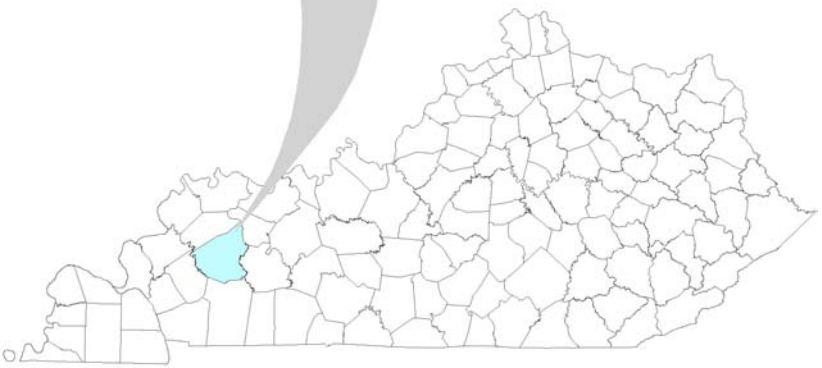
FINAL

Madisonville Urban Area Transportation Study

Hopkins County, Kentucky



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August 26, 2002

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I. INTRODUCTION

The Kentucky Transportation Cabinet (KYTC), through its Division of Multimodal Programs, has the responsibility of assisting urban areas of the Commonwealth of Kentucky with an examination of their transportation systems. To this end, the KYTC, 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. This project's focus is on Madisonville and Hopkins County. The following sections describe the purpose, scope and area of detail as it relates to the Madisonville Urban Area Transportation Study.

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, trucking operations, rail facilities, and aviation issues.

Scope

The Madisonville 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), travel model development and future year traffic forecasting. The Madisonville 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 Madisonville/Hopkins County 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, Madisonville Urban Area Transportation Study;* Kentucky Transportation Cabinet, Division of Multimodal Programs, prepared by Wilbur Smith Associates, March, 2002.

Study Area

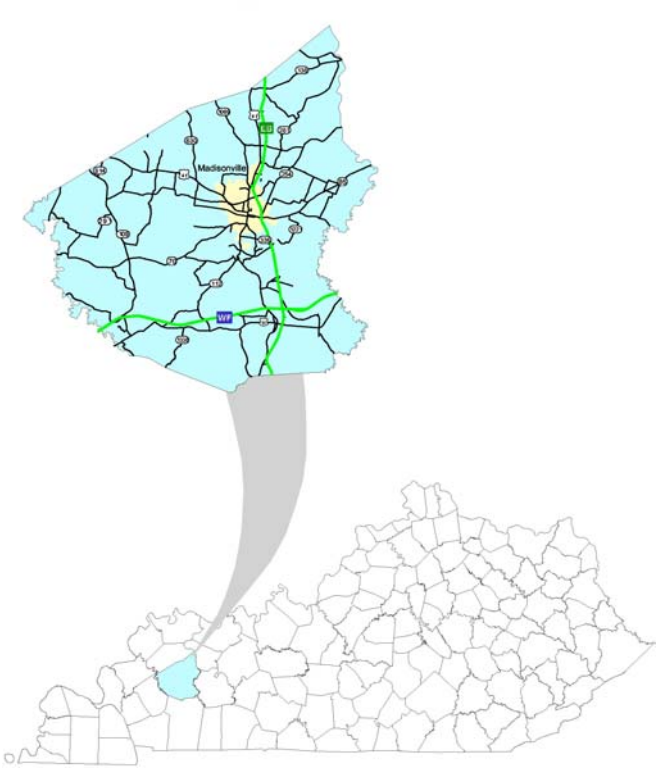
The city of Madisonville, illustrated in **Figure I-1**, is located in Hopkins County in western Kentucky. Highway access is provided to the city of Madisonville via the Edward T. Breathitt Parkway, US 41, US 41A, KY 70, and KY 281. These facilities connect the city to the rest of Kentucky along with the Interstate Highway System. Other important facilities within Hopkins County include the Wendell E. Ford Parkway, US 62 and KY 85.

Intermodal transportation service to Madisonville and Hopkins County is provided by the CSX Transportation (CSXT) and Paducah and Louisville railroad systems and via the Madisonville Municipal Airport, located east of the city. The airport facility includes one 5,000-foot runway and offers general aviation and air taxi services.

Throughout its history, much of the city's growth and development has been defined by the coal industry. Mining locations impact the amount of developable land, migration of commercial development north, etc.

Much of the analysis for the project focused upon the immediate Madisonville 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.

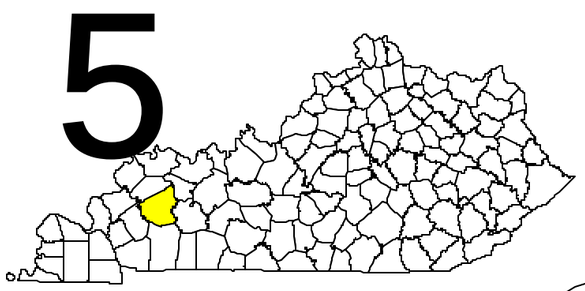
Figure I - 1. Study Area Location



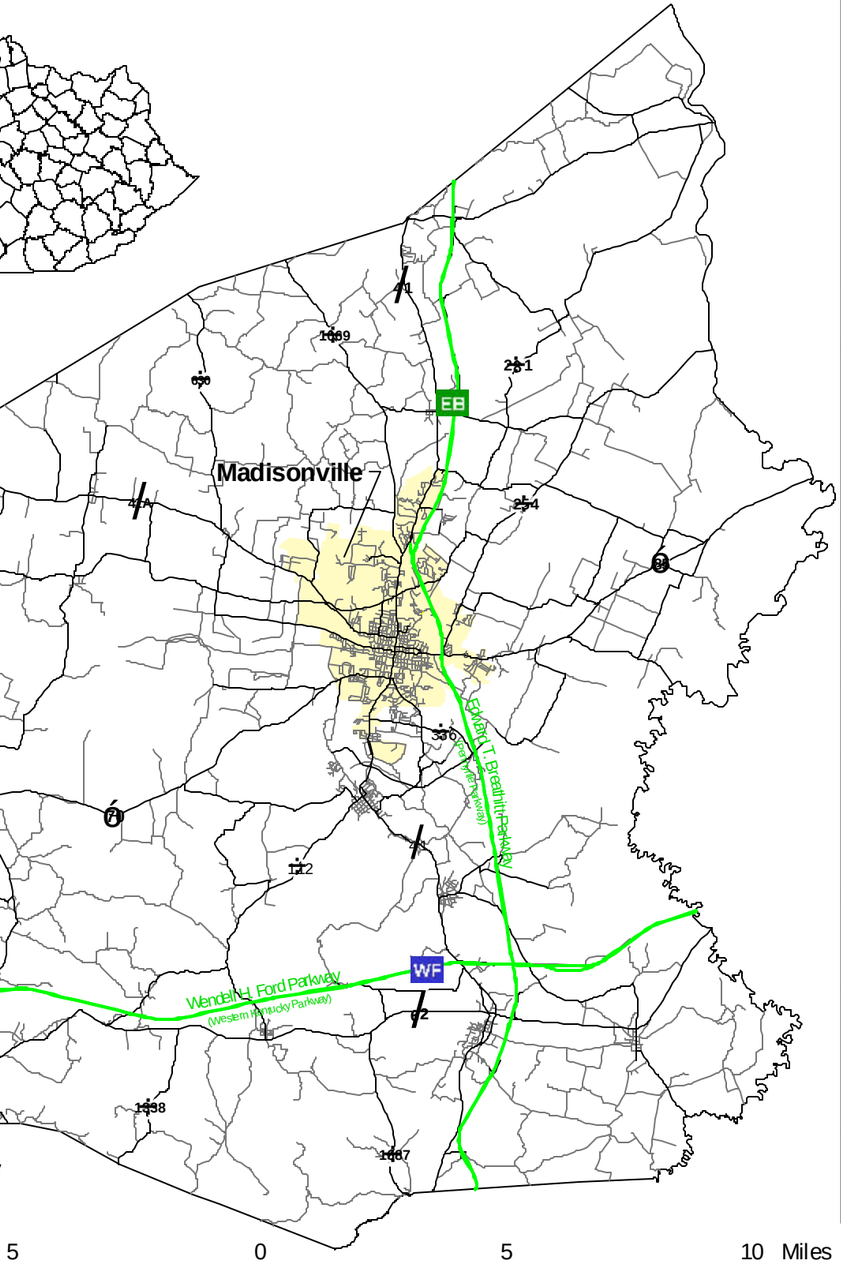
References and Information Resources

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.

- *Approved 2001-2002 Biennial Highway Construction Program and Identified Preconstruction Program Plan for FY 2003 Through FY 2006;* Kentucky Transportation Cabinet, June 2000.
- *Statewide Transportation Plan (FY 1999 – 2018);* Kentucky Transportation Cabinet, December 1999.
- *Unscheduled State Highway Plan Needs;* Kentucky Transportation Cabinet, July 2001.
- *Hopkins County Comprehensive Plan 1993;* Center for Local Government, Western Kentucky University, 1993.
- *Model Validation Report, Madisonville Urban Area Transportation Study;* Kentucky Transportation Cabinet, Division of Multimodal Programs, prepared by Wilbur Smith Associates, March 2002.
- *Major Thoroughfare Plan, Madisonville Urban Area Transportation Study;* Commonwealth of Kentucky, Department of Highways, prepared by Harland Bartholomew and Associates, September 1970.



