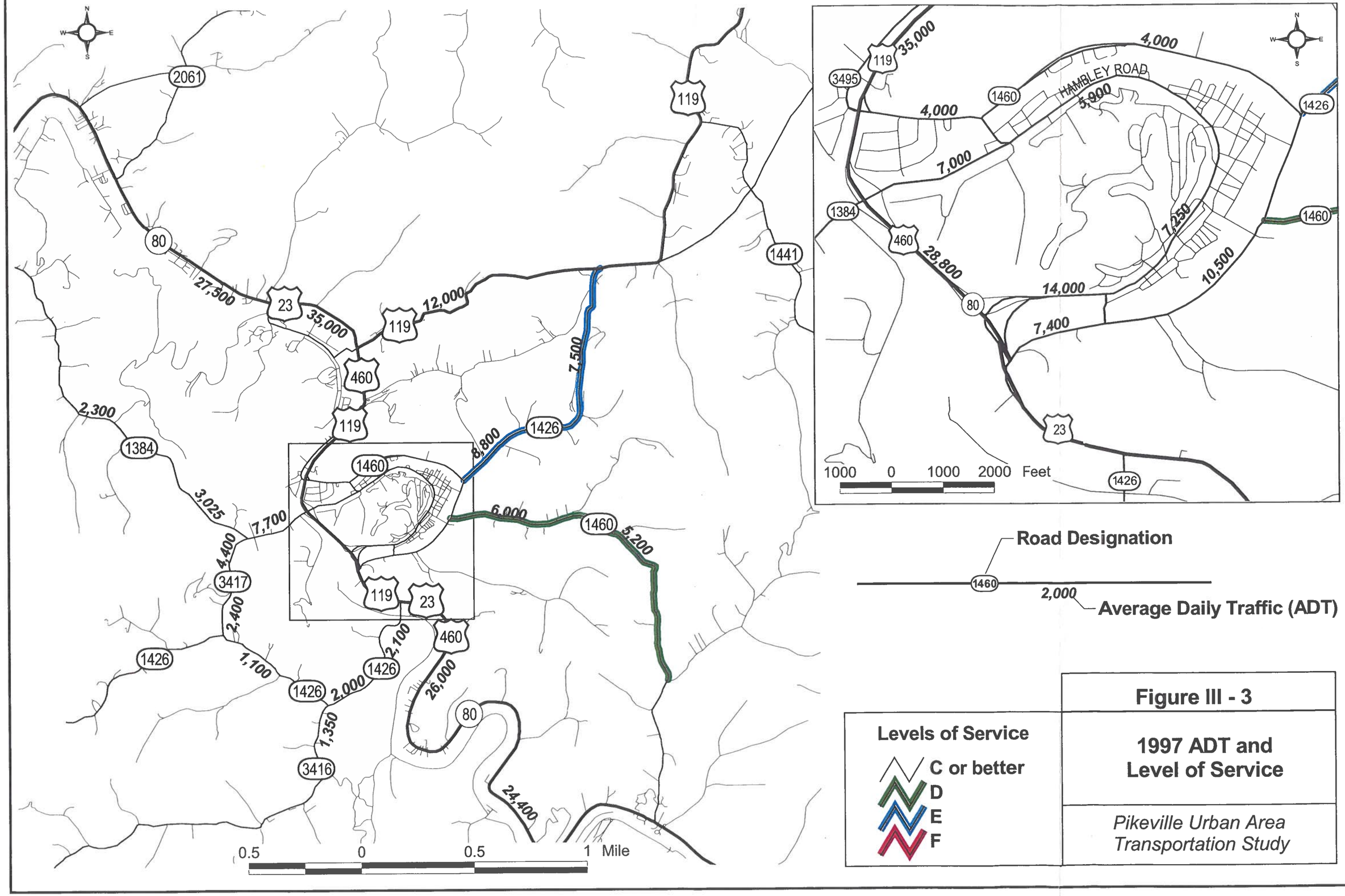


Figure III - 3

1997 ADT and Level of Service

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Table III-3. Pikeville/Pike County High Accident Locations, 1993-1995

Road-way	Begin MP	End MP	Length (Miles)	1997 AADT	Number Lanes	Inside Shoul-der	Rural/ Urban	Critical Acc. Rate	ACCIDENTS				HMVM	MV	Rates per HMVM or MV				Critical Rate Factor	Adjusted Critical Rate (includes Invalid Accidents)
									Fatal	Injury	PDO	Total			Fatal	Injury	PDO	Total		
US 23	21.500	22.798	1.298	21,300	4	YES	RURAL	147.77	0	3	8	11	0.303	23.32	0.00	9.91	26.43	36.33	0.246	0.266
	22.798	24.529	1.731	21,300	4	YES	URBAN	373.68	2	30	14	46	0.404	23.32	4.95	74.31	34.68	113.94	0.305	0.329
	24.529	25.236	0.707	37,500	4	YES	URBAN	385.17	0	7	9	16	0.290	41.06	0.00	24.11	31.00	55.11	0.143	0.155
	25.236	25.358	0.122	15,600	4	YES	URBAN	1.44	0	10	18	28	0.021	17.08	0.00	0.59	1.05	1.64	**1.137**	**1.228**
	25.358	26.125	0.767	24,300	4	YES	URBAN	398.90	0	6	9	15	0.204	26.61	0.00	29.40	44.10	73.50	0.184	0.199
	26.125	26.638	0.513	27,300	4	YES	URBAN	408.14	0	2	2	4	0.153	29.89	0.00	13.04	13.04	26.08	0.064	0.069
	26.638	28.003	1.365	23,000	4	YES	URBAN	379.46	0	22	23	45	0.344	25.19	0.00	64.00	66.90	130.90	0.345	0.373
	28.003	28.579	0.576	29,800	4	YES	RURAL	157.80	0	25	40	65	0.188	32.63	0.00	133.01	212.82	345.83	**2.192**	**2.367**
	28.579	29.775	1.196	29,200	4	YES	RURAL	142.52	1	26	43	70	0.382	31.97	2.62	67.99	112.45	183.05	**1.284**	**1.387**
	29.775	30.620	0.845	28,600	4	YES	URBAN	388.00	0	19	31	50	0.265	31.32	0.00	71.80	117.15	188.94	0.487	0.526
	30.620	31.759	1.139	28,600	4	YES	RURAL	143.67	1	63	85	149	0.357	31.32	2.80	176.62	238.30	417.72	**2.907**	**3.140**
	31.759	32.445	0.686	21,500	4	YES	RURAL	163.30	0	7	12	19	0.162	23.54	0.00	43.34	74.30	117.65	0.720	0.778
	32.445	33.907	1.462	20,500	4	YES	RURAL	146.15	0	12	25	37	0.328	22.45	0.00	36.57	76.18	112.74	0.771	0.833
Totals:			12.407						4	232	319	555								
Total Accidents with Invalid Mile Posts: 46 Percent of invalid Accidents: 0.08																				
US 119	0.000	2.700	2.700	5,400	4	YES	RURAL	413.04	0	16	26	42	0.160	5.91	0.00	100.22	162.86	263.07	0.637	0.669
	2.700	3.345	0.645	11,300	4	YES	RURAL	451.25	0	5	3	8	0.080	12.37	0.00	62.65	37.59	100.24	0.222	0.233
	3.345	3.543	0.198	13,700	4	YES	RURAL	0.71	0	2	4	6	0.030	15.00	0.00	0.13	0.27	0.40	0.565	0.593
	3.543	6.191	2.648	15,100	2	NO	RURAL	255.68	1	55	72	128	0.438	16.53	2.28	125.62	164.45	292.35	**1.143**	**1.201**
Totals:			6.191						1	78	105	184								
Total Accidents with Invalid Mile Posts: 10 Percent of invalid Accidents: 0.05																				
KY 1384	2.100	3.950	1.850	5,090	2	NO	RURAL	320.28	0	1	7	8	0.103	5.57	0.00	9.70	67.89	77.59	0.242	0.363
	3.950	4.395	0.445	1,560	2	NO	RURAL	593.05	0	0	1	1	0.008	1.71	0.00	0.00	131.55	131.55	0.222	0.333
	4.395	4.988	0.593	1,130	2	NO	RURAL	629.56	0	2	2	4	0.007	1.24	0.00	272.57	272.57	545.15	0.866	**1.299**
	4.988	6.787	1.799	1,870	2	NO	URBAN	673.72	0	5	6	11	0.037	2.05	0.00	135.73	162.88	298.61	0.443	0.665
	6.787	7.130	0.343	1,870	2	YES	URBAN	945.36	0	2	1	3	0.007	2.05	0.00	284.76	142.38	427.14	0.452	0.678
	7.130	7.432	0.302	1,870	2	YES	URBAN	3.15	0	1	0	1	0.006	2.05	0.00	0.49	0.00	0.49	0.155	0.233
	7.432	7.593	0.161	1,870	2	YES	URBAN	3.15	0	0	0	0	0.003	2.05	0.00	0.00	0.00	0.00	0.000	0.000
Totals:			5.493						0	11	17	28								
Total Accidents with Invalid Mile Posts: 28 Percent of invalid Accidents: 0.50																				
KY 3496	0.000	0.300	0.300	9,590	2	NO	URBAN	2.00	0	3	5	8	0.032	10.50	0.00	0.29	0.48	0.76	0.381	0.701
	0.300	0.650	0.350	6,210	2	NO	URBAN	683.18	0	2	1	3	0.024	6.80	0.00	84.03	42.02	126.05	0.185	0.339
	0.650	0.946	0.296	555	2	NO	URBAN	4.75	0	0	3	3	0.002	0.61	0.00	0.00	4.94	4.94	**1.039**	**1.912**
Totals:			0.946						0	5	9	14								
Total Accidents with Invalid Mile Posts: 76 Percent of invalid Accidents: 0.84																				

Notes: Accidents are for the period between January 1, 1995 and December 31, 1997. The Critical Rate Factor is based on Accidents per HMVM for segments greater than .3 miles and on Accidents per Million Vehicles for spots less than .3 miles. Acronyms include: MP - Mile Point, AADT - Annual Average Daily Traffic, PDO - Property Damage Only, HMVM - Hundred Million Vehicle Miles, and MV - Million Vehicles.

Table III-3. Pikeville/Pike County High Accident Locations, 1993-1995 (Continued)

Road-way	Begin MP	End MP	Length (Miles)	1997 AADT	Number Lanes	Inside Shoul-der	Rural/ Urban	Critical Acc. Rate	ACCIDENTS				HMVM	MV	Rates per HMVM or MV				Critical Rate Factor	Adjusted Critical Rate (includes Invalid Accidents)
									Fatal	Injury	PDO	Total			Fatal	Injury	PDO	Total		
KY 1426	0.000	0.300	0.300	5,090	2	NO	RURAL	1.42	0	2	2	4	0.017	5.57	0.00	0.36	0.36	0.72	0.507	0.675
	0.300	2.000	1.700	1,560	2	NO	RURAL	414.82	0	8	10	18	0.029	1.71	0.00	275.49	344.36	619.85	**1.494**	**1.987**
	2.000	3.334	1.334	1,130	2	NO	RURAL	487.22	0	8	3	11	0.017	1.24	0.00	484.66	181.75	666.41	**1.368**	**1.819**
	3.334	3.640	0.306	1,870	2	NO	RURAL	2.08	0	1	1	2	0.006	2.05	0.00	0.49	0.49	0.98	0.470	0.626
	3.640	3.940	0.300	1,870	2	NO	URBAN	3.15	0	1	0	1	0.006	2.05	0.00	0.49	0.00	0.49	0.155	0.206
	3.940	4.430	0.490	1,870	2	NO	RURAL	549.81	0	0	0	0	0.010	2.05	0.00	0.00	0.00	0.00	0.000	0.000
	4.430	4.889	0.459	1,870	2	NO	URBAN	911.51	0	4	3	7	0.009	2.05	0.00	425.59	319.19	744.78	0.817	**1.087**
	4.889	5.107	0.218	17,700	4	YES	URBAN	2.58	0	1	1	2	0.042	19.38	0.00	0.05	0.05	0.10	0.040	0.053
	5.107	5.228	0.121	17,700	2	YES	URBAN	1.82	0	0	0	0	0.023	19.38	0.00	0.00	0.00	0.00	0.000	0.000
	5.228	5.700	0.472	17,700	2	NO	URBAN	564.48	0	1	5	6	0.091	19.38	0.00	10.93	54.66	65.59	0.116	0.155
	5.700	5.835	0.135	17,000	2	NO	URBAN	1.83	0	0	0	0	0.025	18.62	0.00	0.00	0.00	0.00	0.000	0.000
	5.835	6.025	0.190	18,200	2	NO	URBAN	1.81	0	1	0	1	0.038	19.93	0.00	0.05	0.00	0.05	0.028	0.037
	6.025	6.571	0.546	13,500	2	NO	URBAN	578.88	0	9	12	21	0.081	14.78	0.00	111.51	148.68	260.18	0.449	0.598
	6.571	6.879	0.308	12,400	2	NO	URBAN	1.93	0	0	4	4	0.042	13.58	0.00	0.00	0.29	0.29	0.153	0.203
	6.879	6.980	0.101	16,300	2	NO	URBAN	1.84	0	5	6	11	0.018	17.85	0.00	0.28	0.34	0.62	0.335	0.446
	6.980	7.180	0.200	14,300	2	NO	URBAN	1.88	0	2	2	4	0.031	15.66	0.00	0.13	0.13	0.26	0.136	0.181
	7.180	7.727	0.547	9,230	2	NO	URBAN	610.60	0	3	1	4	0.055	10.11	0.00	54.26	18.09	72.35	0.118	0.158
	7.727	8.816	1.089	4,700	2	NO	URBAN	611.41	0	4	3	7	0.056	5.15	0.00	71.37	53.53	124.90	0.204	0.272
	8.816	9.638	0.822	4,700	2	NO	RURAL	381.30	0	5	10	15	0.042	5.15	0.00	118.19	236.38	354.57	**0.930**	**1.237**
Totals:			9.638						0	55	63	118								
Total Accidents with Invalid Mile Posts: 58 Percent of invalid Accidents: 0.33																				
KY 1460	0.000	1.527	1.527	5,510	2	NO	RURAL	329.25	0	12	7	19	0.092	6.03	0.00	130.25	75.98	206.23	0.626	**0.946**
	1.527	2.543	1.016	5,180	2	NO	RURAL	352.39	0	11	1	12	0.058	5.67	0.00	190.88	17.35	208.23	0.591	0.892
	2.543	3.801	1.258	5,180	2	NO	URBAN	589.37	0	4	6	10	0.071	5.67	0.00	56.06	84.09	140.14	0.238	0.359
	3.801	5.070	1.269	8,780	2	NO	URBAN	551.75	0	4	10	14	0.122	9.61	0.00	32.79	81.97	114.75	0.208	0.314
	5.070	5.570	0.500	4,040	2	NO	URBAN	729.78	0	0	2	2	0.022	4.42	0.00	0.00	90.42	90.42	0.124	0.187
	5.570	6.461	0.891	3,120	2	NO	URBAN	689.37	0	2	4	6	0.030	3.42	0.00	65.70	131.41	197.11	0.286	0.432
	6.461	6.911	0.450	5,270	2	NO	URBAN	688.29	1	4	2	7	0.026	5.77	38.51	154.04	77.02	269.56	0.392	0.591
	6.911	7.112	0.201	29,600	2	NO	URBAN	1.68	0	2	1	3	0.065	32.41	0.00	0.06	0.03	0.09	0.055	0.083
Totals:			7.112						1	39	33	73								
Total Accidents with Invalid Mile Posts: 77 Percent of invalid Accidents: 0.51																				
KY 2061	0.000	1.370	1.370	3,250	2	NO	RURAL	370.41	0	9	18	27	0.049	3.56	0.00	184.60	369.19	553.79	**1.495**	**1.615**
	1.370	5.076	3.706	698	2	NO	RURAL	435.56	0	7	9	16	0.028	0.76	0.00	247.13	317.74	564.87	**1.297**	**1.401**
	5.076	7.137	2.061	691	2	NO	RURAL	494.79	0	3	3	6	0.016	0.76	0.00	192.38	192.38	384.75	0.778	0.840
Totals:			7.137						0	19	30	49								
Total Accidents with Invalid Mile Posts: 4 Percent of invalid Accidents: 0.08																				
KY 3416	0.000	0.544	0.544	499	2	NO	RURAL	881.71	0	0	5	5	0.003	0.55	0.00	0.00	1682.1	1682.12	**1.908**	**1.908**
	0.544	1.669	1.125	1,270	2	NO	RURAL	489.75	0	6	3	9	0.016	1.39	0.00	383.51	191.76	575.27	**1.175**	**1.175**
Totals:			1.669						0	6	8	14								
Total Accidents with Invalid Mile Posts: 0 Percent of invalid Accidents: 0.00																				
KY 3417	0.000	0.389	0.389	923	2	NO	RURAL	747.82	0	2	3	5	0.004	1.01	0.00	508.70	763.05	1271.76	**1.701**	**2.160**
	0.389	1.104	0.715	923	2	NO	URBAN	992.90	0	2	4	6	0.007	1.01	0.00	276.76	553.53	830.29	0.836	**1.062**
Totals:			1.104						0	4	7	11								
Total Accidents with Invalid Mile Posts: 4 Percent of invalid Accidents: 0.27																				