Hopkins County



LEGEND

- Parkways
- State Roads
- County Roads
- Madisonville City Limits

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FIGURE I-2

STUDY AREA MAP

MADISONVILLE URBAN AREA TRANSPORTATION STUDY

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II. PUBLIC INVOLVEMENT

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

Technical Advisory Committee

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

- KYTC District Two Department of Highways Office
- Pennyrile Area Development District (PADD)
- City of Madisonville, Mayor's Office
- City of Madisonville, City Engineer's Office
- City of Madisonville, Public Works Office
- Hopkins County, Judge Executive's Office
- Hopkins County, Chamber of Commerce
- Hopkins County Joint Planning Commission
- Economic Development Corporation of Madisonville – Hopkins County

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

- Cities of Morton's Gap, Hanson and Earlington, Mayor's Office
- CSX Transportation

Public Involvement Schedule

The following is a schedule of meetings that occurred during the study, their date, and content:

Event	Date	Key Topics
Kick-Off Meeting (TAC Meeting #1)	October 6, 2000	Study initiation
TAC Meeting #2	December 15, 2000	Present and discuss goals, objectives and area transportation needs
Public Meeting #1	January 23, 2001	Seek initial public input
TAC Meeting #3	September 10, 2001	Discuss proposed highway improvements and preliminary evaluation matrix
TAC Meeting #4	February 11, 2002	Present Recommended Transportation Plan for initial review.
Public Meeting #2	March 11, 2002	Present potential recommended transportation plan projects
TAC Meeting #5	June 10, 2002	Present recommended transportation plan for final review

Details of the technical advisory committee and public meetings are documented in **Appendix A** along with a summary of the comments received at these meetings.

Goals and Objectives

Goals and objectives were developed at the beginning of the transportation study in coordination with the TAC. 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 Madisonville UATS were developed through a collaborative process involving the KYTC, its consultant, and the TAC, and are presented in **Figure II-1**.

Figure II- 1. Goals and Objectives

MADISONVILLE 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. PROMOTE SAFETY ON THE TRANSPORTATION NETWORK

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 for all major improvement projects
Objective 1.3.	Improve emergency services

GOAL 2. ENHANCE COMMUNITY DEVELOPMENT & ECONOMIC OPPORTUNITIES

Objective 2.1.	Serve areas of growth and new development
Objective 2.2.	Serve the central business district
Objective 2.3.	Boost areas of economic decline

GOAL 3. BALANCE ENVIRONMENTAL & DEVELOPMENTAL CONCERNS

Objective 3.1.	Minimize impacts to sensitive environmental locations
Objective 3.2.	Minimize air and noise pollution
Objective 3.3.	Minimize community disruption

GOAL 4. DEVELOP AN EFFICIENT TRANSPORTATION SYSTEM

Objective 4.1.	Reduce congestion
Objective 4.2.	Improve travel times
Objective 4.3.	Serve existing and future traffic demand
Objective 4.4.	Cost effectiveness of the transportation improvement

GOAL 5. ENHANCE MULTIMODAL AND INTERMODAL SYSTEMS

Objective 5.1.	Consider provisions for pedestrians and bicycles facilities
Objective 5.2.	Enhance freight movement
Objective 5.3.	Improve system connectivity

III. EXISTING CONDITIONS

Development of a Long-Range Transportation Plan for Madisonville 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 2000 (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 Madisonville is represented by US 41 (Main Street), a two to five-lane facility extending toward Henderson, Kentucky in the north and Hopkinsville, Kentucky in the south. Other arterial highways serving Madisonville include the Wendell H. Ford Parkway, the Edward T. Breathitt Parkway, US 41A, KY 70 and KY 281. The Wendell H. Ford Parkway extends east-west between Interstate 24 and Interstate 65. The Edward T. Breathitt Parkway extends north-south between Henderson, Kentucky and Hopkinsville, Kentucky, paralleling the US 41 corridor. US 41A and KY 70 serve Madisonville from the west, while KY 70 and KY 281 serve Madisonville from the east.

Other arterial highways serving Madisonville and Hopkins County include US 62, KY 85, KY 109 and KY 254. These facilities are common two-lane facilities providing connectivity within Hopkins County and to surrounding counties such as Caldwell, Christian, McLean, Muhlenberg, and Webster. In addition, several other local, county and state routes provide access into the Madisonville and Hopkins County area.

Within the community, much of the commercial, business and residential development is located within or near the central business district (CBD) along US 41, US 41A, KY 70 and KY 281. New commercial and residential development is concentrated in the northern and eastern part of the community.

Functional Classification System

The Hopkins County 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.

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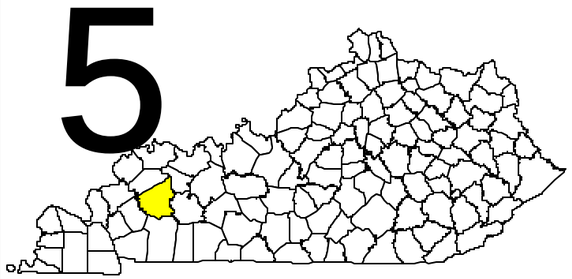

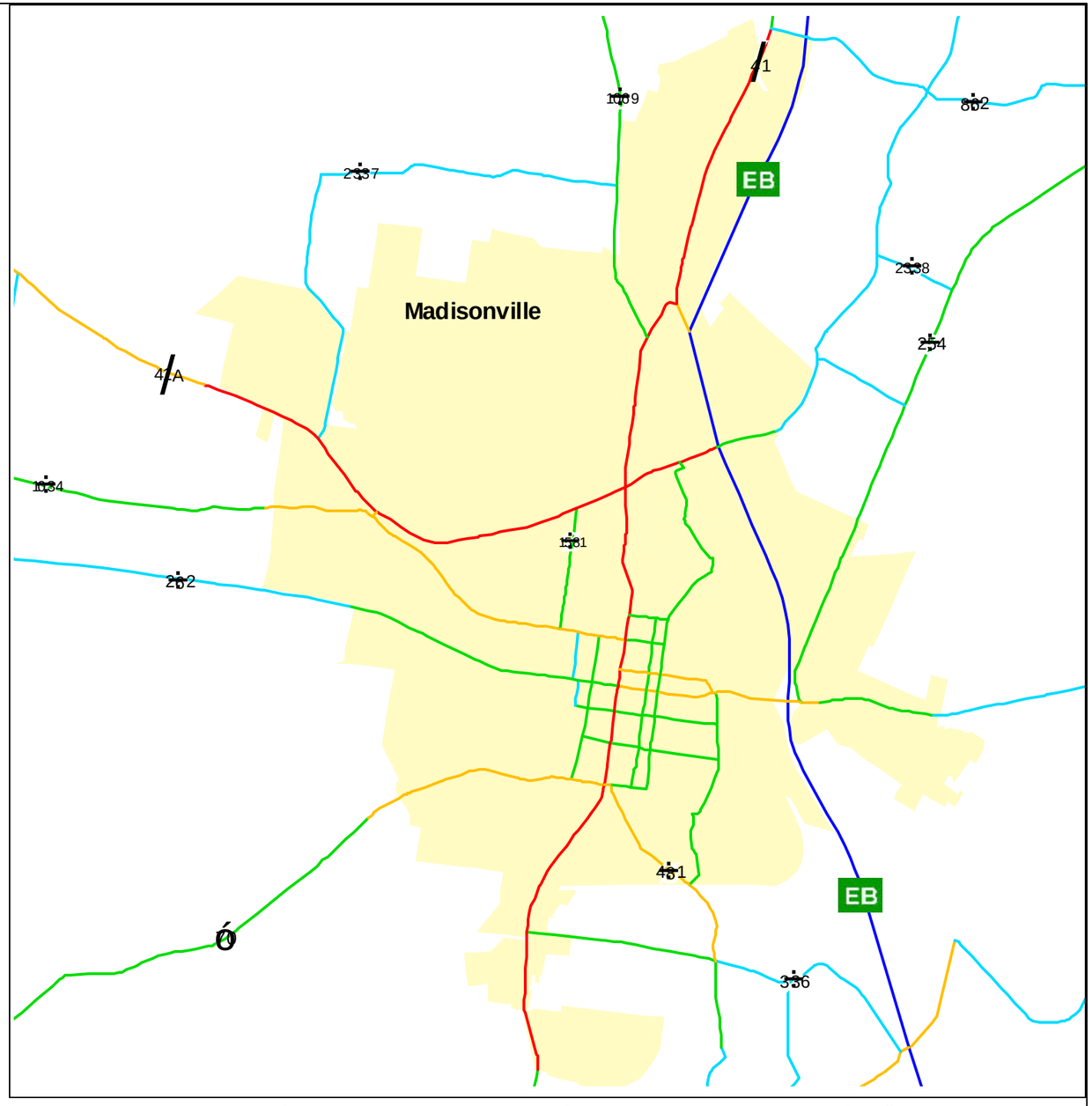

LEGEND
(Functional Classification)

- Interstate or Parkway
- Principal Arterial
- Minor Arterial
- Collector
- Local

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FIGURE III-1

FUNCTIONAL CLASSIFICATION SYSTEM

MADISONVILLE URBAN AREA TRANSPORTATION STUDY

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

1. Parkways

Parkways are designed to provide major travel between and across urban areas, but do not provide access to adjacent land. Parkways are intended to carry the highest traffic volumes and serve the longest trip lengths.

2. Principal Arterials

Principal arterials are designed like a parkway to provide travel between, across and within urban areas. Principal arterials are intended to carry high traffic volumes and serve longer trip lengths.

3. 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.

4. 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.

5. 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 account for a small portion of the total vehicle-miles traveled. Only a few select local streets were evaluated as part of this study.

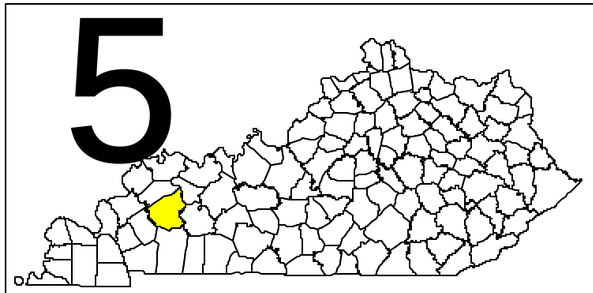
Traffic Analysis Zones

For purposes of data collection, analysis and traffic modeling, the study area was divided into 150 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 25 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 2000 conditions using various information sources. Population and dwelling unit information was taken from 2000 U.S. Census Bureau data, with block-level data being aggregated into the prescribed TAZs.

Employment data for 2000 (4th quarter 1999) was obtained through the KY Workforce Development Cabinet and were provided in the form of a data file containing quarterly employment estimates and mailing addresses for employers in Hopkins County. 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 some instances employment data was incomplete, failed to recognize multiple work sites, or referenced employers not located in Hopkins County.



Hopkins County

5 0 5 10 Miles

Madisonville

1 0 1 2 Miles

LEGEND

74 Traffic Analysis Zones

Madisonville City Limits

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FIGURE III-2

TRAFFIC ANALYSIS ZONES (TAZ)

MADISONVILLE URBAN AREA TRANSPORTATION STUDY

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These employers were verified by local officials, through field visits, and through other researching methods.

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 shown by totals and by TAZs for the 2000 conditions are provided in **Table III-1**. As indicated, the Hopkins County/Madisonville study area currently includes 17,850 households, 46,519 residents, and 19,663 employees.

Table III-1. 2000 Base Year Socioeconomic Data

TAZ ID	Population 2000	Households 2000	Total Employment 2000	TAZ ID	Population 2000	Households 2000	Total Employment 2000
1	102	58	580	76	48	19	0
2	184	105	143	77	223	75	1
3	151	86	179	78	470	159	20
4	509	200	139	79	181	70	0
5	425	167	699	80	94	36	0
6	444	166	1477	81	1126	565	8
7	307	115	1134	82	199	65	21
8	211	86	67	83	345	113	2
9	496	188	282	84	448	141	5
10	287	109	0	85	718	225	25
11	299	122	75	86	131	45	139
12	557	225	501	87	731	241	49
13	221	73	1325	88	274	93	18
14	594	233	354	89	781	348	21
15	355	153	0	90	558	199	109
16	621	252	41	91	512	184	29
17	950	341	298	92	167	60	65
18	81	40	22	93	69	24	6
19	1416	519	621	94	660	258	154
20	491	220	258	95	369	148	10
21	377	168	91	96	410	164	5
22	803	327	852	97	133	43	0
23	45	17	739	98	352	115	6
24	102	43	102	99	299	98	0
25	46	20	0	100	107	41	0
26	153	65	17	101	173	66	0
27	347	126	5	102	470	200	0
28	318	116	1339	103	380	162	2
29	70	24	514	104	588	245	50
30	153	53	221	105	288	104	2
31	270	98	81	106	653	263	18
32	389	142	65	107	792	297	238
33	556	184	463	108	562	243	249
34	144	50	196	109	738	323	36
35	109	38	227	110	193	77	95
36	386	135	83	111	747	260	256
37	1104	385	252	112	157	71	71

38	421	147	1409		113	60	24	0
39	54	22	0		114	107	36	9
40	256	129	197		115	517	179	267
41	152	76	7		116	76	30	0
42	56	18	84		117	394	133	4
43	706	281	0		118	117	38	0
44	198	73	0		119	116	38	0
45	740	285	52		120	153	59	0
46	330	127	94		121	67	25	0
47	83	35	0		122	148	57	0
48	18	6	3		123	89	35	28
49	101	42	0		124	48	19	38
50	24	10	15		125	144	47	0
51	29	12	17		126	434	163	23
52	61	26	0		127	517	177	0
53	24	9	28		128	114	38	0
54	77	25	10		129	889	357	185
55	538	229	4		130	474	160	55
56	779	326	0		131	790	293	91
57	241	102	127		132	31	13	92
58	410	150	0		133	167	58	0
59	79	29	100		134	76	32	5
60	95	35	44		135	313	115	51
61	305	130	0		136	146	58	56
62	25	10	0		137	81	31	0
63	50	17	6		138	74	28	7
64	133	45	0		139	746	323	785
65	187	64	17		140	40	16	0
66	79	27	0		141	48	19	0
67	88	35	20		142	241	81	7
68	41	16	16		143	269	104	2
69	93	37	0		144	142	52	460
70	242	96	2		145	174	64	0
71	122	48	0		146	330	140	0
72	61	24	1		147	280	98	0
73	366	124	60		148	105	35	0
74	817	278	15		149	33	11	0
75	275	93	18		150	394	137	0
					TOTALS	**46519**	**17850**	**19663**

Daily Traffic Volumes

Base year (2000) daily traffic volumes for the Madisonville transportation study network were obtained through the Kentucky Transportation Cabinet or from traffic counts conducted for the Madisonville UATS. These existing traffic volumes were used to evaluate existing conditions and calibrate the area traffic model. Average daily traffic volumes as high as 29,600 vehicles per day (vpd) exist just south of US 41A along US 41. Furthermore, traffic volumes along KY 70 reach up to 29,300 vpd. Along the parkways, most segments within the study area possess traffic volumes averaging 10,000 vpd or more.

Levels of Service

Level of service (LOS) 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 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, Transportation Research Board, National Research Council, Washington, D.C., 2000.

The 2000 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 study area is minimal, with undesirable operational conditions (LOS D or worse) located mostly in the Madisonville area along routes such as US 41, US 41A, KY 70, and KY 281. These routes identified as having undesirable operating conditions are similar to the routes that were identified during public meetings and field observations during the course of the study.

Accident Summary

Traffic accident summaries for Madisonville and Hopkins County for the years 1996, 1997, 1998, and 1999 were obtained from the KYTC. 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 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*** – The accident rate 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 Madisonville and Hopkins County, based on the 1996-1999 accident data, is presented in **Table III-3**. Graphically, those locations within the study area are displayed in **Figure III-4**.

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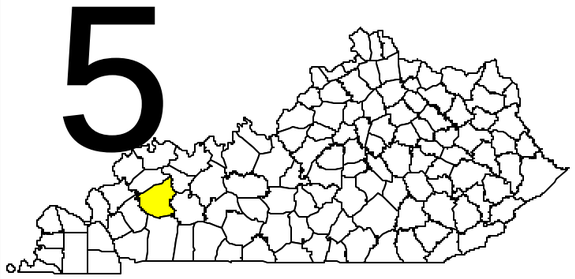

Hopkins County

Madisonville

1950 12900 60 60 1030 1340 EB 630 150 2490 930 5200 510 7390 1390 1870 2160 3360 3080 1310 2330 760 20 2990 2110 3960 1070 24600 1180 3830 5600 2890 22980 8580 630 3920 6560 8810 WF 680 3950 5320 340 11150 190

2110 690 17370 10800 2310 6990 360 EB 2460 5720 240 13160 22360 1180 10200 2200 13690 21810 20300 5890 1950 2920 22600 150 12460 10090 29300 7480 19500 26790 2980 6900 1690 EB 1980 1070 13640 70

5 0 5 10 Miles

2 0 2 Miles

LEGEND

(Level of Service)

7400	Average Daily Traffic (ADT)
	LOS - C or Better
	LOS - D
	LOS - E
	LOS - F

EDUCATION PAYS

KENTUCKY TRANSPORTATION CABINET

Wilbur Smith Associates

FIGURE III-3

YEAR 2000 TRAFFIC AND LEVEL OF SERVICE

MADISONVILLE URBAN AREA TRANSPORTATION STUDY

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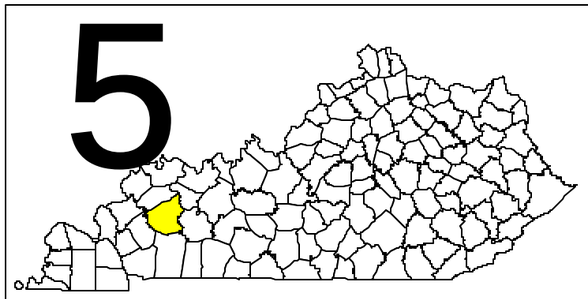
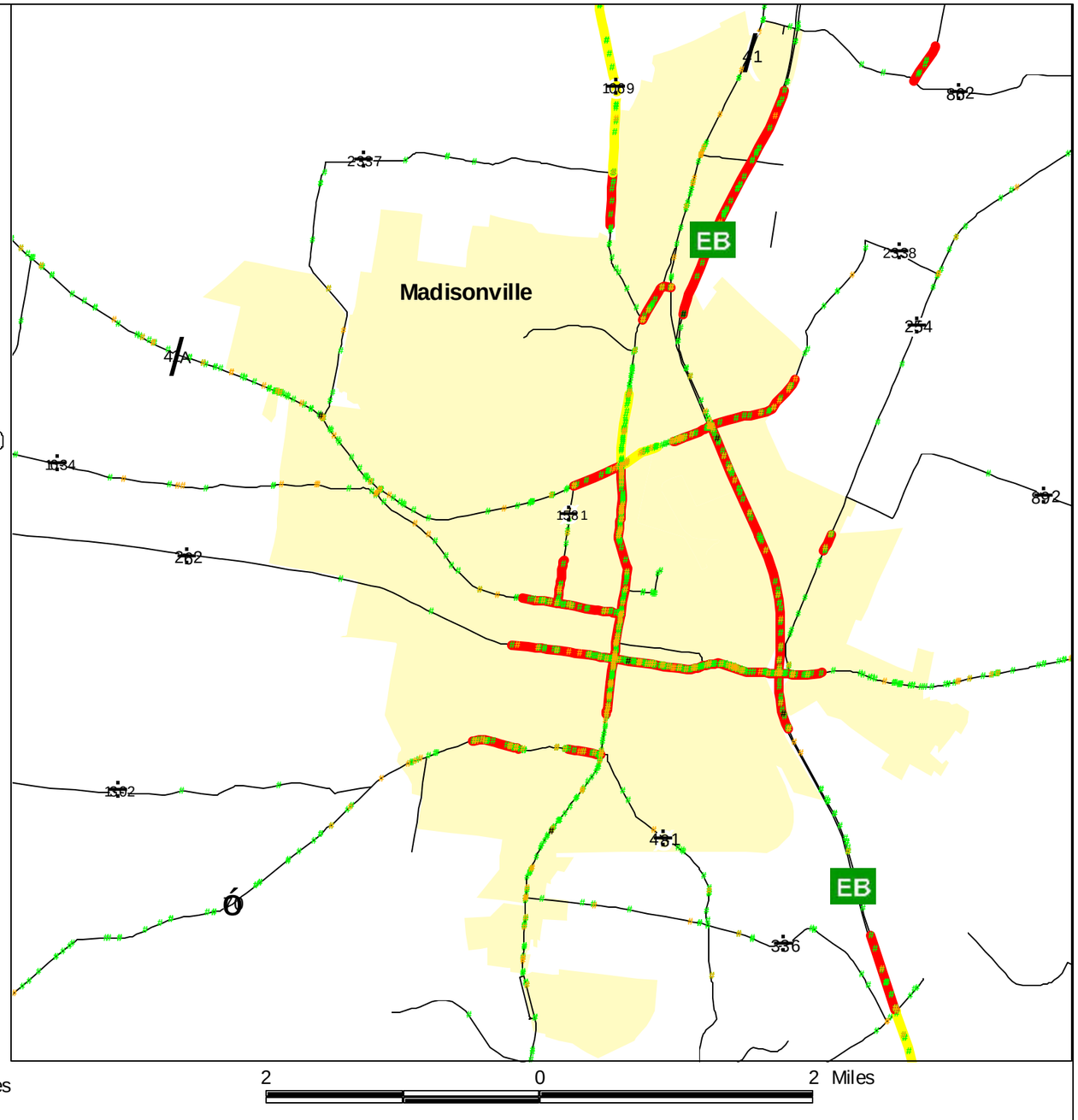
Table III-3: Madisonville/Hopkins County High Accident Locations, 1996-1999