Notes: Accidents are for the period between January 1, 1995 and December 31, 1997. The Critical Rate Factor is based on Accidents per HMVM for segments greater than .3 miles and on Accidents per Million Vehicles for spots less than .3 miles. Acronyms include: MP - Mile Point, AADT - Annual Average Daily Traffic, PDO - Property Damage Only, HMVM - Hundred Million Vehicle Miles, and MV - Million Vehicles.

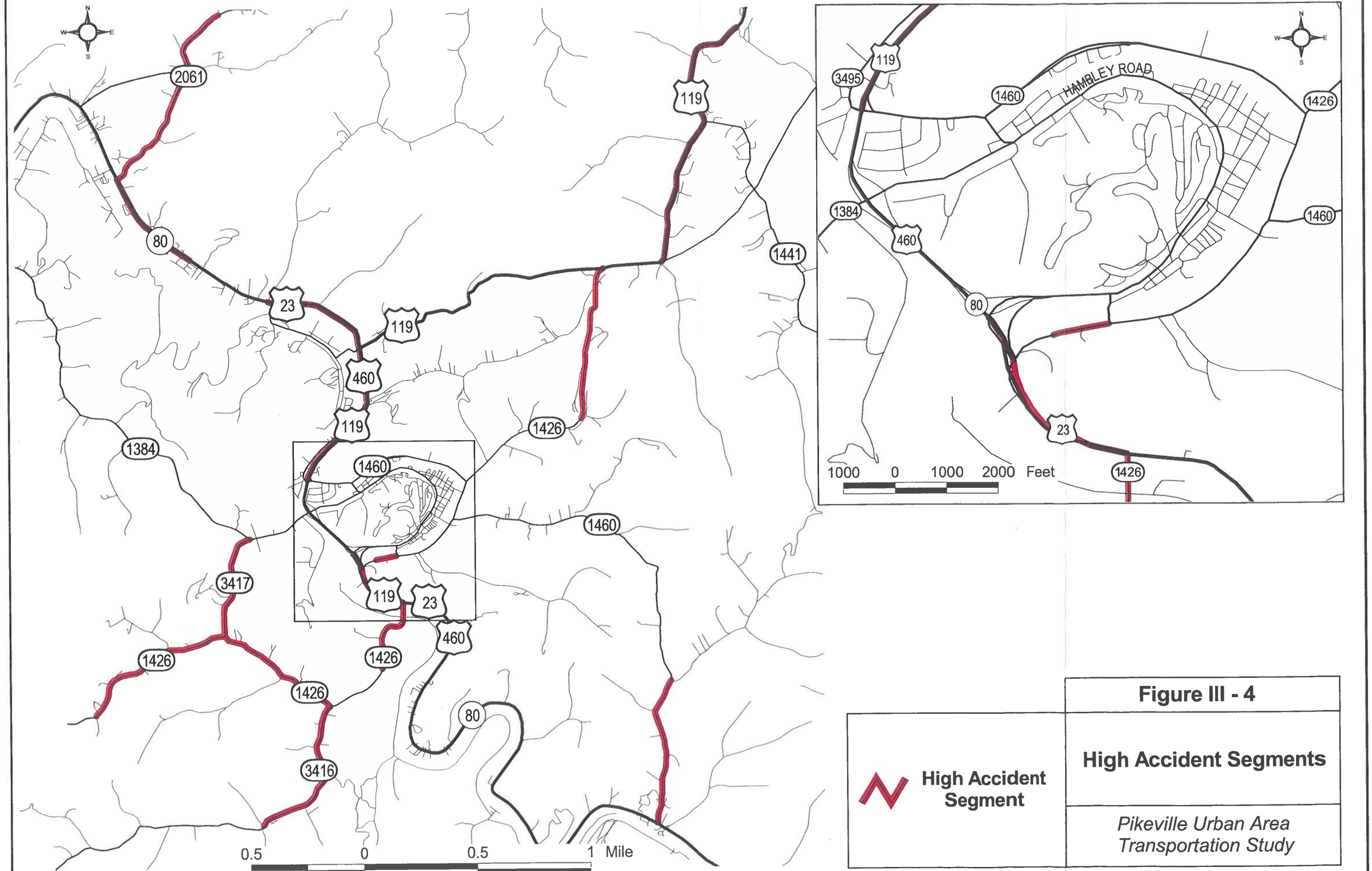


Figure III - 4

High Accident Segments

High Accident Segment

Pikeville Urban Area Transportation Study

Public Transit

Outside of taxi service, the only public transit services in Pike County are provided through the Sandy Valley Transportation Services, Inc. (BSVTS) which operates out of Prestonsburg, in Floyd County. BSVTS acts as the broker for Region 16 and provides prescheduled demand services for transit-dependent riders.

Bikeways

No exclusive bicycle facilities or designated bicycle lanes currently exist within the study area, however, interest was expressed by study participants in looking for opportunities to develop these facilities in the area. Opportunities for bicycle facility development would likely be in the downtown area. Facilities in this area could serve Pikeville College, the proposed technical school, and work sites in the area in addition to providing access to the parks and other existing and proposed community amenities. An on-street bicycle lane could be provided along Hambley Boulevard; however, such a facility might require the removal of parking in some areas or be required to follow frontage roads adjacent to Hambley Boulevard. An off-street bicycle path could also be considered along the original Big Sandy River basin east of the downtown area.

Traffic Operational Issues and Concerns

Through the analysis of existing conditions, input from technical committee members and discussions with local officials, a number of specific traffic operational issues were identified for consideration in the development of future highway improvement recommendations.

1. Peak period congestion and traffic growth along commercial sections of major highway arterials US 23, US 119, US 460 and KY 80.

2. Downtown traffic congestion and delay along Hambley Boulevard.

3. Traffic access and circulation in the vicinity of new and proposed downtown development:

   a) Proposed Exposition Center in the downtown area south of Huffman Avenue

   b) New Technical College Campus

   c) Expansion to Pikeville Methodist Hospital

4. New commercial and government (post office) development along Cassidy Boulevard resulting in increasing traffic demand and peak period congestion.

5. Growth in suburban residential development west of US 23.

IV. TRANSPORTATION PLAN DEVELOPMENT

The development of the Transportation Plan for the Pikeville urban area not only addresses existing transportation issues, but also considers future transportation issues identified for the study area. Future conditions were determined based upon anticipated socioeconomic conditions and land use changes, planned highway improvements, forecasted traffic volumes and projected deficiencies in the transportation network. The Pikeville traffic model assumed an important role in this process, providing for the analysis of future conditions and alternative traffic improvements.

Future Socioeconomic Conditions

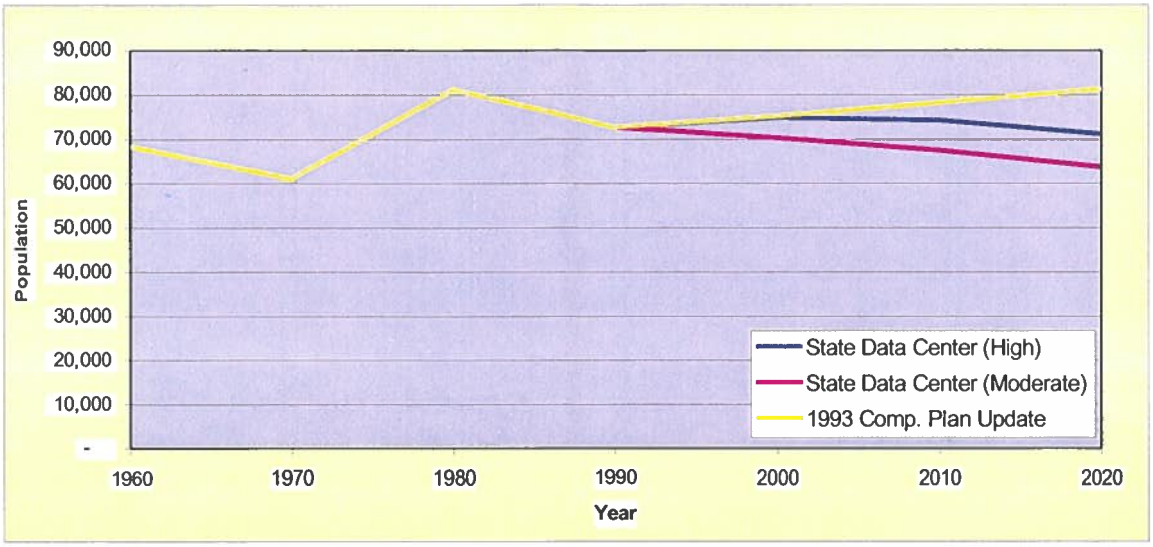
Similar to the development of socioeconomic data for existing year 1997 conditions, the development of future year 2020 socioeconomic data utilized several information sources and methods. Population forecasts for Pike County were obtained from the State Data Center[2] and from the Pikeville Comprehensive Plan Update[3]. These estimates, along with historic U.S. Census estimates since 1960 are provided in **Figure IV-1**. Historic data reflects a significant degree of volatility in population trends for Pike County over the past four decades. Much of this volatility is the result of the city's dependency on the coal industry and the boom and bust cycles that come from this relationship. Forecasts of future socioeconomic growth are very susceptible to changes in economic-related trends for the region. However, population projections generated by the sources previously referenced predict only a moderate net change in the county's population over next two decades. Forecasts by the State Data Center actually predict a declining level of population in Pike County from 1990 to 2020. Forecasts from the City's Comprehensive Plan predict a slight gain in population over this same period.

Because this is a planning study, it is logical to utilize a forecast scenario that would presume a certain degree of growth within the region. Therefore, the population projection from the City's Comprehensive Plan is recommended as a basis for developing future year forecasts. This projection assumes a modest annual growth rate of approximately 0.4% per year through year 2020. This same growth rate was used as a basis for future year population growth within the study area.

Population growth was distributed throughout the study area based upon a review of local planning data, particularly future land use maps provided by the City's Planning Department. Future year dwelling units were, in turn, derived from this population data.

[2] How Many Kentuckians, Population Forecasts 1995-2020; Kentucky State Data Center Population Research, University of Louisville, 1995 Edition.

[3] Comprehensive Plan Update, Pikeville Kentucky; Will Linder & Associates, Consultants, Inc. and Summitt Engineering, 1993.