Route	Begin MP	End MP	Length (Miles)	2000 AADT	Number Lanes	Rural/ Urban	Avg Acc Rate	Critical Acc Rate	ACCIDENTS				HMVM	Rates per HMVM or MV				Critical Rate Factor
									Fatal	Injury	PDO	Total		Fatal	Injury	PDO	Total	
PE 9004	28.495	31.019	2.524	10,060	4	Rural	60	94.121	0	8	27	35	0.37	0.00	21.58	72.83	94.41	1.00
	34.271	37.070	2.799	16,900	4	Rural	60	84.734	1	17	54	72	0.69	1.45	24.62	78.19	104.25	1.23
	37.070	39.793	2.723	17,300	4	Rural	60	84.787	0	19	34	53	0.69	0.00	27.63	49.43	77.06	0.91
	39.793	40.360	0.567	17,300	4	Rural	60	116.218	0	5	21	26	0.14	0.00	34.91	146.63	181.55	1.56
	41.795	42.437	0.642	17,300	4	Urban	60	112.635	1	16	74	91	0.16	6.17	98.67	456.35	561.19	4.98
	42.437	43.457	1.020	25,400	4	Urban	60	93.765	0	6	32	38	0.38	0.00	15.86	84.60	100.46	1.07
	43.457	44.337	0.880	25,400	4	Urban	60	96.461	1	18	59	78	0.33	3.06	55.16	180.79	239.02	2.48
	45.200	47.472	2.272	13,700	4	Urban	60	90.699	1	5	41	47	0.45	2.20	11.00	90.22	103.42	1.14
WK 9001	24.999	26.028	1.029	10,500	4	Rural	60	113.41	1	7	14	22	0.16	6.34	44.38	88.75	139.46	1.23
	36.331	37.362	1.031	10,500	4	Rural	60	113.35	0	6	14	20	0.16	0.00	37.96	88.58	126.54	1.12
	37.696	38.332	0.636	10,500	4	Rural	60	129.03	0	3	11	14	0.10	0.00	30.77	112.82	143.59	1.11
	38.332	39.219	0.887	8,580	4	Rural	60	124.36	0	3	21	24	0.11	0.00	27.00	189.00	216.00	1.74
US 41	0.000	0.668	0.668	2,110	2	Rural	252	561.36	0	2	12	14	0.02	0.00	97.19	583.14	680.32	1.21
	1.687	3.000	1.313	2,700	2	Rural	252	441.40	0	8	14	22	0.05	0.00	154.56	270.49	425.05	0.96
	15.723	15.945	0.222	18,600	2	Urban	333	532.75	0	21	49	70	0.06	0.00	348.34	812.79	1161.13	2.18
	15.945	16.124	0.179	18,900	2	Urban	333	554.63	0	14	56	70	0.05	0.00	283.44	1133.76	1417.20	2.56
	16.124	16.464	0.340	18,800	2	Urban	333	492.23	0	33	80	113	0.09	0.00	353.61	857.24	1210.85	2.46
	16.464	17.163	0.699	17,200	2	Urban	333	448.05	0	18	72	90	0.18	0.00	102.54	410.18	512.72	1.14
	17.163	17.463	0.300	24,100	2	Urban	333	482.42	0	16	65	81	0.11	0.00	151.58	615.78	767.35	1.59
	17.463	17.548	0.085	23,400	2	Urban	333	626.07	0	9	58	67	0.03	0.00	309.92	1997.29	2307.21	3.69
	17.548	18.087	0.539	18,100	2	Urban	333	461.06	0	10	54	64	0.14	0.00	70.21	379.12	449.32	0.97
	18.627	18.961	0.334	8,040	2	Urban	333	583.16	0	5	19	24	0.04	0.00	127.53	484.62	612.15	1.05
US 41 A	0.000	0.370	0.370	10,900	2	Urban	333	535.21	0	8	31	39	0.06	0.00	135.87	526.48	662.34	1.24
US 62	0.870	1.341	0.471	8,950	2	Rural	252	424.96	0	5	20	25	0.06	0.00	81.24	324.96	406.20	0.96
	1.686	2.643	0.957	3,700	2	Rural	252	441.52	0	5	22	27	0.05	0.00	96.72	425.56	522.27	1.18
	2.643	2.979	0.336	3,420	2	Rural	252	597.51	0	3	7	10	0.02	0.00	178.81	417.23	596.05	1.00
	2.979	4.897	1.918	3,420	2	Rural	252	389.36	0	17	19	36	0.10	0.00	177.51	198.39	375.90	0.97
	11.887	15.253	3.366	1,990	2	Rural	252	387.88	0	9	31	40	0.10	0.00	92.03	316.99	409.02	1.05
KY 70	0.000	1.245	1.245	315	2	Rural	252	879.74	0	7	38	45	0.01	0.00	1222.55	6636.68	7859.23	8.93
	1.245	3.362	2.117	646	2	Rural	252	566.44	0	2	9	11	0.02	0.00	100.17	450.75	550.92	0.97
	17.719	18.060	0.341	5,690	2	Urban	333	629.94	0	14	27	41	0.03	0.00	494.21	953.11	1447.32	2.30
	18.420	18.653	0.233	12,200	2	Urban	333	575.79	0	5	21	26	0.04	0.00	120.48	506.00	626.48	1.09
	18.653	19.315	0.662	7,240	2	Urban	333	517.85	1	33	136	170	0.07	14.29	471.59	1943.52	2429.40	4.69
	19.315	19.392	0.077	29,400	2	Urban	333	606.69	0	5	27	32	0.03	0.00	151.28	816.91	968.19	1.60
	19.392	19.868	0.476	29,400	4	Urban	330	435.97	0	26	111	137	0.20	0.00	127.25	543.27	670.52	1.54
	19.868	20.167	0.299	11,000	4	Urban	330	553.96	0	18	38	56	0.05	0.00	374.85	791.35	1166.20	2.11

Table III-3: Madisonville/Hopkins County High Accident Locations, 1996-1999 (continued)

Route	Begin MP	End MP	Length (Miles)	2000 AADT	Number Lanes	Rural/ Urban	Avg Acc Rate	Critical Acc Rate	ACCIDENTS				HMVM	Rates per HMVM or MV				Critical Rate Factor
									Fatal	Injury	PDO	Total		Fatal	Injury	PDO	Total	
KY 109	1.960	2.069	0.109	6,470	2	Rural	252	703.56	0	0	8	8	0.01	0.00	0.00	776.97	776.97	1.10
KY 254	0.974	1.105	0.131	1,890	2	Rural	252	1070.47	0	2	8	10	0.00	0.00	553.28	2213.12	2766.39	2.58
KY 262	3.999	4.566	0.567	3,720	2	Urban	333	617.11	0	8	19	27	0.03	0.00	259.78	616.99	876.77	1.42
	4.566	4.753	0.187	5,640	2	Urban	333	744.29	0	3	27	30	0.02	0.00	194.83	1753.44	1948.26	2.62
KY 281	0.000	0.300	0.300	19,000	2	Urban	333	501.96	0	8	31	39	0.08	0.00	96.13	372.51	468.64	0.93
	0.432	0.712	0.280	21,400	2	Urban	333	497.65	0	17	74	91	0.09	0.00	194.32	845.88	1040.20	2.09
	0.712	0.980	0.268	5,010	2	Urban	333	694.25	0	6	13	19	0.02	0.00	306.07	663.16	969.23	1.40
	0.980	1.465	0.485	3,900	2	Urban	333	633.98	0	10	9	19	0.03	0.00	362.11	325.90	688.01	1.09
	2.640	2.940	0.300	600	2	Rural	252	1239.95	0	0	5	5	0.00	0.00	0.00	1902.59	1902.59	1.53
KY 291	3.779	6.302	2.523	366	2	Rural	252	641.27	0	2	6	8	0.01	0.00	148.35	445.04	593.39	0.93
KY 1069	0.739	1.118	0.379	2,420	2	Rural	252	642.72	0	1	14	15	0.01	0.00	74.68	1045.49	1120.17	1.74
	1.118	2.365	1.247	2,120	2	Rural	252	473.10	0	3	14	17	0.04	0.00	77.73	362.72	440.45	0.93
KY 1178	1.410	2.134	0.724	7,400	2	Urban	333	507.47	0	13	57	70	0.08	0.00	166.20	728.70	894.90	1.76
KY 1581	0.000	0.330	0.330	2,800	2	Urban	333	774.78	0	2	11	13	0.01	0.00	148.25	815.39	963.65	1.24
KY 1687	0.000	1.480	1.480	349	2	Rural	252	789.20	0	2	4	6	0.01	0.00	265.21	530.42	795.63	1.01





LEGEND

- Fatal Accidents
- Injury Accidents
- Property Damage Only
- Potential High Accident Segments (Critical Rate 0.9-0.99)
- High Accident Segments (Critical Rate >= 1.0)

EDUCATION PAYS

KENTUCKY TRANSPORTATION CABINET

Wilbur Smith Associates

FIGURE III-4

HIGH ACCIDENT SEGMENTS

MADISONVILLE URBAN AREA TRANSPORTATION STUDY

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Railroad

Two significant railroad carriers operate within Hopkins County and Madisonville. CSX Transportation is a Class I carrier operating a north-south main line through downtown Madisonville and just east of Madisonville. They also operate two east west branch lines in northern Madisonville. Paducah and Louisville is a Class II regional carrier operating an east west main line in southern Madisonville. The two railroads interchange in northeast Madisonville. Both railroads serve several local carriers as well as the regional cities of Louisville, KY; Paducah, KY; Evansville, IN; and Nashville, TN. **Figure III-5** shows the major rail infrastructure within Hopkins County.