	Pike County Population Estimates						
	1960 Census	1970 Census	1980 Census	1990 Census	2000 Estimate	2010 Estimate	2020 Estimate
State Data Center (High)	68,264	61,059	81,123	72,583	74,783	74,262	71,125
Average Annual Growth		-1.1%	2.9%	-1.1%	0.3%	-0.1%	-0.4%
State Data Center (Moderate)	68,264	61,059	81,123	72,583	70,252	67,365	63,660
Average Annual Growth		-1.1%	2.9%	-1.1%	-0.3%	-0.4%	-0.6%
1993 Comp. Plan Update	68,264	61,059	81,123	72,583	75,175	78,165	81,274
Average Annual Growth		-1.1%	2.9%	-1.1%	0.4%	0.4%	0.4%

Source: Kentucky Data Center

Figure IV-1. Historic and Project Population Growth for Pikeville

Employment growth was derived from discussions with City and County Planning and Economic Development officials. These individuals identified several proposed developments in the area that included the following:

- Vocational/Technical School under construction in the downtown area
- Methodist Hospital expansion
- Big Sandy Telecommunication's Center
- Proposed 10,000 Seat Special Event/Exposition Center located in downtown area
- Mossy Bottom Industrial Site near Coal Run
- Potential growth near airport due to infrastructure improvements
- Pikeville Shopping Center

Future employment growth was allocated to zones in the area of these developments and several other locations, such as Pikeville College, that are anticipated to experience employment gains by the year 2020. The resulting socioeconomic data estimates for 2020 conditions are provided in **Table IV-1**, with the resulting changes in population and employment socioeconomic data between 1997 and 2020 illustrated in **Figures IV-2** and **IV-3**.

As previously discussed, existing year 1997 socioeconomic data was utilized in the development and calibration of the Pikeville Urban Area Traffic Model. With this data, the model was used to predict future year travel demand in the Pikeville area by replacing the existing year 1997 socioeconomic data with future year socioeconomic data. As a result, motor vehicle travel demand will grow at a rate that is comparable to the growth rates forecasted for the socioeconomic data. Between 1997 and 2020, this rate of increase is roughly 10 percent.

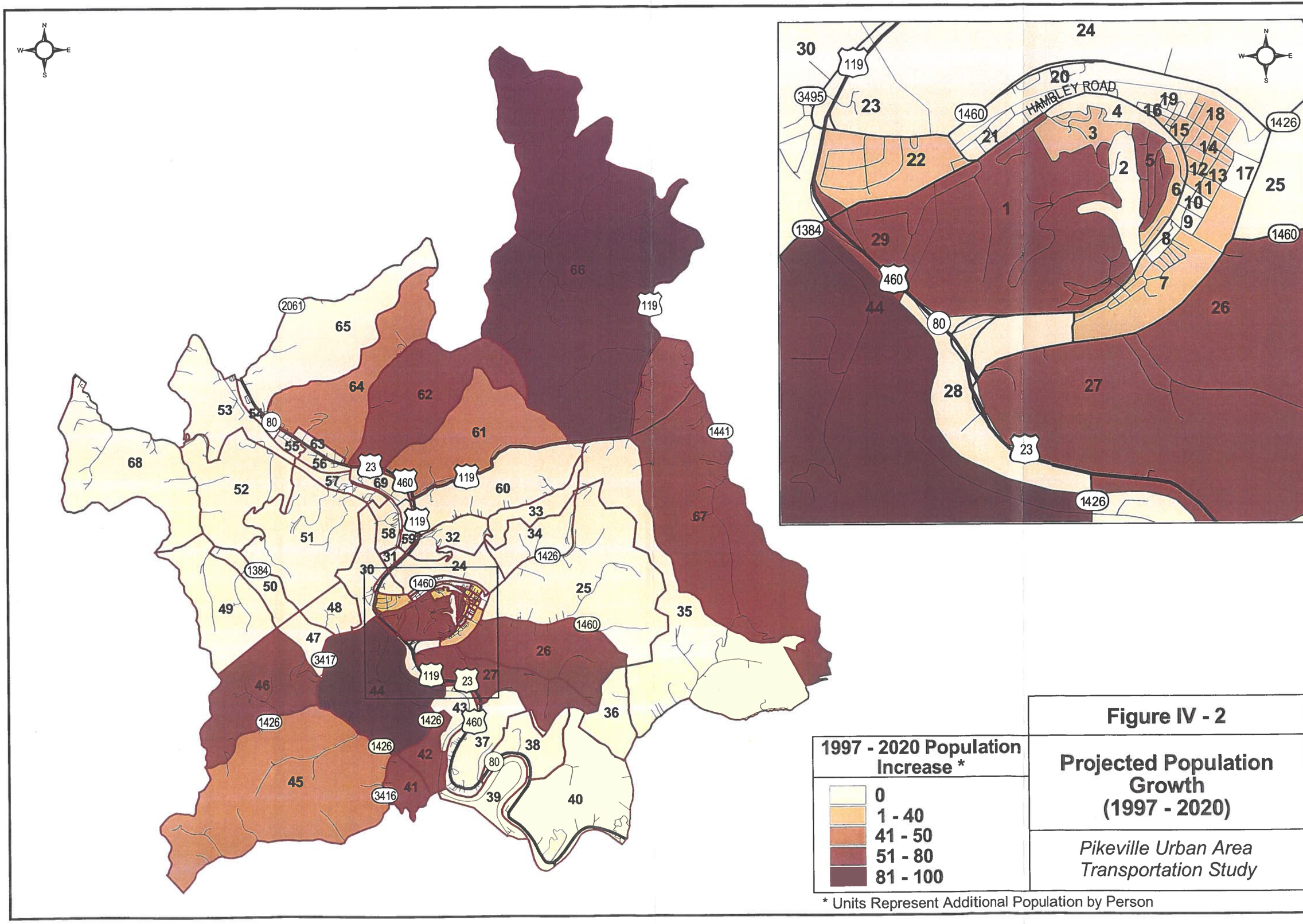
It should be recognized, however, that the rate of travel growth is not directly proportional to growth in population and employment. Due to increasing licensing rates, vehicle registrations, and changing social and employment patterns, motor vehicle travel demand has been affected by factors that are independent of population and employment growth. From 1977 to 1990, average daily vehicle miles of travel per person increased by 35.8 percent, or an average annual rate of 2.4 percent.[4]

Naturally, it is difficult to predict how this trend will continue into the future or how it specifically relates to the Pikeville study area. It is, however, anticipated that this trend is likely to continue. For the purposes of this study, an average annual increase of 1.5 percent in daily vehicle miles of travel per person was applied. Coupled with the 10 percent growth in socioeconomic factors predicted for the study area, it is anticipated that vehicle travel will increase by a total of 55 percent between 1997 and 2020.

[4] Nationwide Personal Transportation Survey, Demographic Special Report; U.S. Department of Transportation, Federal Highway Administration, 1990.

Table IV-1. Year 2020 Socioeconomic Data

Zone Number	Dwelling Units	Population	Industrial Employment	Commercial Employment	Public Employment	Total Employment
1	247	572	20	27	151	198
2	57	190	0	19	0	19
3	187	398	2	0	0	2
4	17	42	0	22	0	22
5	222	578	0	14	323	337
6	335	469	21	72	323	416
7	179	403	16	284	1041	1341
8	17	27	0	28	39	67
9	1	1	3	279	0	282
10	8	8	0	294	83	377
11	16	28	158	108	4	270
12	37	46	0	60	15	75
13	16	29	6	23	0	29
14	54	88	0	14	0	14
15	44	81	9	82	0	91
16	33	84	0	5	41	46
17	4	6	5	150	7	162
18	122	212	7	3	0	10
19	94	200	0	86	0	86
20	121	281	23	0	0	23
21	74	160	2	18	0	20
22	101	250	145	57	0	202
23	30	72	8	172	265	445
24	40	98	0	14	0	14
25	69	167	85	527	36	648
26	71	148	33	76	95	204
27	52	97	37	1,729	4	1,770
28	36	182	15	422	16	453
29	46	84	0	261	1	262
30	107	267	36	454	370	860
31	7	18	8	184	0	192
32	56	171	0	6	0	6
33	66	160	0	0	0	0
34	32	78	11	128	65	204
35	91	250	9	0	0	9
36	7	17	0	0	0	0
37	66	180	486	135	0	621
38	15	37	0	14	0	14
39	46	102	26	0	0	26
40	180	321	0	43	0	43
41	40	72	84	0	0	84
42	56	111	4	1	0	5
43	16	38	0	1	0	1
44	390	1069	10	104	0	114
45	212	542	10	4	0	14
46	355	839	7	20	0	27
47	26	63	0	0	0	0
48	79	192	0	0	0	0
49	56	152	53	3	0	56
50	23	67	0	0	0	0
51	102	258	3	4	0	7
52	75	204	0	5	0	5
53	99	264	30	4	0	34
54	99	215	0	771	114	885
55	60	136	30	117	20	167
56	39	97	9	246	0	255
57	85	199	6	0	0	6
58	28	73	25	10	0	35
59	44	95	63	109	0	172
60	121	304	7	6	0	13
61	38	76	0	12	97	109
62	139	356	3	42	0	45
63	8	31	89	123	0	212
64	43	97	27	646	0	673
65	41	120	0	0	0	0
66	395	997	0	8	0	8
67	353	896	8	0	0	8
68	99	259	0	4	0	4
69	74	213	27	1116	0	1143
Total	6,198	14,637	1,666	9,166	3,110	13,942



1997 - 2020 Population Increase *
0
1 - 40
41 - 50
51 - 80
81 - 100

Figure IV - 2

Projected Population Growth (1997 - 2020)

Pikeville Urban Area Transportation Study

* Units Represent Additional Population by Person

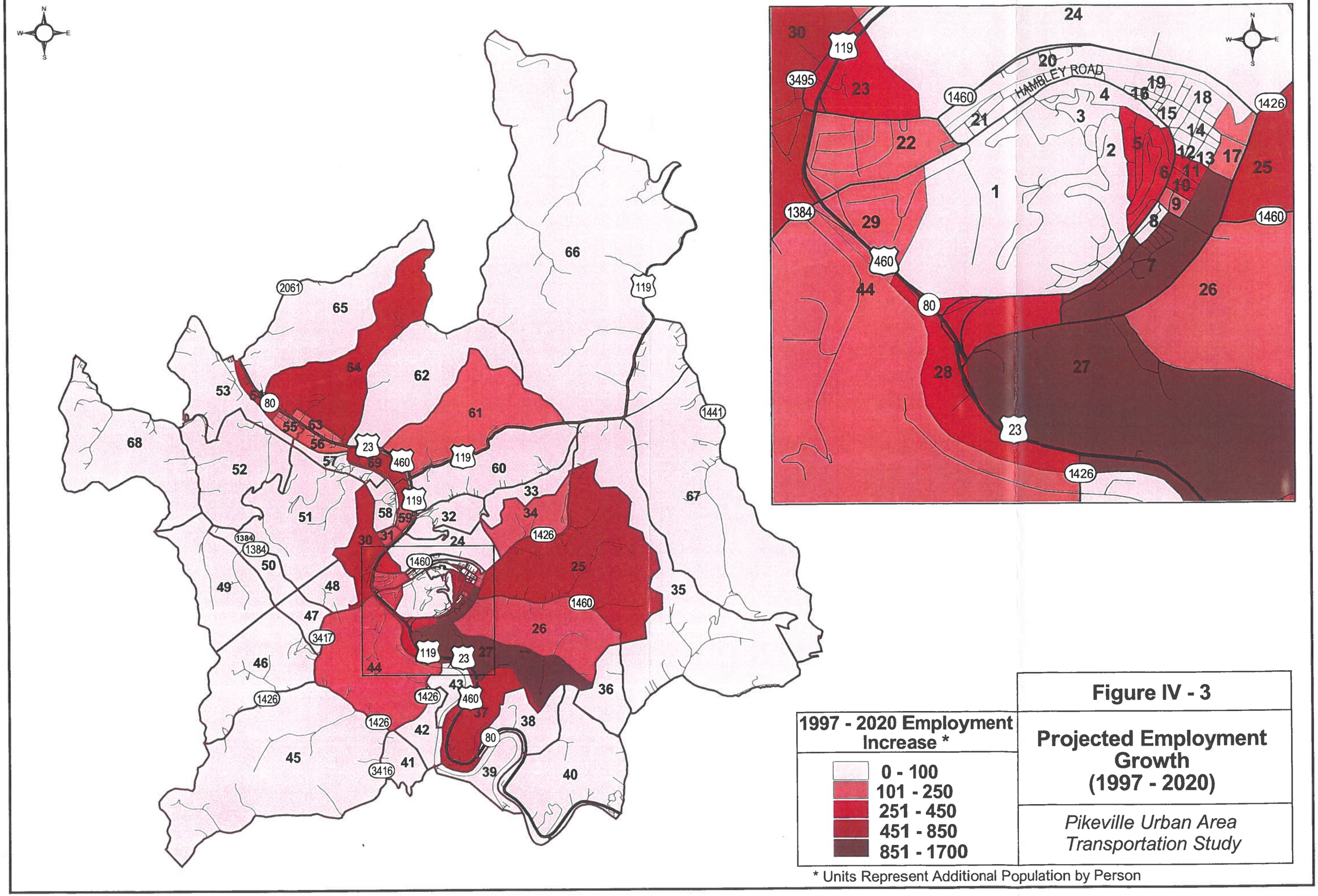


Figure IV - 3

Projected Employment Growth (1997 - 2020)

Pikeville Urban Area Transportation Study

Short-Range Highway Improvements

The KYTC's Six Year Highway Plan[5] identifies short-range highway projects that generally have highway funding committed toward their implementation. A summary of Six Year Highway Plan improvements for Pike County are provided in **Appendix A**, with those projects within the Pikeville Study Area identified on **Figure IV-4**.

Because many short-range highway improvements have "committed" funding and are often under development or implementation, most of these improvements are not considered as alternatives in the development of the long-range transportation plan for the area. Instead, these committed projects are included as part of the base case against which future needs are to be determined. The committed short-range highway improvements in combination with the existing highway facilities represent "Existing plus Committed" (E+C) highway network for the study area.

The only short-range project not included as part of the E+C highway network was the proposed US 23/US 460 widening identified in the Six Year Highway Plan (Item #12-131.00, 01). This project involves widening the northern section of US 23/US 460 to six lanes between KY 2061 and KY 1460. Funding for this project is not programmed until 2001 and the scope of this project is still under consideration. The recommendations to be developed as part of the Pikeville UATS long-range transportation plan will address the scope and prioritization of this project in more detail.

Projected Year 2020 Traffic and LOS

As part of this urban transportation study, the travel demand model developed for Pikeville was utilized to forecast future travel patterns and traffic volumes. From these forecasts, system-wide analyses were performed to identify future deficiencies and to measure the impact of alternative transportation improvements.

The development of this model is documented in the *Model Validation Report*, completed in June of 1999. In short, the traffic model uses as input the physical characteristics of the transportation network and zonal socioeconomic data. This data includes employment, population, and dwelling unit information. Based upon these inputs, computer routines are implemented that allocate trips to the model network. Using an iterative process, the model is calibrated to ensure the base year traffic is accurately modeled.

Traffic forecasts were made for 2020 by using the 1997 base year traffic model developed by the process described above. In developing the future year 2020 roadway network, it was assumed that no additional roadway improvements beyond those presently committed would be made through the Year 2020. Therefore, using this network as the Existing plus Committed (E+C) network, future traffic forecasts were made and system deficiencies and needs were identified.

Year 2020 traffic conditions for the E+C network are presented in **Figure IV-5**.

[5] *Recommended Six Year Highway Plan FY 1999-2004*, Kentucky Transportation Cabinet, June 1998.

KY 2061
Reconstruction
Item # 12-304.01

US 23/US 460
Widen to 6 Lanes
Item # 12-131.00,01

US 119/KY 1441
Intersection Reconstruction
Item # 12-290.00

US 119
Relocation and Widening
Item #'s 12-264.10,20,21,22 and
12-308.01,11,12,20,21,30,31,32,33,40

US 460/KY 80
Relocation and Widening
Item # 12-263.10,11,15,22,24

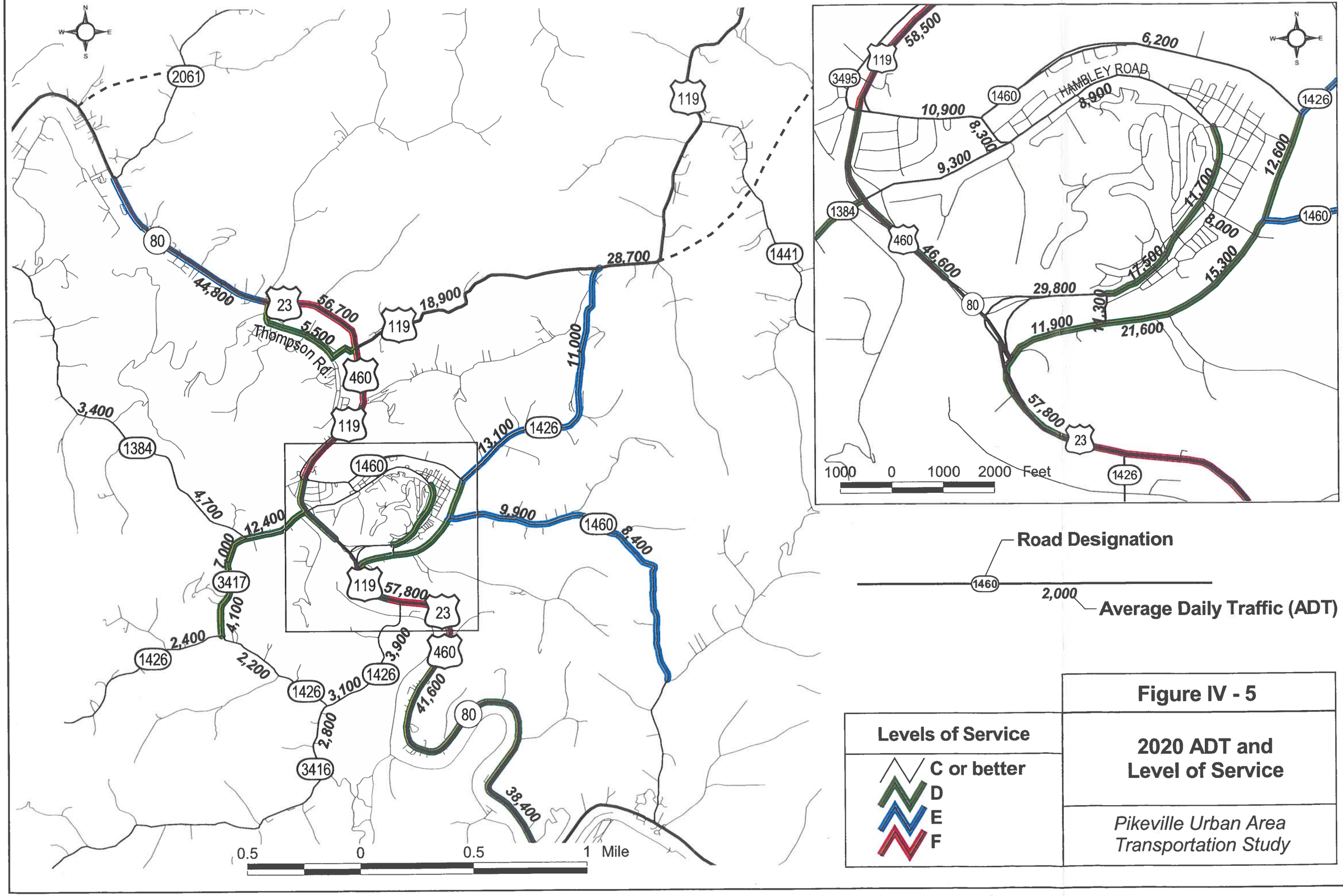
HAMBLEY ROAD

Project Location

Figure IV - 4

Pikeville Area
Six Year Highway Plan
FY 1999 - FY 2004

Pikeville Urban Area
Transportation Study



Levels of Service
C or better
D
E
F

Figure IV - 5

2020 ADT and Level of Service

Pikeville Urban Area Transportation Study

Proposed Highway Improvements

A wide range of potential highway improvement projects were identified for consideration utilizing the preceding analysis, input from study participants, and current KYTC sources. KYTC sources included the Statewide Transportation Plan[6], which identifies long-range projects that are planned but not programmed for funding. Other projects not identified in either the Six Year or Statewide Transportation Plans are included in the KYTC Unscheduled Highway Needs[7] or as safety-oriented spot improvements in the KYTC Hazard Elimination Program Listing[8].

The system-wide planning level of service analysis also provided a means for identifying other transportation system needs. Many of the improvement projects required for addressing these system needs tend to be major highway projects. Other operational deficiencies and needs were identified in this study through direct observation, examination of accident records, and discussions with local officials, the KYTC, and other members of the Technical Advisory Committee. A summary listing of the potential highway improvements identified for the Pikeville UATS is provided in **Table IV-2** and illustrated in **Figure IV-6**.

The projected costs for these improvements represent planning-level estimates that are intended for subsequent plan development and project programming. The estimated costs include the components for engineering, right-of-way acquisition, utility relocation and construction. Because of the wide range of variables associated with determining the costs for highway improvement projects, further planning, design and development of these improvements may result in changes to the preliminary estimates.

The proposed highway improvement options represent conceptual approaches that are generally broad in scope using the following basic terms:

- Widening – Generally involves adding additional travel lanes to increase capacity.
- Reconstruction – Upgrading an existing facility with wider lanes and shoulders. Additional lanes might be provided along some sections.
- New Construction – Constructing an entirely new facility.
- Relocation – Constructing a new facility that will generally serve to replace an existing route.

Actual implementation of these options might involve consideration of different alternatives or alignment options and could be realized incrementally through a series of individual improvement projects. Subsequent planning and design activities will be required to better define and further evaluate the specific options available for implementing the proposed highway improvements.

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[6] *Statewide Transportation Plan (FY 1995–2014)*, Kentucky Transportation Cabinet, January 1995.

[7] *Unscheduled Highway Plan Needs,* Kentucky Transportation Cabinet, February 1999.

[8] *Hazard Elimination Program Listing,* Kentucky Transportation Cabinet, March 1999.

Table IV-2. Proposed Highway Improvements

Number	Route	Limits	Type of Improvement	Cost
Major Short-Range (10 Years) Highway Improvements [a]				
1	US 23 North of Pikeville	KY 1384 to KY 2061	Widen with Frontage Roads	est. $ 50 Million
2	US 460 South of Pikeville	US 23 to VA State Line	Relocation and Widening	$ 44 Million
3	US 119 East of Pikeville	Pikeville to S. Williamson	Relocation and Widening	$ 193 Million
4	KY 2061	US 23 to Airport	Relocation	$ 25 Million
Major Long-Range (Over 10 Years) Highway Improvements [b]				
1	US 23 Bypass West of Pikeville	US 23 from Boldman to Cedar Creek	New Construction	$ 119 Million
2	I-66	Pike Co. from Floyd to West VA	New Interstate Construction	$ 1,000 Million [b]
Short- and Long-Range Spot Highway Improvements [c]				
1	US 119 (Existing Route)	US 119/KY 1441 Intersection	Reconstruction	$ 1.6 Million
2	KY 1426	North of KY 1460	Add Left-Turn Lane for 0.5 mi.	$ 1.0 Million
3	US 460	US 460 at KY 1460	Add EB Left-Turn Lane	$ 1.2 Million

[a] *KYTC Recommended Six-Year Highway Plan and Unscheduled State Highway Plan Needs*

[b] *Southern Kentucky Corridor (I-66) Location Study, Hazard, Kentucky to West Virginia, KYTC, October 1997.*

[c] *KYTC Recommended Six-Year Highway Plan and Hazard Elimination Program Listing*

Table IV-2. Proposed Highway Improvements (Continued)

Number	Route	Limits	Type of Improvement	Cost
Other Highway Improvements for Pikeville UATS [d]				
1	US 23 South of Pikeville	KY 1460 to US 460/KY 80	Widening	$ 50.0 Million
2	KY 1384 (Cedar Creek Rd.)	0.25 miles West of KY 3417 to US 23	Reconstruct as Urban Section with Center Turn Lane	$ 1.0 Million
3	KY 1426 (CBD Area)	Baird Ave. to KY 1460 East	Widening	$ 4.0 Million
4	KY 1426 East of Pikeville	KY 1460 to US 119	Reconstruction	$ 20.0 Million
5	KY 1426 West of Pikeville	US 23 to KY 3416	Reconstruction	$ 12.0 Million
6	KY 1426 West of Pikeville	KY 3416 to KY 3417	Reconstruction	$ 10.0 Million
7	KY 1426/KY 1460	KY 1460 East to KY 1460 West	Widening	$ 3.0 Million
8	KY 1460	US 23 Overpass to US 23	Widening	$ 0.7 Million
9	KY 1460 East of Pikeville	KY 1426 to US 23	Reconstruction	$ 40.0 Million
10	KY 3417 (Phase 1)	KY 1426 to Pikeville Urban Limits	Reconstruction	$ 2.0 Million
11	KY 3417 (Phase 2)	Pikeville Urban Limits to KY 1384	Reconstruct as Urban Section	$ 0.6 Million
12	KY 3495	KY 1460 to US 23	Reconstruct and Widen	$ 2.0 Million
13	KY 3496	Baird Ave. to US 23	Widening	$ 5.0 Million
14	Hambley Blvd.	Loraine St. to Baird Ave.	Widening	$ 10.0 Million
15	Huffman Ave.	Hambley Blvd. to Main St.	Widening	$ 0.2 Million
16	Thompson Rd.	0.25 miles South of Cassidy to US 23	Reconstruction	$ 0.9 Million
17	US 23/US 119 Interchange	US 23 at US 119/Cassidy Blvd	Reconstruct as Interchange	$ 15.0 Million
18	US 23	KY 1426 and KY 3496 Intersections	Reconstruction/Consolidate	$ 20.0 Million