A segment of the CSXT rail line through downtown Madisonville

The north-south main line that cuts through downtown Madisonville poses several safety issues for both motorists and pedestrians who are forced to cross the tracks. These lines also have been known to cause delay for motorists wishing to get to the other side of the tracks, thus creating undesirable driving conditions, especially during peak conditions. As previously mentioned, it has been proposed that a section of the track be relocated outside 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 along North Main Street, downtown Madisonville, East Center Street and the industrial park area.

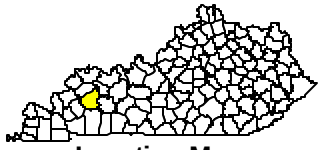
2. Increased congestion on local roads such as Park Avenue and Seminary Street due to an avoidance of congested arterials.

3. Delay caused by railroad lines in downtown Madisonville.

4. Few north south options when traveling through downtown Madisonville.

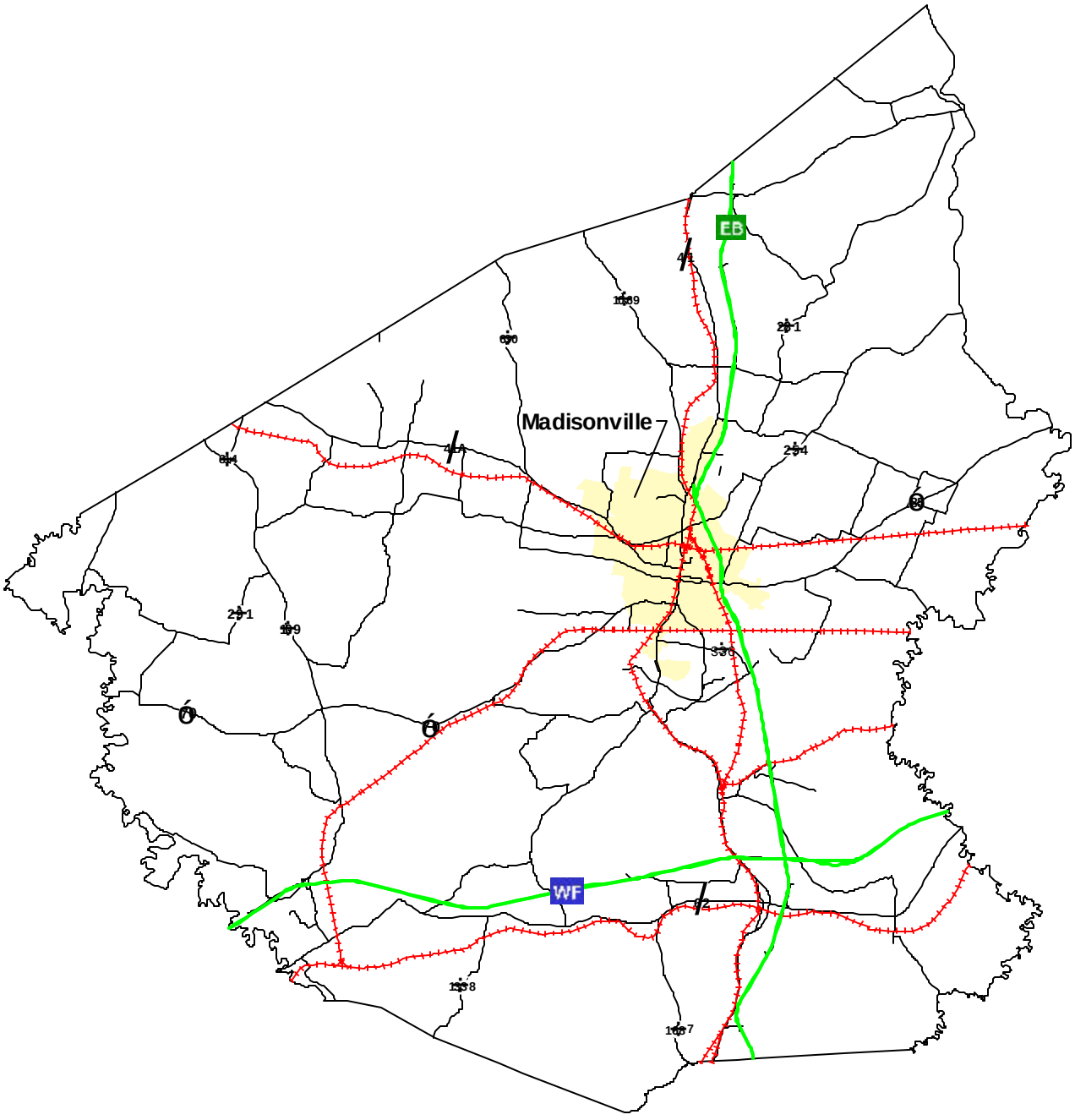
5. Impediments to north-south traffic flow on Scott Street and Kentucky Avenue due to the preferences established for the stop sign traffic controls.

6. Impediments to the use of Kentucky Avenue as an alternative to Main Street created by the one-lane railroad tunnels.



Location Map

5



LEGEND

- Parkways
- State Roads
- Major Railroad Lines
- Madisonville City Limits

4 0 4 8 Miles

EDUCATION PAYS

Wilbur Smith Associates

Source: Kentucky Transportation Cabinet

FIGURE III-5

MAJOR RAILROAD LINES IN HOPKINS COUNTY

MADISONVILLE URBAN AREA TRANSPORTATION AREA

PRINTED: 08/23/02

IV. TRANSPORTATION PLAN DEVELOPMENT

The development of the Transportation Plan for the Madisonville 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 Madisonville/Hopkins County traffic model developed as part of this project assumed an important role in this process, providing for the analysis of future conditions and alternative traffic improvements.

Future Socioeconomic Conditions

The development of future year 2025 socioeconomic data utilized several data sources and methods. Future year population forecasts for Hopkins County were obtained from sources including the State Data Center, the Hopkins County Comprehensive Plan, and the US Census. These sources suggest a slow growth for the area. However, this data does not take into consideration current developments within the area, which can be used to create a more informed population forecast.

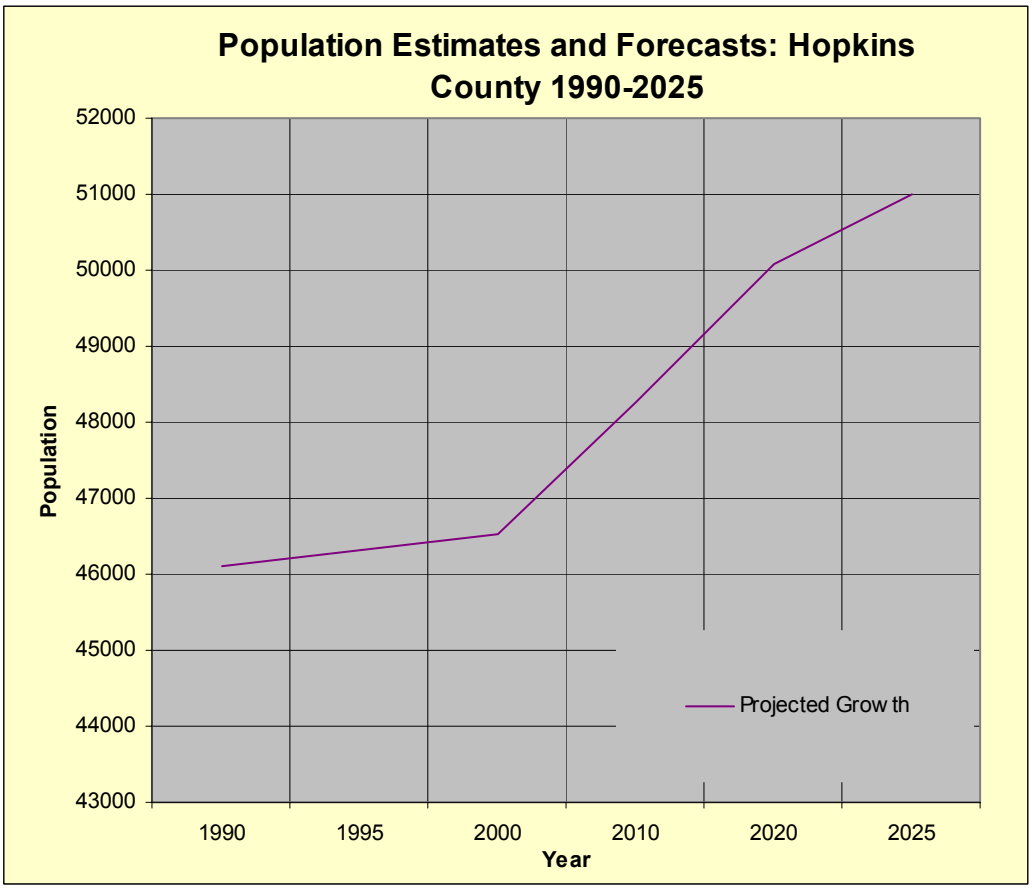
Recently, Hopkins County has secured a range of new jobs, and as such, these will help to indirectly increase the county's population. The county has, or is soon to receive 1,600 new basic jobs. A basic job is one that supports the local economy by exporting goods to other communities. In a sense, a basic job brings new money into an economy. New basic jobs in turn create new non-basic jobs. A non-basic job is primarily a support job, that re-circulates income inside of a community. Such jobs would include things like convenience store workers, restaurant jobs, and school jobs. Basic jobs tend to attract new people to an area, and as such, the non-basic job industry must expand to support those people. Given the 1600 new basic jobs, basic job growth factors, and an increase in supporting non-basic jobs, it is believed that the total employees will increase to 25,500 by the year 2025.

With new jobs comes new population. While it is true that current residents will fill some new jobs, some of these jobs will attract additional population to the area. Working with County officials and local forecasting experts, job to population ratios and trends were used to forecast a future population of 51,000. **Figure IV-1** displays historic and projected population growth for Hopkins County. Much of the new growth is related to on-going area business developments that have already contributed added population. These include Period Furniture, Tango Motor Transit, Autoliv and others. In addition, the development of Interstate 69 along the Edward T. Breathitt Parkway and Interstate 66 along the Wendell Ford Parkway will have likely long-term economic development and population growth potential for the county.

This population growth was distributed throughout the study area TAZs based upon a review of local planning data, input from local planning experts, and future land use maps provided by the Hopkins County Joint Planning Commission. Future year dwelling units were estimated and placed in a likewise manner.

Future employment growth was allocated to zones in the areas of business expansions, new industries, and commercially developing properties. These locations were identified and approximated by local officials and experts, as well as through field visits. The resulting socioeconomic data estimates for 2025 conditions are provided in **Table IV-1**, with the resulting changes in population and employment socioeconomic data between 2000 and 2025 illustrated in **Figures IV-2** and **IV-3**.

Figure IV-1. Historic and Projected Population Growth for Hopkins County



Hopkins County Population Estimates and Forecasts		
Year	***US Census***	***Projected Growth***
1990	46095	
1995	46307	
2000	46519	46519
2010		48262
2020		50071
2025		51000
Ave. Annual Growth	0.092%	0.369%*

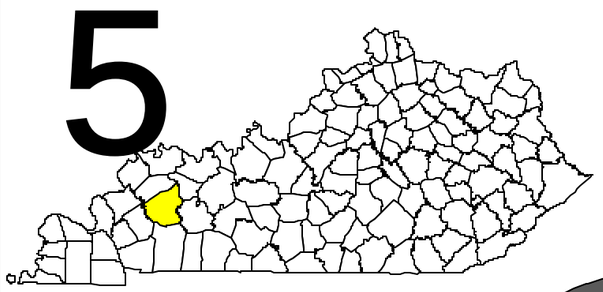
* Rate applied from 2000 - 2025, based on current County events.

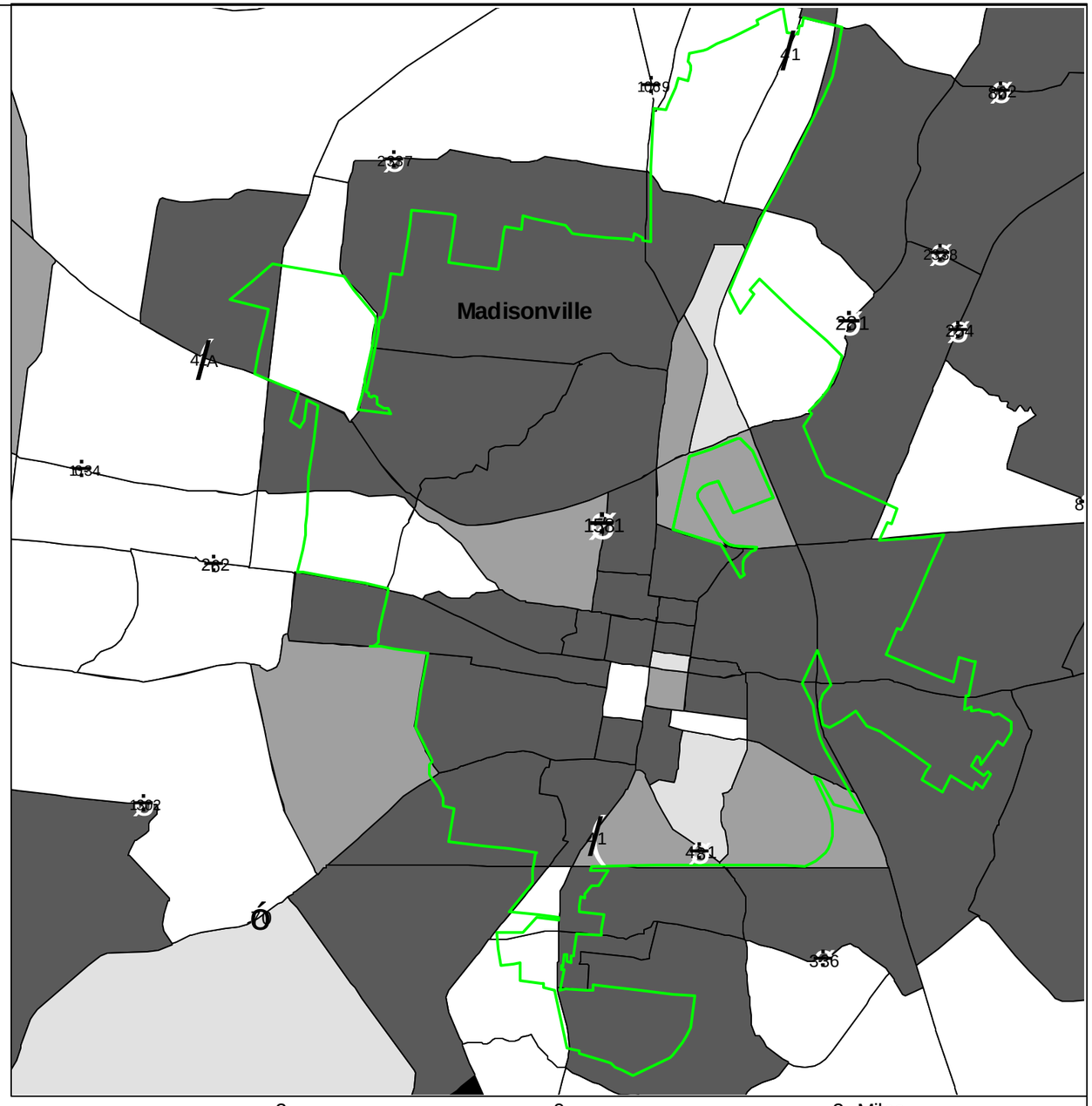
Table IV-1. Year 2025 Socioeconomic Data

Taz ID	Population 2025	Households 2025	Total Employment 2025	Taz ID	Population 2025	Households 2025	Total Employment 2025
1	112	64	752	76	53	21	0
2	202	116	185	77	244	83	1
3	166	95	231	78	514	176	26
4	558	221	179	79	199	77	0
5	466	185	908	80	103	40	0
6	487	183	1920	81	1233	624	11
7	337	127	1472	82	218	72	27
8	231	95	86	83	378	125	2
9	544	208	366	84	492	156	6
10	315	120	0	85	787	249	32
11	328	135	97	86	144	50	180
12	611	249	650	87	801	266	64
13	242	81	1718	88	301	103	23
14	651	257	459	89	856	385	27
15	389	169	0	90	612	220	141
16	681	278	53	91	561	203	37
17	1041	377	388	92	183	66	84
18	88	44	28	93	75	27	8
19	1553	573	807	94	724	284	200
20	538	242	333	95	404	164	13
21	413	186	118	96	450	181	6
22	881	361	1106	97	146	48	0
23	50	19	959	98	386	127	8
24	112	48	132	99	328	107	0
25	51	22	0	100	117	45	0
26	168	72	22	101	190	73	0
27	379	139	6	102	515	220	0
28	349	128	1739	103	417	179	3
29	76	27	667	104	644	271	65
30	168	59	287	105	316	115	3
31	295	108	105	106	716	291	24
32	426	157	84	107	869	328	308
33	609	203	601	108	617	269	322
34	157	55	254	109	809	357	47
35	119	42	294	110	212	85	123
36	423	149	107	111	819	287	332
37	1211	425	327	112	172	78	92
38	462	162	1829	113	66	27	0
39	60	24	0	114	117	40	11
40	281	143	255	115	567	198	347
41	167	84	9	116	83	33	0
42	62	20	108	117	432	146	5
43	775	311	0	118	128	42	0
44	217	81	0	119	127	42	0
45	811	315	67	120	168	65	0
46	361	140	122	121	73	28	0
47	91	39	0	122	162	63	0
48	20	7	4	123	97	39	36
49	111	46	0	124	53	21	50
50	27	11	19	125	158	52	0

51	32	13	22		126	476	180	30
52	67	29	0		127	567	196	0
53	27	10	36		128	125	42	0
54	84	28	13		129	975	394	239
55	590	253	5		130	519	177	71
56	854	359	0		131	866	324	118
57	264	113	164		132	34	14	119
58	449	166	0		133	183	64	0
59	86	32	130		134	83	35	6
60	104	39	57		135	344	127	66
61	335	144	0		136	160	64	72
62	28	11	0		137	88	34	0
63	55	19	8		138	81	31	9
64	146	50	0		139	818	357	1019
65	205	71	22		140	44	18	0
66	86	30	0		141	53	21	0
67	96	39	26		142	264	90	9
68	45	18	20		143	295	115	2
69	102	41	0		144	156	57	597
70	265	106	2		145	191	71	0
71	134	53	0		146	361	155	0
72	67	27	1		147	307	108	0
73	401	137	77		148	115	39	0
74	895	307	19		149	36	12	0
75	302	103	24		150	432	151	0
					TOTALS	**51000**	**19724**	**25500**

5





LEGEND
(% Population Increase)

- Madisonville City Limits
- 0-5
- 5-10
- 10-15
- 15-25
- > 25

EDUCATION PAYS

KENTUCKY TRANSPORTATION CABINET

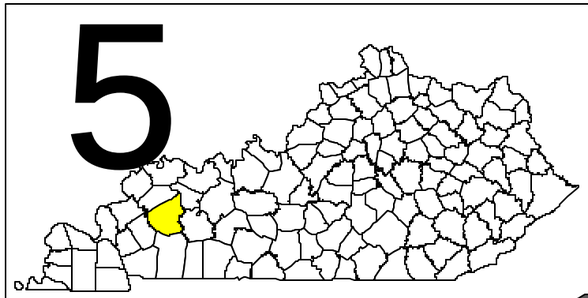
ENGINEERS PLANNERS ECONOMISTS
Wilbur Smith Associates