[d] *Pikeville Urban Area Transportation Study, 1999.*

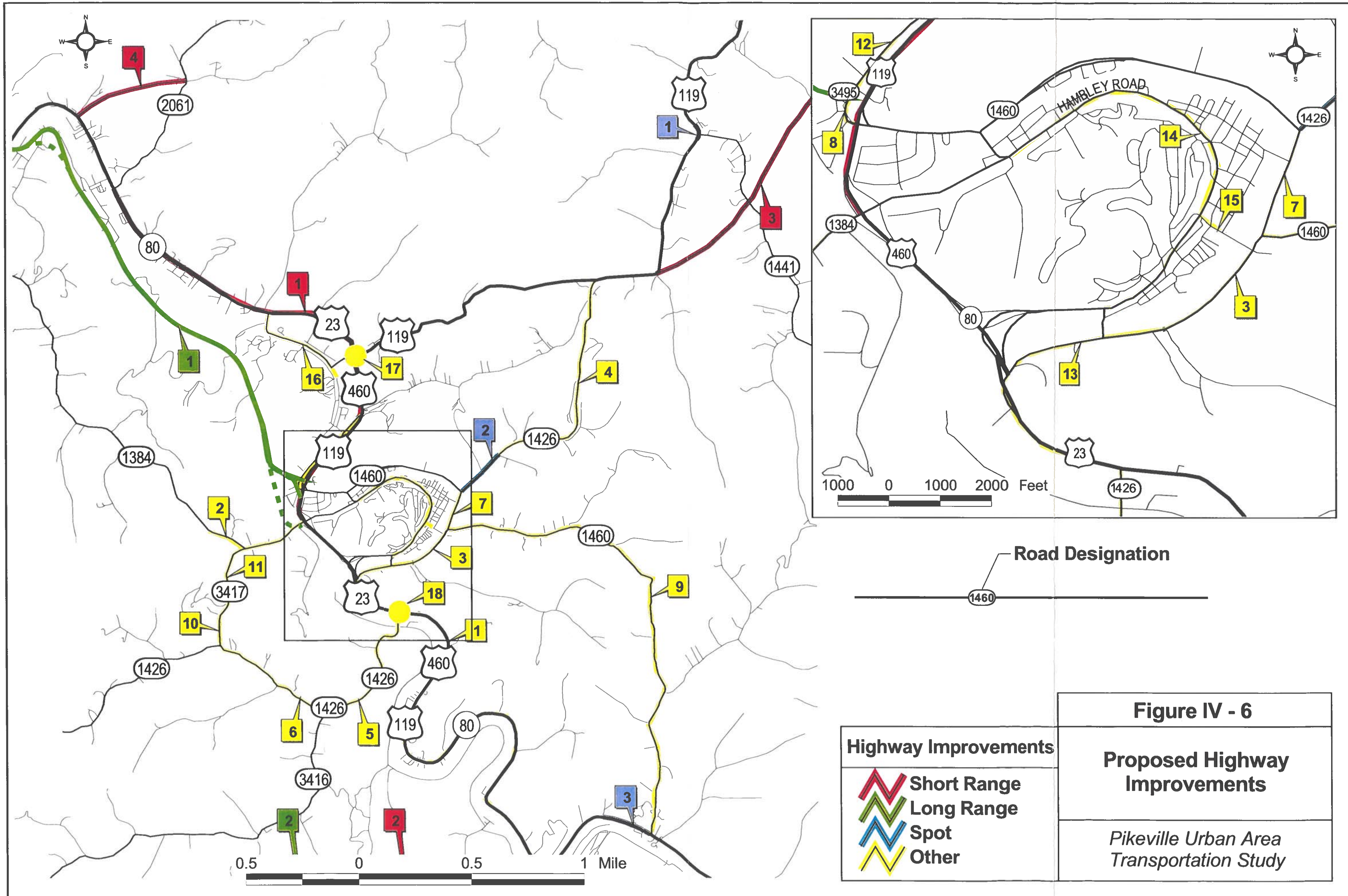


Figure IV - 6

Proposed Highway Improvements

Pikeville Urban Area Transportation Study

Analysis of Alternatives

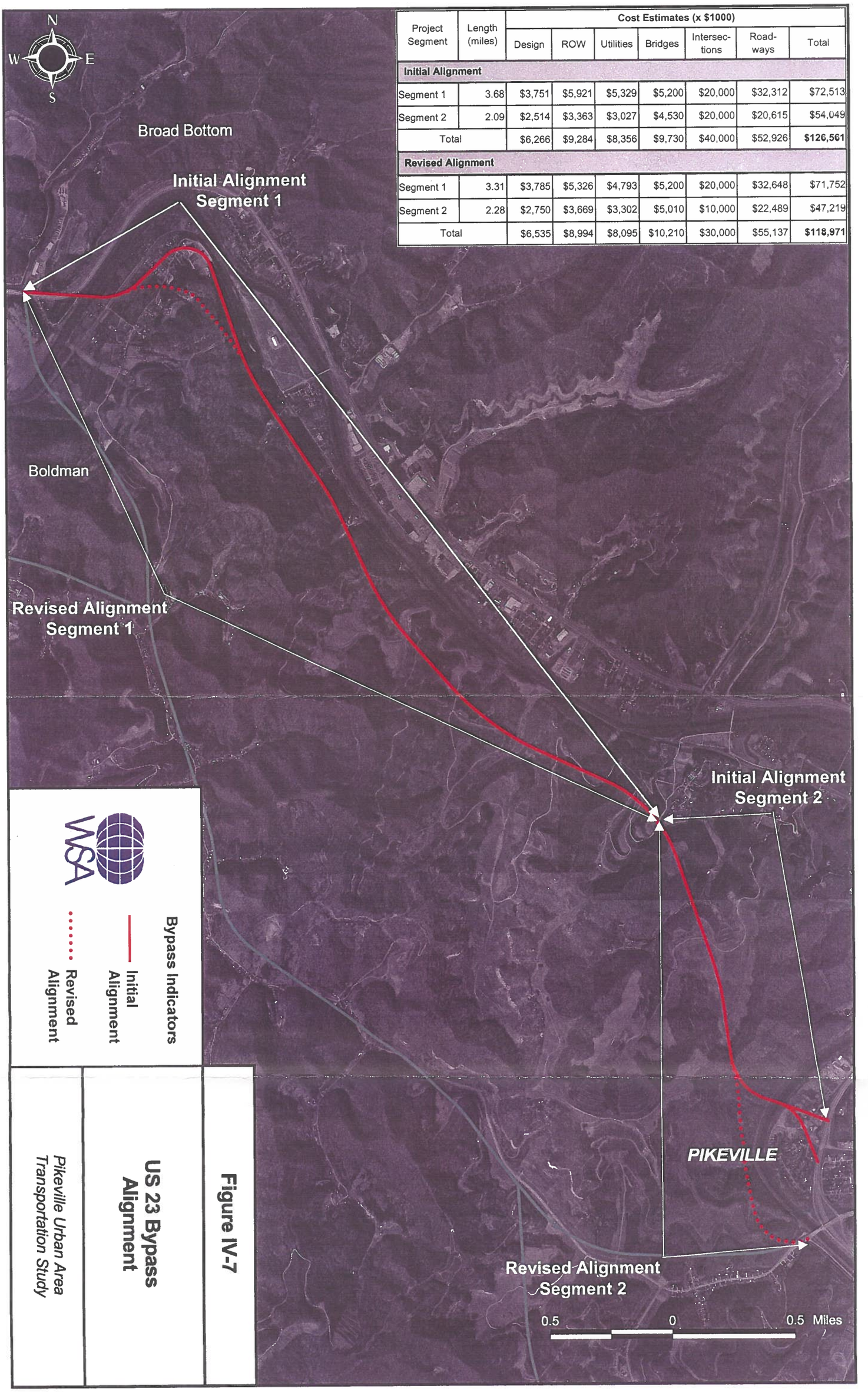
The most significant issue related to potential highway improvement projects within the Pikeville UATS area involves the consideration of either widening or relocating US 23. As was previously discussed, the KYTC's Six Year Highway Plan identifies a project to widen the existing section of US 23 from four to six lanes with frontage roads along the northern end, south of the existing intersection with KY 2061. The State's Unscheduled Highway Needs listing identifies the construction of the new US 23 bypass west of Pikeville as a local priority. While both projects will serve to alleviate projected traffic congestion along US 23, each alternative will have variable impacts on traffic and land use development patterns within the study area.

Three general bypass alignments were considered for US 23 on the west side of Pikeville. The original "outer" alignment for the bypass, proposed by local planning officials, was intended to completely circumvent the Pikeville area. This bypass option provided access to the existing US 23 corridor at its proposed termination points near the Floyd County line and Sookeys Creek. The estimated cost for this bypass option totaled approximately $225 million.

In order to provide a bypass option with more local connections and access points, a second bypass alignment was developed. This bypass option allowed for incremental development of the corridor and offered improved connections to Pikeville. The first phase of the project extended from either Broad Bottom or Boldman, just east of the Floyd County line, and connected with US 23 at Cedar Creek Road (KY 1384). A second phase of the project provided an extension to Mayo Village along US 23 south of Pikeville. A third phase extended the project to US 23 at Sookeys Creek. Due to the increased number of connections, approximate costs for this second bypass option totaled $273 million, about $48 million higher than the originally proposed alignment.

The third and recommended bypass option was developed in order to consider a lower-cost alignment. Stretching southeast from Boldman to Cedar Creek, the third bypass option is shown in **Figure IV-7** along with aerial photos of the region. As shown, the initially proposed alignment for this option interferes with several existing developments. For this reason, two sections of the initial alignment were realigned and the revised sections are shown as dotted lines on the figure. Cost estimates developed for the revised alignment are fairly comparable to those estimated for the initial alignment of the third bypass option. As shown on the figure, the estimated cost for the initial alignment totals about $127 million and the revised alignment cost totals about $119 million. The northern section of the revised alignment is somewhat shorter but crosses more severe terrain, while the southern section is slightly longer than the initial alignment but requires only a partial interchange reconstruction. Due to lower costs and local access issues, this bypass alignment was chosen for further consideration as an improvement alternative.

Three alternative highway networks were developed upon which system-wide analyses for year 2020 traffic conditions could be performed using the Pikeville Traffic Model. Each alternative is distinguished by different implementation scenarios for improvements to existing US 23 and the proposed US 23 bypass. Discussions concerning the effects of each alternative improvement scenario are included in the following sections of this report.



Project Segment	Length (miles)	Cost Estimates (x $1000)						
		Design	ROW	Utilities	Bridges	Intersec-tions	Road-ways	Total
Initial Alignment								
Segment 1	3.68	$3,751	$5,921	$5,329	$5,200	$20,000	$32,312	$72,513
Segment 2	2.09	$2,514	$3,363	$3,027	$4,530	$20,000	$20,615	$54,049
Total		$6,266	$9,284	$8,356	$9,730	$40,000	$52,926	**$126,561**
Revised Alignment								
Segment 1	3.31	$3,785	$5,326	$4,793	$5,200	$20,000	$32,648	$71,752
Segment 2	2.28	$2,750	$3,669	$3,302	$5,010	$10,000	$22,489	$47,219
Total		$6,535	$8,994	$8,095	$10,210	$30,000	$55,137	**$118,971**

Bypass Indicators

Initial Alignment

Revised Alignment

US 23 Bypass Alignment

Figure IV-7

Pikeville Urban Area Transportation Study

Alternative 1. Alternative 1 provides for the full widening of US 23 to six lanes throughout the study area and the inclusion of grade separations and frontage roads along the northern portion of the route, just south of the existing intersection with KY 2061. In addition to upgrading US 23, the improvements proposed for most other study area highway facilities were included in the Alternative 1 network. Alternative 1 and the projected year 2020 system-wide impacts on traffic and level of service are presented in **Figure IV-8**. With the exception of LOS D conditions along the two-lane reconstructed portion of KY 1426 east of the downtown area and a small segment of US 23 near the intersection with KY 1426 west, congested daily traffic conditions along other highway segments have been addressed.

Some of the potential difficulties associated with the implementation of this alternative involve the costs and impacts associated with acquiring existing commercial properties for the new right-of-way required along US 23. Additionally, portions of US 23 outside of the study area (north of KY 2061) might also require improvements to relieve congestion. These improvements to existing US 23 would continue to result in through traffic being routed into the Pikeville urban area to mix with local traffic.

Alternative 2. Alternative 2 provides for no improvements along the existing US 23 corridor, but includes the construction of a new US 23 bypass facility on the west side of Pikeville (as shown in Figure IV-7). As described in the previous section, the alternative route would extend in a southeasterly direction from Boldman to the Levisa Fork crossing at Cedar Creek. A four-lane, partially controlled access facility was considered for the US 23 bypass. In addition to the new US 23 bypass, the improvements proposed for most other study area highway facilities were included in the Alternative 2 network. Alternative 2 and the projected year 2020 system-wide impacts on traffic and level of service are presented in **Figure IV-9**. As indicated in the figures, traffic volumes are slightly reduced along the section of the existing US 23 route that is bypassed by the proposed alignment.

It is estimated that the proposed US 23 bypass would carry an average of between 8,000 and 10,000 vpd in year 2020. This compares to between 33,000 and 58,000 vpd that would remain on the existing US 23 route in year 2020, highlighting the large number of vehicles using US 23 that are locally generated from within Pikeville. Without improvements to the existing US 23 corridor, LOS D conditions are expected along the majority of the route. Unacceptable (LOS F) traffic conditions are expected along a short section of the route near the intersection with KY 1426 West. As indicated, the proposed bypass would not be as successful at mitigating traffic congestion along US 23 as compared to the options to upgrade and widen portions of the existing route proposed under Alternative 1.

Alternative 3. Alternative 3 represents a combination of improvement alternatives involving US 23. Frontage roads and improved interchanges are provided along the existing US 23 in addition to the new US 23 bypass facility considered under Alternative 2. A six-lane section is recommended for US 23 from the northern KY 1426 intersection to just past the southern KY 1426 intersection. Again, the improvements proposed for most other study area highway facilities are included in the Alternative 3 network. Alternative 3 and the projected year 2020 system-wide impacts on traffic and level of service are presented in **Figure IV-10**. The proposed combination of improvements along existing US 23 and the inclusion of a western bypass would accomplish much of the same congestion relief as was realized under Alternative 1, with a lesser degree of improvements along US 23 in exchange for the inclusion of a bypass facility. With these improvements, acceptable LOS D conditions are expected along the majority of the US 23 corridor.