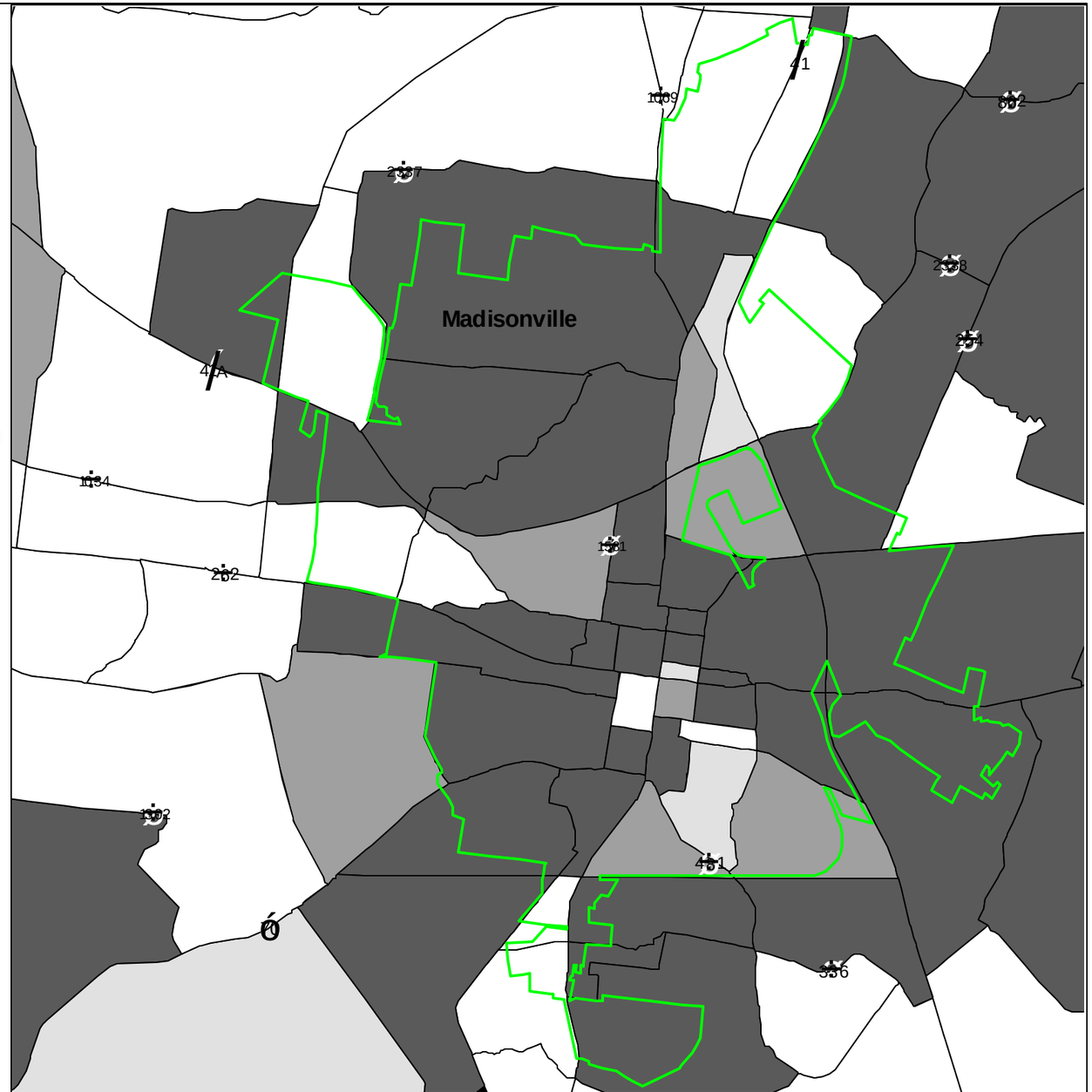
FIGURE IV-2

PROJECTED POPULATION GROWTH (2000-2025)

MADISONVILLE URBAN AREA TRANSPORTATION STUDY

PRINTED: 08/23/02





LEGEND
(% Employment Increase)

- Madisonville City Limits
- 0-5
- 5-10
- 10-15
- 15-25
- > 25

6 0 6 12 Miles

2 0 2 Miles

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FIGURE IV-3

PROJECTED EMPLOYMENT GROWTH (2000-2025)

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As previously discussed, existing year 2000 socioeconomic data was utilized in the development and calibration of the Madisonville/Hopkins County Traffic Model. With this data, the model was used to predict future year travel demand in the Madisonville area by replacing the existing year 2000 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 both population and employment data. It is expected that population growth will average near 10 percent between 2000 and 2025. Employment is expected to increase by 29.7% between 2000 and 2025.

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.[2]

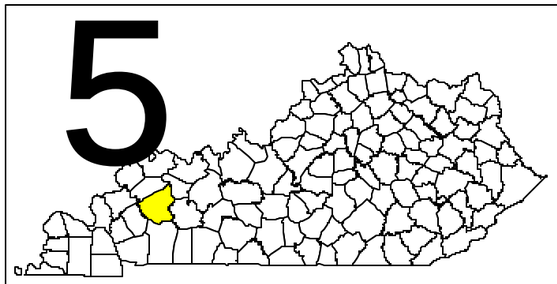
In developing future year estimates of traffic growth, consideration is given to the combined impacts of population increases, employment increases, and the continuing trend in greater amounts of personal auto travel. For this study, these three variables were combined together in order to derive an anticipated increase in vehicle travel of 44 percent between 2000 and 2025.

Short-Range Highway Improvements

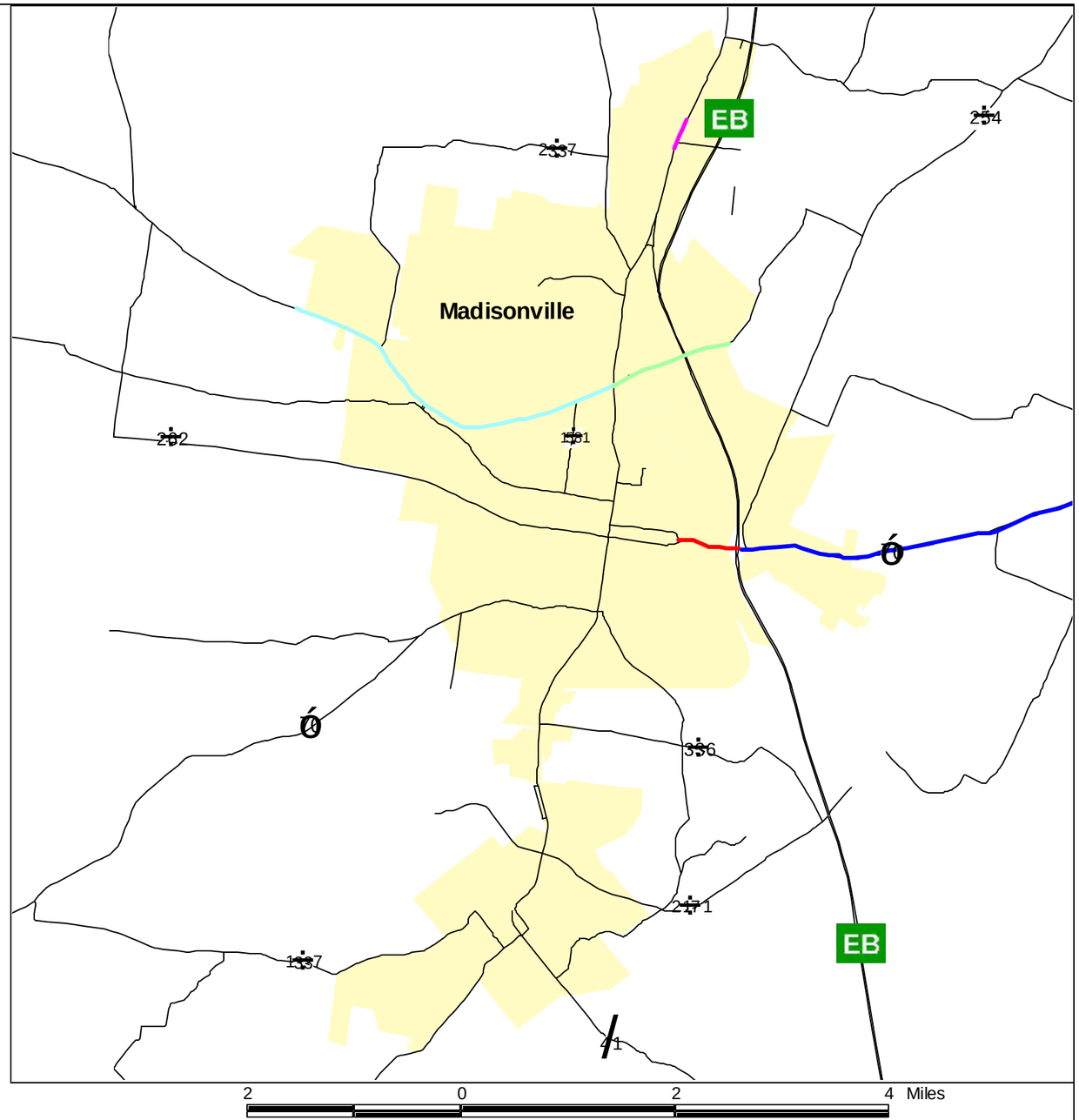
The KYTC's Six Year Highway Plan[3] identifies short-range highway projects that generally have highway funding committed toward their implementation. Because many short-range highway improvements have "committed" funding and are often under development or implementation, most of these improvements are 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 the Existing plus Committed (E+C) highway network for the study area. A summary of E+C improvements for Hopkins County is provided in **Table IV-2**, with those projects within the Madisonville Study Area identified on **Figure IV-4**.

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

[3] *Approved 2000-2002 Biennial Highway Construction Program and Identified Preconstruction Program Plan for FY 2003 through FY 2006*, Kentucky Transportation Cabinet, June 2000.