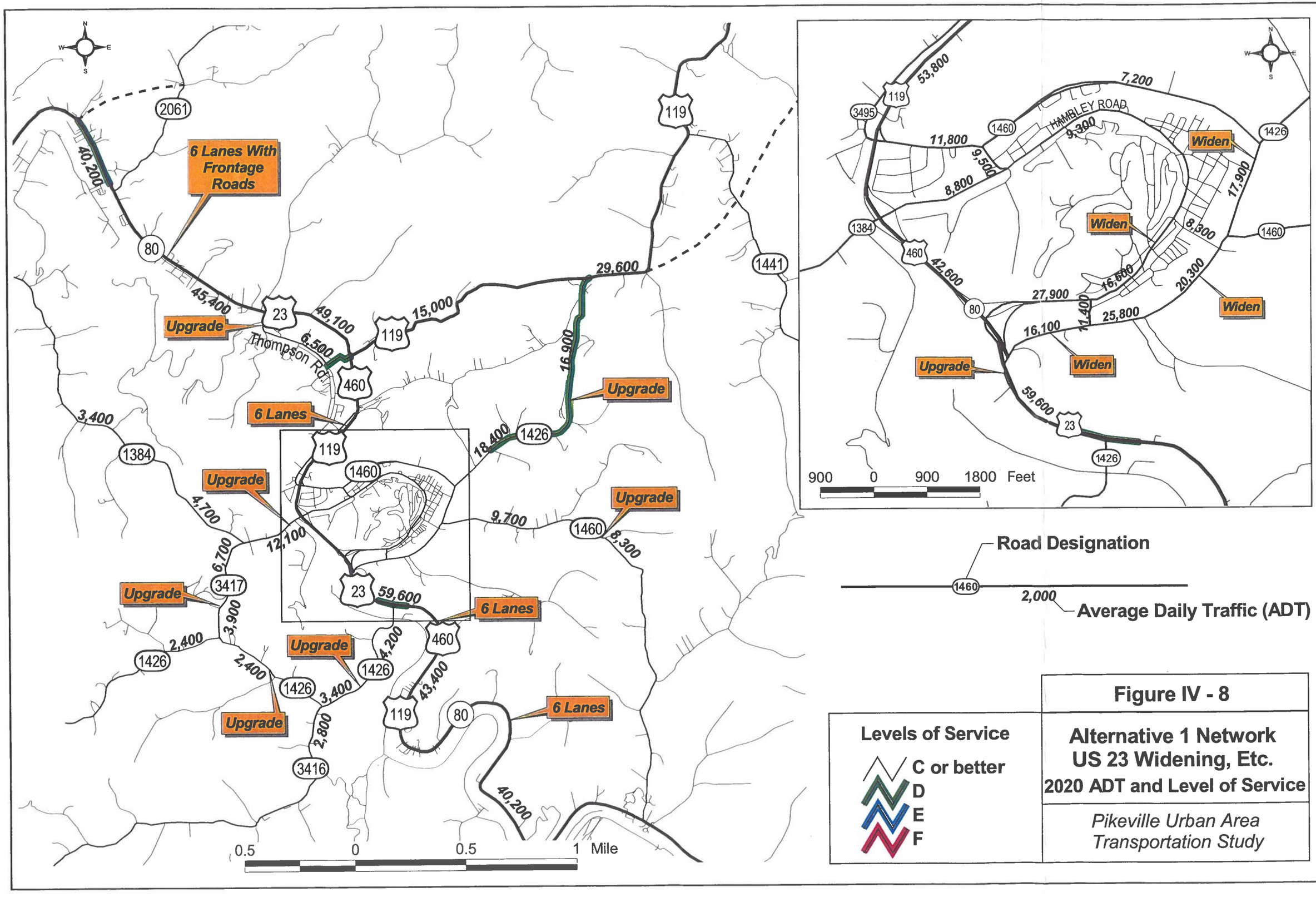
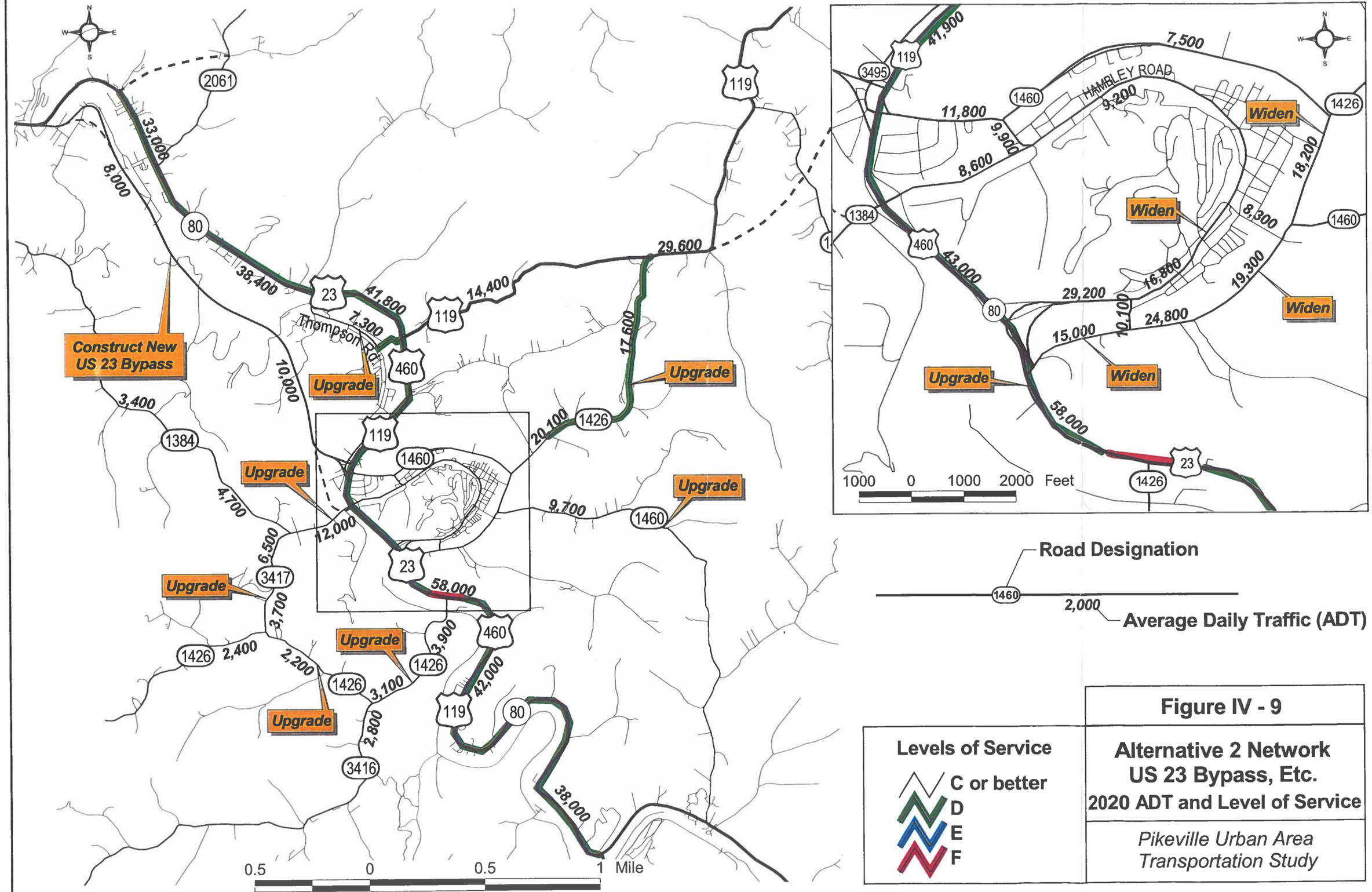


Figure IV - 8

Alternative 1 Network
US 23 Widening, Etc.
2020 ADT and Level of Service

Pikeville Urban Area Transportation Study


2061
119
80
23
460
1384
1426
3417
3416
3495
1460
Construct New US 23 Bypass
Upgrade
Widen
Thompson Rd.
HAMBLEY ROAD
33,000
8,000
38,400
41,800
1,300
14,400
29,600
17,600
10,000
3,400
4,700
6,500
12,000
20,100
9,700
3,700
2,400
2,200
3,100
3,900
42,000
2,800
38,000
58,000
41,900
11,800
9,900
8,600
7,500
9,200
18,200
8,300
43,000
29,200
16,800
10,100
24,800
19,300
15,000
0.5 0 0.5 1 Mile
1000 0 1000 2000 Feet
Road Designation
2,000
Average Daily Traffic (ADT)
Levels of Service
C or better
D
E
F
Figure IV - 9
Alternative 2 Network
US 23 Bypass, Etc.
2020 ADT and Level of Service
Pikeville Urban Area
Transportation Study

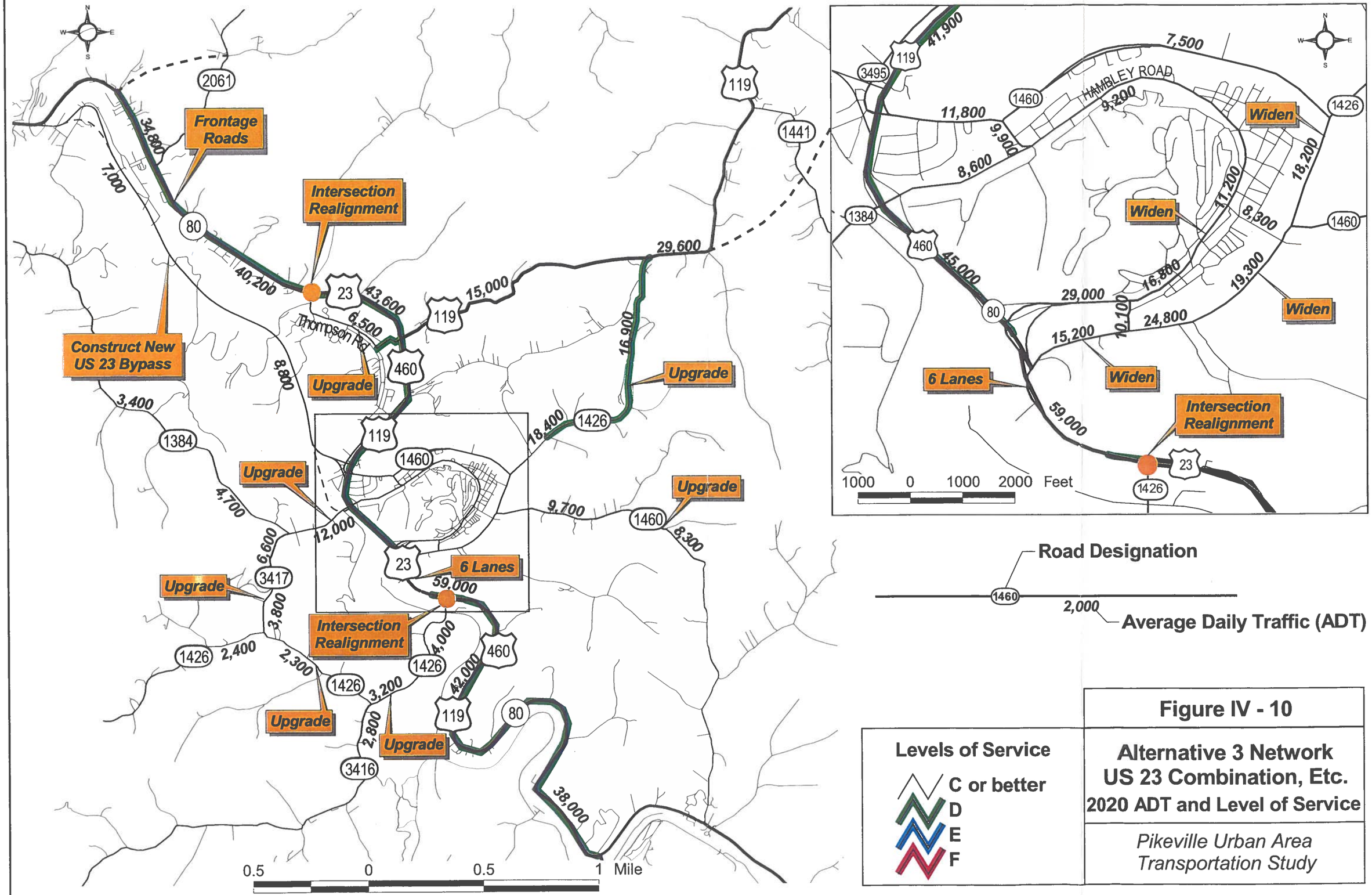


Figure IV - 10

Alternative 3 Network
US 23 Combination, Etc.
2020 ADT and Level of Service

Pikeville Urban Area Transportation Study

Levels of Service

- C or better
- D
- E
- F

Evaluation of Proposed Highway Improvements

The proposed highway improvement alternatives considered in the preceding section provide a basis for evaluating the degree to which traffic and operational conditions within the study area can be improved through their conceptual implementation. The Goals and Objectives identified in Chapter I provide a more comprehensive means of evaluating highway improvements and are used to guide the analysis of the proposed highway improvement projects. That is, projects are evaluated in terms of their ability to achieve the study goals: providing safe and efficient transportation, enhancing community development, providing a sustainable community, and minimizing environmental impacts.

To compare projects for recommendation to the Pikeville Long-Range Transportation Plan, the proposed highway improvements were considered relative to how well they served to address the adopted study objectives. This measurement was done using a matrix evaluation process. For every alternative, a qualitative score was assigned according to how well the project satisfied the particular objective. The scoring was structured as follows:

Score	Measure
++	Project strongly meets objective
+	Project meets objective
0	Does not apply; project has no impact
-	Project does not meet objective
- -	Project adversely impacts objective

The Alternatives Evaluation Matrix is presented in **Table IV-3** and provides a generalized means of comparing the relative advantages and disadvantages provided by the proposed highway improvements. As previously discussed, many of the proposed improvements represent generalized concepts for which various alternatives might be available for implementation. In addition, the improvements involve projects of various size and scope. Therefore, the ranking of projects in this matrix comparison can help in developing priorities but should not be directly interpreted as the actual priorities.

Table IV-3. Project Evaluation Matrix

Proposed Highway Improvements	Evaluation Criteria																
	GOAL 1: Safety & Efficiency	1.1 Address Accident Locations	1.2 Improve Design Standards	1.3 Provide Pedestrian/Bicycle Facilities	1.4 Reduce Congestion	1.5 Improve Travel Times	**GOAL 2: Community Development**	2.1 Foster Economic Development	2.2 Provide Efficient Freight Movement	2.3 Consider Local Priorities	**GOAL 3: Sustainable Community**	**3.1 Preserve Central Business District**	3.2 Minimize Community Disruption	2.3 Minimize Residential Through Traffic	**GOAL 4: Environmental Concerns**	4.1 Minimize Pollution	4.2 Minimize Sensitive Location Impacts	4.3 Coordinate Land Use and Transportation	**TOTALS**
Major Short Range (10 Years) Highway Improvements																			
1. Widen US 23 north of Pikeville		++	+	o	++	+		+	++	+		o	-	o		+	o	+	11
2. Relocate and Widen US 460 south of Pikeville*																			
3. Relocate and Widen US 119 east of Pikeville*																			
4. Relocate KY 2061 from US 23 to the Airport*																			
Major Long Range (Over 10 Years) Highway Improvements																			
1. Construct US 23 Bypass west of Pikeville		+	++	o	++	++		++	+	+		o	+	++		+	+	+	17
2. Construct Interstate 66 from Floyd Co. to West Virginia		o	++	o	++	+		++	++	++		-	++	o		+	+	+	15
Short and Long Range Spot Highway Improvements																			
1. Reconstruct US 119 and KY 1441 Intersection		++	++	o	o	o		o	++	++		o	o	o		o	+	o	9
2. Add Left-Turn Lane to KY 1426 north of KY 1460		o	+	o	++	+		o	++	+		o	+	o		+	+	o	10
3. Add Eastbound Left-Turn Lane to US 460 at KY 1460		++	+	o	++	+		o	++	+		o	+	o		+	o	o	11
Other Highway Improvements for Pikeville Urban Area																			
1. Widen US 23 south of Pikeville		+	o	o	++	++		+	++	+		o	-	o		+	o	o	9
2. Reconstruct KY 1384 as Urban Section		o	+	+	o	o		o	o	+		o	-	o		o	o	+	3
3. Widen KY 1426 from Baird Avenue to KY 1460 E		+	+	o	+	+		+	+	+		+	o	o		o	o	+	9
4. Reconstruct KY 1426 east of Pikeville		+	+	o	+	+		+	+	o		o	-	o		+	-	o	5
5. Reconstruct KY 1426 west of Pikeville (US 23 to KY 3416)		+	+	o	+	o		+	+	o		o	o	o		+	o	+	7
6. Reconstruct KY 1426 west of Pikeville (KY 3416 to KY 3417)		++	+	o	o	o		+	+	+		o	o	o		o	o	+	7
7. Widen KY 1426/KY 1460 from KY 1460 E to KY 1460 W		o	+	o	+	o		+	+	+		o	o	o		+	-	+	6
8. Widen KY 1460 from US 23 Overpass to US 23		+	+	o	o	o		+	o	+		o	o	o		o	o	o	4
9. Reconstruct KY 1460 east of Pikeville		+	+	o	+	+		+	o	o		o	o	o		+	o	o	6
10. Reconstruct KY 3417 from KY 1426 to Pikeville Urban Limits		++	+	o	+	+		+	o	o		o	o	o		+	o	+	8
11. Reconstruct KY 3417 from Pikeville Urban Limits to KY 1384		+	+	o	o	o		+	o	o		o	o	o		+	o	o	4
12. Reconstruct and Widen KY 3495		o	+	o	+	+		+	o	o		o	o	o		+	o	o	5
13. Widen KY 3496		+	+	o	+	o		+	o	o		o	o	o		o	o	+	5
14. Widen Hambley Boulevard		o	+	+	+	o		+	o	+		+	-	+		+	o	+	8
15. Widen Huffman Road		o	+	+	++	+		+	o	+		+	o	o		+	o	+	10
16. Reconstruct Thompson Road		o	+	o	+	+		+	+	++		o	o	o		+	o	+	9
17. Construct US 23/US 119 Interchange		+	+	o	++	+		+	+	o		o	+	o		+	o	o	9
18. Consolidate KY 3496 and KY 1426 Intersections with US 23		+	++	o	+	+		o	+	o		o	o	o		+	o	o	7

* Indicates committed projects.

Scoring: Strongly meets objectives (++), Meets objectives (+), Does not apply -- no effect (o), Does not meet objectives (-), Adversely impacts objectives (--).

V. YEAR 2020 RECOMMENDED TRANSPORTATION PLAN

A number of factors were involved in developing the Pikeville Year 2020 Long-Range Transportation Plan. Future roadway capacity to satisfy projected deficiencies was a key factor. Safety was another key issue and many of the high accident locations in Pikeville were identified as having traffic demands near or over capacity. Other factors, such as improving opportunities for economic development, and providing a balance between development and the environment, came into play. These factors were integrated into the study goals and objectives, from which the recommended transportation improvements were developed.

Project Phasing

It is assumed that projects included in the recommended transportation plan would be implemented over time and should reflect a reasonable level of funding for highway improvements. For the Pikeville UATS, three phases of implementation were considered:

- Phase I (through FY 2006) - Representing short-range plan improvements and includes projects that could be considered in the next update of the Six Year Highway Plan.
- Phase II (FY 2007 through FY 2012) - Representing intermediate improvements
- Phase III (FY 2013 through FY 2020) - Representing long-range plan improvements

Estimated Funding

Implementation of any project recommended from this study is dependent upon the availability of funds. The majority of highway projects constructed in Kentucky are built with federal highway funds. The federal government has an established program to aid in the funding of eligible projects. The program presently provides the majority of the total project cost, with the remaining amount to be supplied or matched by the state or local government as appropriate. Because the federal aid highway program is a reimbursement program, it is the responsibility of the state or local government to provide the initial project funds. In order to be reimbursable, any costs must have been incurred according to applicable federal and state laws and regulations.

The State's present policy is to provide the matching funds for federal-aid highway projects on the state-maintained system. Projects not on the federal or state system will require local funds to be implemented and maintained.

While it can be difficult to speculate on the specific level of funding that could be allocated toward improvements within the Pikeville UATS area, the current Six Year Highway Plan identifies over $300 million of highway improvements in the vicinity of Pikeville. It should be noted, however, that many of the projects currently included in the Six Year Highway Plan extend well beyond the study area and maintaining an expenditure rate of $50 million per year over a twenty year planning period should not be anticipated.

Given these considerations, a twenty-year funding level of approximately $250 million dollars was determined to be a reasonable target for this planning effort. This targeted funding level would also exclude the following projects that were earlier identified as committed highway improvements or, as in the case of the I-66 corridor, special projects outside of the scope of this planning effort:

Committed Highway Improvements and Other Planned Priorities

- US 460 Relocation South of Pikeville from US 23 to Virginia State Line ($44 Million)
- US 119 Relocation East of Pikeville from Pikeville to S. Williamson, WV ($193 Million)
- KY 2061 Relocation from US 23 to the Airport ($25 Million)
- I-66 Corridor Construction South of Pikeville ($1,000 Million)

Year 2020 Recommended Long-Range Transportation Plan

Given the preceding analysis and considerations, twenty-one transportation projects totaling $260.9 million (in present dollars) are proposed for implementation between now and the Year 2020. The Recommended Year 2020 Long-Range Transportation Plan projects are listed in **Table V-1** and illustrated in **Figure V-1**. The projects are numbered for reference purposes and identified by phase priorities (project numbers do not represent priorities).

Funding levels by phase of plan implementation are as follows:

- Phase 1 (FY 2001-2006) - $147.9 Million
- Phase 2 (FY 2007-2012) - $50.4 Million
- Phase 3 (FY 2013-2020) - $62.6 Million

Of the $260.9 million allocated, $119.0 million is programmed for constructing the proposed US 23 bypass and $70.7 million is programmed for improvements to the existing US 23 corridor. The remaining project improvements total $71.2 million. Brief discussions of the plan recommendations are as follows:

US 23 Improvements (Projects 1, 8, 12, 13, 14, and 16): A series of projects are proposed to address intersection, access management and safety issues for much of the existing US 23 through the study area. Project 1 involves an access management effort to develop parallel two-way frontage roads on either side of the existing US 23. Project 8 involves extending the northbound acceleration ramp from KY 1460 to US 23. Projects 12 (US 23 and US 119 interchange) and 13 (US 23 intersections with KY 3496 and KY 1426) address problem intersection locations. In order to reduce the number of access points along US 23 and potentially increase operational levels of service, Project 13 involves the consolidation of the KY 3496 and KY 1426 intersections with US 23. This could be accomplished through the northeast extension of KY 3496 as a frontage road to meet the existing KY 1426 route. A grade-separated interchange could then be considered at the intersection of US 23 and KY 1426. This location provides a more reasonable site for an interchange than the existing KY 3496 intersection due to the lower elevations (2-3 benches) adjacent to the US 23 corridor. Six-lane improvements to US 23 are also recommended under Project 13 and are expected to extend from the northern KY 1426 intersection to just past the southern KY 1426 intersection. In response to the proposed additional forty housing units in the Keyser Heights area, Project 14 addresses additional safety improvements for the US 23/Keyser Heights intersection. Spot safety and access issues for US 23 South are addressed by Project 16, which encompasses a wide range of improvements ranging from access management to rockfall mitigation as needed. Several sections of the roadway have unstable cut slopes and the roadway often experiences rock slides. The implementation of these projects should be coordinated with the construction of the US 23 Bypass, and should be constructed in such a manner to allow future widening of US 23 to six lanes.

Table V-1. Year 2020 Recommended Long-Range Transportation Plan Projects

Project No.*	Description	Cost ($1,000)	Phase
1	US 23 (North) Frontage Roads and Access Management (New KY 2061 to Kentucky Power)	$20,000	I
2	Thompson Road Reconstruction	$900	I
3	KY 1426 Widening and Highwall Stabilization (Baird Avenue to Huffman Avenue)	$3,500	I
4	Huffman Avenue Widening (Hambley Blvd. To Main St)	$200	I
5	Hambley Boulevard Widening (Baird Avenue to Huffman)	$1,000	I
6	US 119/KY 1441 Intersection Reconstruction	$1,600	I
7	US 460/KY 1460 Add EB Left-Turn Lane	$1,200	I
8	US 23/KY 1460 intersection: extend NB ramp onto US 23 from KY 1460	$500	I
9	US 23 Bypass Construction (Boldman to Cedar Creek)	$119,000	I
10	Thompson Road/KY 3227 Intersection Realignment	$2,500	II
11	KY 1426 Widening and Highwall Stabilization (Huffman Ave. north 1.0 mile to Bill King Rd.) with Turn Lane 0.5 mile North of Huffman Ave.	$2,500	II
12	US 23/US 119 Interchange	$15,000	II
13	US 23/KY 3496 and KY 1426 Intersection Consolidation and 6-lane Improvements to US 23	$30,000	II
14	US 23/Keyser Heights Intersection Safety Improvements	$150	II
15	Pike Street/Hambley Blvd. Intersection Reconstruction and Signalization	$220	II
16	US 23 (South) Spot Safety and Access Improvements KY 1426 south 2.2 miles	$5,000	III
17	KY 1426 Reconstruction (US 23 to KY 3416)	$12,000	III
18	KY 1426 Reconstruction (KY 3416 to KY 3417)	$10,000	III
19	KY 1426 Reconstruction (from Bill King Rd. north to US 119)	$20,000	III
20	KY 3417 Reconstruction (from KY 1426 to KY 1384)	$2,600	III
21	KY 1384 Reconstruction as an Urban Section with a Center Turn Lane (from 0.25 miles west of KY 3417 to US 23)	$1,000	III
22	KY 1460 (Chloe Creek Rd.) Reconstruction (KY 1426 to Walters Road)	$10,000	III
23	Pike Street and Division Street Extension and Signalization at KY 1426	$2,000	III

* Note that project numbers are for reference purposes and not necessarily representative of implementation priorities.

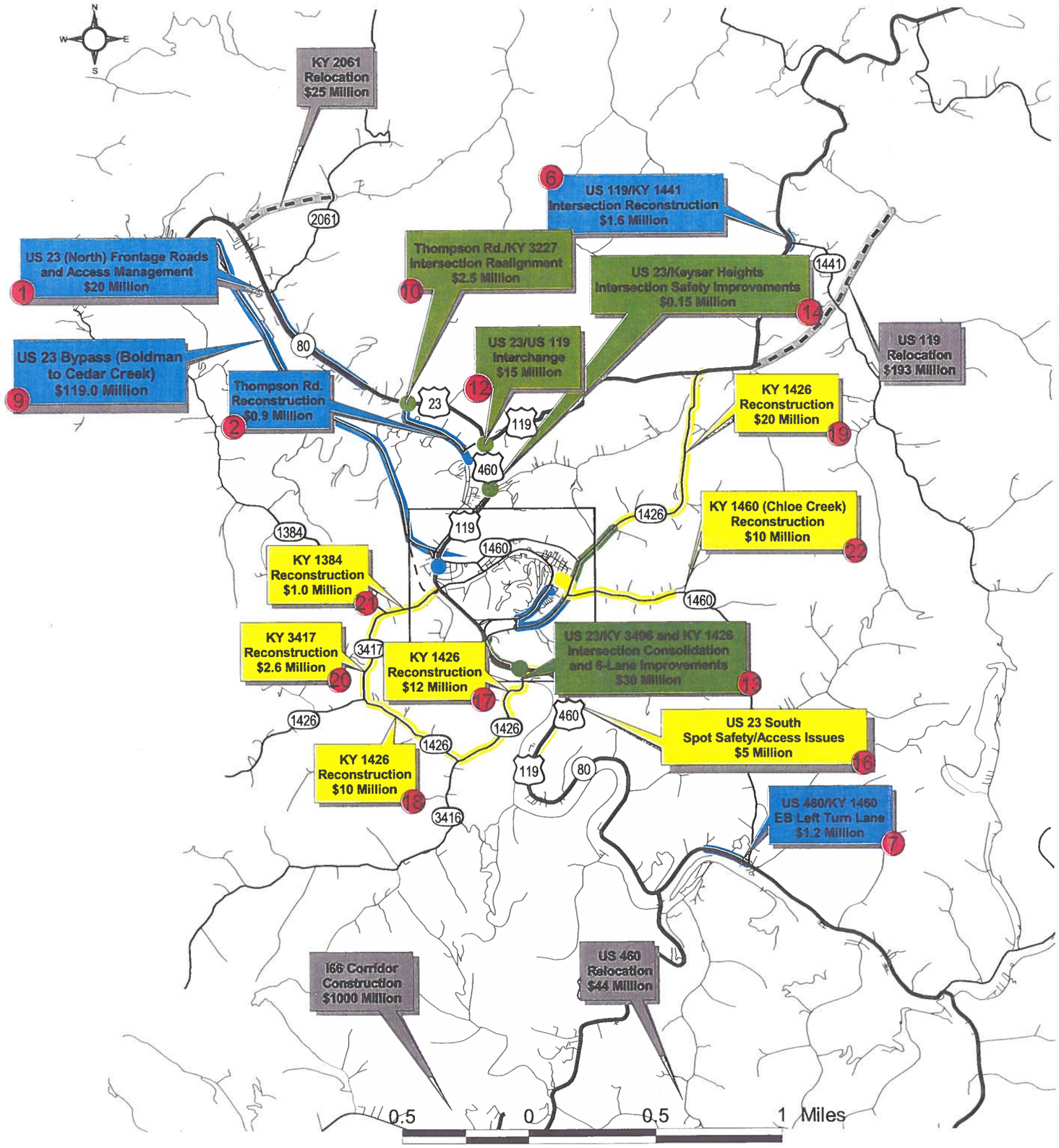


Figure V - 1

Year 2020 Transportation Plan

Pikeville Urban Area Transportation Study

US 23 Bypass Construction (Project 9): Implementation of the proposed US 23 bypass is included as part of the Phase I plan implementation. Ultimate design of this facility should provide for a four-lane cross section with partially controlled access. Because year 2020 traffic volumes are not anticipated to exceed 10,000 vpd, initial construction of the facility might consider two-lane cross-sections with passing lanes along some segments.

KY 1426 from Baird Avenue to north of KY 1460 (Projects 3 and 11): These projects in the downtown area should provide an ultimate five lane facility to serve anticipated traffic growth resulting from current and proposed developments on the southeast side of downtown. Widening of this facility might be accomplished by filling portions of the old Levisa Fork to obtain the additional right-of-way. In addition, these projects also call for the stabilization of highwalls as needed. Consolidating the KY 1460 and Huffman Road intersections with KY 1426 could also be considered with these improvements or in the future. Such an improvement is presently considered somewhat impractical due to physical restrictions north and south of KY 1460. The design limitations associated with this improvement were confirmed with the KYTC district staff.

Improved access from US 23 south of Pikeville to the proposed US 23 Bypass (Projects 17, 18, 20 and 21): These projects are proposed in order to provide an alternate access connector between the existing US 23 on the south side of Pikeville and the proposed US 23 bypass. While the improvements are illustrated in Figure V-1 as following the existing KY 1426, KY 3417 and KY 1384 alignments, further planning and design efforts might consider relocation opportunities. The design of this facility might also be coordinated with the proposed consolidation of the intersections of KY 1426 and KY 3496 at US 23 (Project 13).

Other State Projects: In addition to the projects identified above, several other highway improvements are recommended that involve either spot improvements or design upgrades to state maintained facilities. These include intersection spot improvements at US 119 and KY 1441 (Project 6) and at US 460 and KY 1460 (Project 7). Also, highway reconstruction is proposed along KY 3227 (Project 10), KY 1426 northeast to US 119 (Project 19), and KY 1460 east of KY 1426 (Project 22).

Local Priority Projects: Several local highway improvement projects are identified in the recommended long-range transportation plan with a combined funding level of $4.3 million. These projects include reconstructing Thompson Road adjacent to the new commercial development and U.S. Post Office (Project 2), widening Huffman Avenue just east of Hambley Boulevard (Project 4), and extending the five-lane section of Hambley Boulevard between Baird Avenue and Huffman Avenue (Project 5). Currently, this facility consists of two through lanes, a turning lane, and on street parking. The turning and through lanes are of standard cross-section width, while the parking stalls are approximately eight feet in width. To widen this portion of Hambley Boulevard to two through lanes in each direction and one turning lane, the existing lane widths would have to be reduced or additional roadway width beyond what is available would be required. As a result, additional pavement width must be provided in order to maintain the desired geometric design standards. As part of the improvements to Hambley Boulevard, opportunities to provide pedestrian and bicycle facilities should be considered. In addition, local officials have requested that Hambley Boulevard be included on the state maintained system. Other local projects include reconstruction and potential signalization of the intersection of Pike Street with Hambley Boulevard (Project 15) and

the extension of Pike and Division Streets with potential signalization at KY 1426 (Project 23).

Conclusion

The Pikeville Urban Area Study and the recommended Year 2020 Transportation Plan has been developed to be responsive to identified transportation needs, local goals and objectives, and a reasonable funding and implementation schedule for the next twenty years. This plan can provide guidance to both state and local officials as they consider future efforts to develop and implement highway improvements in the Pikeville area. It should be recognized, however, that the transportation planning process is a continuing process. Transportation improvement needs and implementation priorities are identified and made based upon current conditions and projected assumptions. Because patterns and/or rates of anticipated growth for Pikeville may change from those determined in this study, the implementation schedule for projects is considered to be flexible and modifications to project priorities should be made accordingly. Finally, the Pikeville Urban Transportation Study should be updated on a periodic basis (every five to ten years) to assure that the Long-Range vision of transportation system improvements is both current and appropriate.

APPENDIX A

KENTUCKY TRANSPORTATION CABINET
RECOMMENDED SIX YEAR HIGHWAY PLAN
(FY 1999 – FY 2004)
FOR PIKE COUNTY, KENTUCKY

Pike County Recommended Six Year Highway Plan (FY 1999-FY 2004) Projects

ITEM #	ROUTE	LENGTH (miles)	DESCRIPTION	SCOPE	FUND-SCHEDULING INFORMATION			
					Funding	Phase	Year	Amount
12-131.00	US 23	5.100	Widening to 6 Lanes with urban section fr KY 1384 to KY 2061 north of Pikeville	Major Widening	NH	D	2001	$400,000
					NH	R	2003	$1,000,000
					NH	U	2004	$1,000,000
								$2,400,000
12-131.01	US 23	5.100	Widening to 6 Lanes with urban section fr KY 1384 to KY 2061 north of Pikeville	Relocation	NH	D	2002	$400,000
12-186.00	CR-5322	0.100	Hopkins Ck. Road replace Nelse Bridge & Apprs over Russel Fork of Big Sandy Ri. near Millard	Bridge Replacement	BRZ	C	1998	$1,600,000
12-187.00	US 23	0.100	Add luminaires to light intersection at US 119	Safety	SAF	D	1998	$5,000
					SAF	C	1998	$50,000
								$55,000
12-254.00	US 460	0.300	Shelbiana-Grundy spot improvements near Yellow Hill	Spot Improve	SP	C	1998	$1,500,000
12-263.10	US 460	1.700	Pikeville to VA. SL:section A1:relocate US 460/KY 80 fr US 23 @ Yeager to Stagger Fork	Relocation	SP	D	1998	$1,500,000
					SP	R	1999	$2,000,000
					SP	U	2000	$1,500,000
					SP	C	2002	$13,500,000
								$18,500,000
12-263.11	US 460	1.700	Pikeville to VA. SL:section A1:relocate US 460/KY 80 fr US 23 @ Yeager to Stagger Fork	Relocation	SP	C	2003	$10,000,000
12-263.15	US 460	1.700	Pikeville to VA SL: section A2: relocate US 460/KY 80 fr Stagger Fork to Greasy Creek	Relocation	SP	D	1999	$1,000,000
					APD	R	2001	$4,000,000
					APD	U	2003	$2,000,000
								$7,000,000
12-263.22	US 460	2.400	Pikeville to VA SL: relocate US 460/KY 80 fr Beaver Bottom To Right Fork of Beaver Creek	Relocation	APD	D	2001	$1,000,000
					APD	R	2003	$5,000,000
								$6,000,000
12-263.24	US 460	2.500	Pikeville to VA SL: relocate US 460/KY 80 fr Right Fork Beaver Ck to Breaks interstate park	Relocation	APD	D	2003	$1,000,000

Pike County Recommended Six Year Highway Plan (FY 1999-FY 2004) Projects (Continued)

ITEM #	ROUTE	LENGTH (miles)	DESCRIPTION	SCOPE	FUND-SCHEDULING INFORMATION			
					Funding	Phase	Year	Amount
12-264.10	US 119	1.000	Pikeville-S. Williamson; Bent Mtn. To Coburn Mtn Phase 1	Relocation	NH	C	1998	$20,000,000
12-264.20	US 119	1.500	Pikeville-S. Williamson: Bent Mtn. To Coburn Mtn. Phase 2	Relocation	NH	C	2000	$9,500,000
12-264.21	US 119	1.500	Pikeville-S. Williamson: Bent Mtn. To Coburn Mtn. Phase 3	Relocation	NH	C	2002	$11,000,000
12-264.22	US 119	1.500	Pikeville-S. Williamson: Bent Mtn. To Coburn Mtn. Phase 3	Relocation	NH	C	2003	$4,000,000
12-281.00	KY 194	0.700	Curve revision/passing lanes on KY 194 near Deskins Bran.	Safety	SP	D	2003	$200,000
12-290.00	US 119	0.100	Reconstruct existing US 119/KY 1441 intersection East of Pikeville	Reconstruct	STP	R	1998	$330,000
					STP	U	1998	$50,000
					STP	C	1999	$1,200,000
								$1,580,000
12-298.00	KY 199	5.100	Fr Grant's Branch in McVeigh to US 119 in Huddy	Reconstruct	SP	D	2000	$500,000
					SP	R	2002	$2,500,000
					SP	U	2002	$300,000
								$3,300,000
12-299.00	KY 194	0.500	Raise grade above flooding at Sycamore Ck @ Gulnare	Reconstruct	SP	D	1998	$125,000
					SP	R	1999	$100,000
					SP	U	1999	$100,000
					SP	C	2000	$1,000,000
								1,325,000
12-304.01	KY 2061	3.300	Reconstruct KY 2061 fr. US 23 to 3.3 miles West of US23	New Route	STP	R	1998	$3,000,000
					STP	U	1998	$700,000
					STP	C	1999	$21,000,000
								$24,700,000
12-308.01	US 119	7.700	Pikeville-S. Williamson, fr Zebulon to Bent Mountain	Relocation	APD	D	1998	$900,000
12-308.11	US 119	2.300	Pikeville-S. Williamson, fr Zebulon to Bent Mountain-Sect. I	Relocation	APD	C	1999	$12,000,000
12-308.12	US 119	2.300	Pikeville-S. Williamson, fr Zebulon to Bent Mountain -Sect. I	Relocation	APD	C	2001	$11,000,000
12-308.20	US 119	1.900	Pikeville-S. Williamson, fr Zebulon to Bent Mtn. -Sect. II	Relocation	APD	C	2000	$18,000,000

Pike County Recommended Six Year Highway Plan (FY 1999-FY 2004) Projects (Continued)

ITEM #	ROUTE	LENGTH (miles)	DESCRIPTION	SCOPE	FUND-SCHEDULING INFORMATION			
					Funding	Phase	Year	Amount
12-308.21	US 119	1.900	Pikeville-S. Williamson, fr Zebulon to Bent Mtn. -Sect. II	Relocation	APD	C	2002	$11,000,000
12-308.30	US 119	1.800	Pikeville-S. Williamson, fr Zebulon to Bent Mtn. -Sect. III	Relocation	APD	R	1998	$5,500,000
					APD	U	1998	$4,150,000
					APD	C	2001	$7,000,000
								$16,650,000
12-308.31	US 119	1.800	Pikeville-S. Williamson, fr Zebulon to Bent Mtn. -Sect. III	Relocation	APD	C	2002	$13,000,000
12-308.32	US 119	1.800	Pikeville-S. Williamson, fr Zebulon to Bent Mtn. -Sect. III	Relocation	APD	C	2003	$14,000,000
12-308.33	US 119	1.800	Pikeville-S. Williamson, fr Zebulon to Bent Mtn. -Sect. III	Relocation	STP	C	2004	$20,000,000
12-308.40	US 119	1.700	Pikeville-S. Williamson, fr Zebulon to Bent Mtn. -Sect. 4	Relocation	APD	R	1998	$7,500,000
					APD	U	2000	$5,200,000
					APD	C	2004	$20,000,000
								$32,700,000
12-1022.00	CR-1075	0.100	Swinge Camp Branch Rd Br & Apprs over Big Creek 0.1 mi West of KY 468	Bridge Repl.	BRZ	R	1998	$50,000
					BRZ	U	1998	$50,000
					BRZ	C	2000	$350,000
								$450,000
12-1037.00	KY 1499	0.100	Nigh-Mouthcard Br & Apprs at Levisa Fork 0.05 mi South Of KY 194	Bridge Repl.	BRO	R	2000	$67,000
					BRO	U	2000	$100,000
					BRO	C	2003	$700,000
								$867,000
12-1042.00	KY 2061	0.100	Br and Apprs at Cowpen Creek, 0.75 mi NE of US 23	Bridge Repl.	BRX	R	2000	$125,000
					BRX	U	2000	$75,000
					BRX	C	2002	$425,000
								$625,000

Pike County Recommended Six Year Highway Plan (FY 1999-FY 2004) Projects (Continued)

ITEM #	ROUTE	LENGTH (miles)	DESCRIPTION	SCOPE	FUND-SCHEDULING INFORMATION			
					Funding	Phase	Year	Amount
12-1043.00	KY 3419	0.100	Smith Fork Br & Apprs at Smith's Fork 0.25 mi SE of KY 632	Bridge Repl.	BRX	R	2000	$75,000
					BRX	U	2000	$75,000
					BRX	C	2002	$350,000
								$500,000
12-1050.00	CR 1559	0.100	Terry Branch Rd. Br. & Apprs at Long Fork Ck SE KY 1469	BridgeRepl.	BRZ	C	2001	$300,000
12-1051.00	CR 5116	0.100	River Br. Rd. Br & Apprs at Johns Ck .1 mi West of KY 194	Bridge Repl.	BRZ	R	2001	$50,000
					BRZ	U	2001	$100,000
								$150,000
12-1057.00	KY 292	0.100	South Williamson-Lovely; Bridge and Apprs at Big Creek at Matin/Pike county line		BRO	D	2000	$200,000
					BRO	R	2002	$200,000
					BRO	U	2002	$300,000
					BRO	C	2004	$1,400,000
								$2,100,000
12-1062.00	KY 199	0.100	Huddy-McVeigh; Bridge and Approaches over Pond Ck. 1.4 mi SW of jct. KY 1056	Bridge Repl.	BRX	R	2000	$100,000
					BRX	U	2000	$50,000
					BRX	C	2002	$375,000
								$525,000
12-5005.00	US 23	2.000	Correct Rockfall hazard at MP 21 to 23	Rockfall Miti.	SP	D	2001	$250,000
					SP	R	2002	$80,000
					SP	C	2003	$2,500,000
								$2,830,000
12-5010.00	KY 1426	1.000	Correct Rockfall hazard at MP 6 to 7	Rockfall Miti.	SP	D	2001	$300,000

* Source: *Recommended Six year Highway Plan FY 1999-Fy 2004*, Kentucky Transportation Cabinet, February 1998