Hopkins County



LEGEND

- US 41A Major Widening
- US 41 Hazard Elimination
- KY 281 Major Widening
- KY 70 Island Removal & Restriping
- KY 70 Major Widening

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Sources:
1) Kentucky Transportation Cabinet Approved 2000-2002 Biennial Highway Construction Program and Identified Preconstruction Program Plan for Fiscal year 2003 Through Fiscal Year 2006.
2) Kentucky Transpportation Cabinet Statewide Transportation Plan (Fiscal Year 1999-2018)

FIGURE IV-4

EXISTING + COMMITTED IMPROVEMENTS

MADISONVILLE URBAN AREA TRANSPORTATION STUDY

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Table IV-2: Existing + Committed Projects

Number	Improvement Type	Road	Description	Length (miles)	Cost
Committed Projects					
1	Major Widening	KY 70	Madisonville-Central City;From Breathitt Pkwy to KY 85 (East of the Breathitt Pkwy) Milepoints: From: 19.868 To: 23.247	3.4	$20.0 Million
2	Major Widening	US 41A	Widen US-41A to 5 lanes From US-41 West to Kingdom Hall Road in Madisonville. Milepoints From: 0 To: 3.426	3.4	$14.0 Million
3	Major Widening	KY 281	Widen KY 281 to 5 lanes From US 41A to east of the Edward T. Breathitt Parkway	1.1	$5.0 Million
4	Safety-Hazard Elimination	US 41	Widen US 41 (From Just N of North Hopkins High School Entrance to Holiday Place) To 3 Lanes to Allow Construction of TWLTL. Milepoints: From: 19.9 To: 20.2	0.3	$0.75 Million
5	Bridge Replacement	KY 254	Replace Bridge & Approaches at N Fork of Elk Creek Between JCTS with KY 862 (B25) Milepoints: From 5.206 To: 5.306	0.1	$0.73 Million
6	Safety-Hazard Elimination	KY 70	Reconstruct Intersection at KY 109	0.1	$0.2 Million
7	Safety-Hazard Elimination	KY 70	Remove Island and Restripe for 5 Lanes from Park Avenue to Breathitt Pkwy	0.4	$0.05 Million

Projected Year 2025 Traffic and LOS

As part of this urban transportation study, the travel demand model developed for Madisonville 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 March of 2002. 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 2025 by using the 2000 base year traffic model developed by the process described above. In developing the future year 2025 roadway network, it was assumed that no additional roadway improvements beyond those presently committed would be made through the Year 2025. Therefore, using this network as the E+C network, future traffic forecasts were made and system deficiencies and needs were identified. Year 2025 traffic and LOS conditions for the E+C network are presented in **Figure IV-5**.

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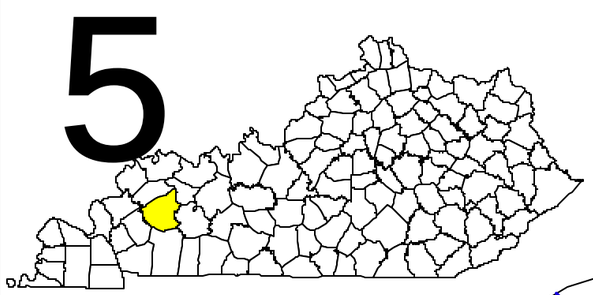

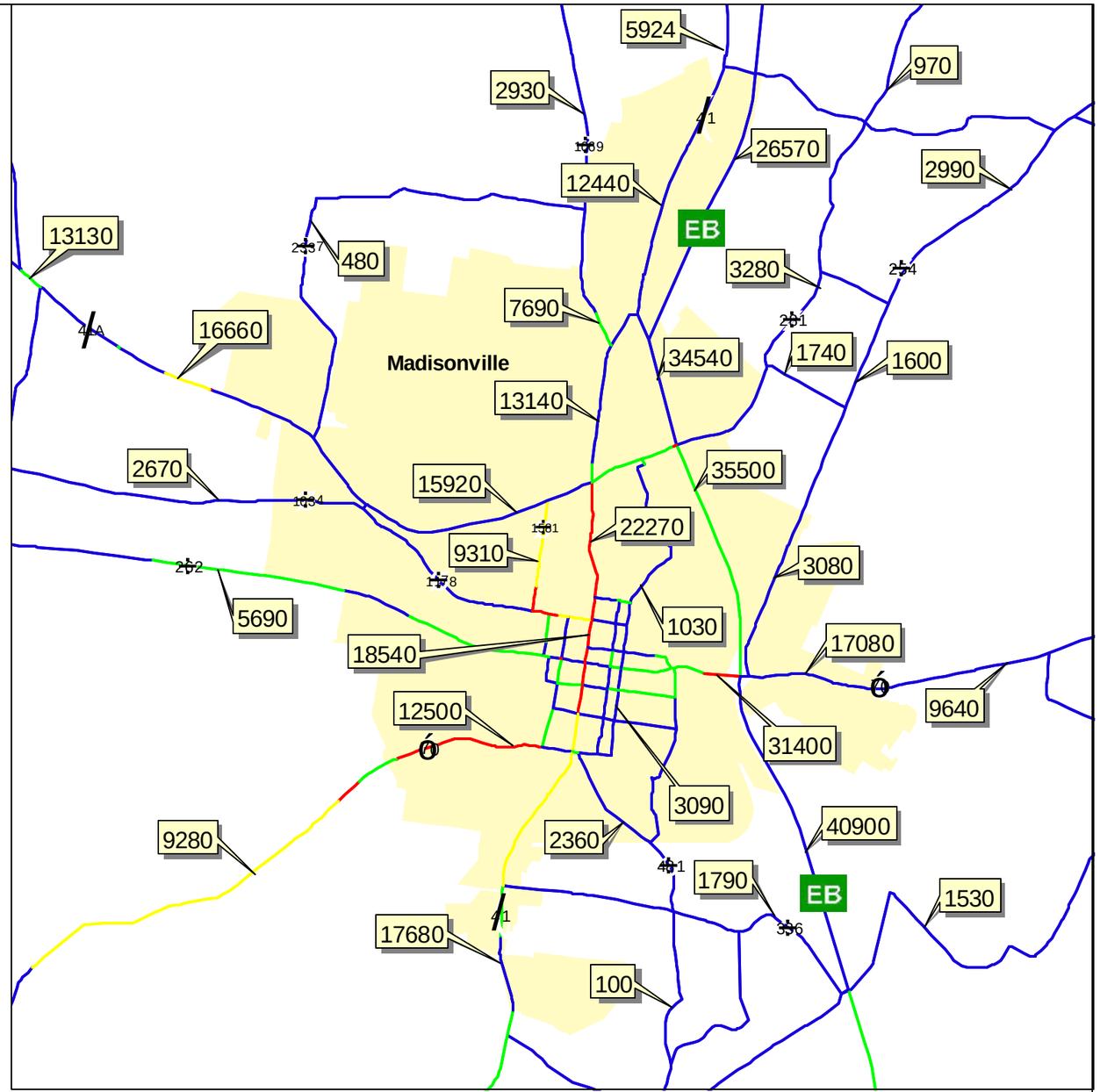

Hopkins County

5 0 5 10 Miles

2 0 2 Miles

LEGEND
(Level of Service)

7400	Average Daily Traffic (ADT)
	LOS - C or Better
	LOS - D
	LOS - E
	LOS - F

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FIGURE IV-5

YEAR 2025 EXISTING AND COMMITTED TRAFFIC AND LEVEL OF SERVICE (E+C)

MADISONVILLE URBAN AREA TRANSPORTATION STUDY

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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. These included the Statewide Transportation Plan, 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 or as safety-oriented spot improvements in the KYTC Hazard Elimination Program Listing.

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 TAC. A summary listing of the potential highway improvements identified for the Madisonville UATS is provided in **Table IV-3** 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.

Table IV-3. Proposed Highway Improvements

Number	Improvement Type	Road	Description	Length (miles)	Cost
Previously Identified Highway Improvement Needs					
1	Major Widening	KY 85	Major Widening from intersection of KY 85 / KY 70 to the Madisonville Airport Entrance	1.7	$4.3 Million
2	Reconstruction/ Widening	KY 336	Reconstruction / Widening from Breathitt Pkwy SB ramp to KY 481	1.4	$5.0 Million
3	Major Widening	US 41	Major Widening from Breathitt Pkwy Connector to Northhaven Dr in Madisonville	0.8	$1.0 Million
4	New Interchange	WF 9001	New Ford Parkway Interchange at US 41	0.1	$6.0 Million
5	Major Widening	US 41A	Major Widening from Kingdom Hall Road to KY 502	5.4	$22.0 Million
6	Major Widening	US 41A	Major Widening from KY 502 to Webster County Line	4.3	$18.0 Million
7	New Route	New Route	New Western Loop for Madisonville from S Main St (US 41) to Nebo Rd (US 41A)	4.1	$16.8 Million
8	Major Widening	KY 70	Major Widening from KY 85 to Muhlenburg County Line	3.2	$10.0 Million
9	Reconstruction/ Widening	KY 109	Reconstruction\ Widening from Ford Parkway to KY 70	5.5	$17.1 Million
10	Reconstruction/ Widening	KY 109	Reconstruction / Widening from KY 70 to KY 814	7.9	$24.6 Million
11	Interchange Reconstruction	WF 9001	Reconstruct Ford Parkway Interchange at KY 109	0.1	$4.0 Million
12	Reconstruction	KY 630	Reconstruct from US 41A to Webster County Line	6.5	$18.2 Million
13	Reconstruction/ Widening	KY 814	Reconstruction / Widening from KY 109 to US 41A at Providence	1.9	$5.6 Million
14	Reconstruction	US 41	Reconstruction of Main Street (US 41) between Lake Street and Nebo Road (US 41A)	1.8	$3.0 Million
15	Bridge Widening	US 41	Widen CSX Railroad Bridge - B001 (M.P. 18.6)	0.1	$3.0 Million
16	Interchange Reconstruction	WF 9001	Reconstruct Ford Parkway Interchange at the Breathitt Parkway	0.1	$5.0 Million

Note: Projects presented in Table IV-3 are not prioritized.

Table IV-3. Proposed Highway Improvements (cont.)

Number	Improvement Type	Road	Description	Length (miles)	Cost
New Highway Improvement Ideas					
1	Reconstruction	CSXT Railroad	Remove Earlington Main Line and Double Track Earlington Cut-Off Main Line from Arklow to Morton	10.1	$22.0 Million
2	New Route	New Route	Conversion of Abandoned Earlington Main Railline to a Greenway / Recreational Trail or Roadway	2.0	$0.4 Million - $7.5 Million
3	New Route	New Route	Extend KY 85 to KY 281 east of the Breathitt Parkway	3.8	$11.4 Million
4	New Route	New Route	New Western Loop for Madisonville from Nebo Road (US 41A) to N Main St (US 41)	5.8	$20.6 Million
5	New Route	New Route	New Route between Center Street and Island Ford Road (KY 281)	1.8	$10.0 Million
6	Reconstruction	EB 9004	Reconstruct KY 813 / Breathitt Parkway Interchange to a Diamond Configuration	0.1	$5.0 Million
7	Reconstruction	Kentucky Avenue	Upgrade Kentucky Avenue between E. Center Street and KY 281	1.0	$11.0 Million
8	Reconstruction	EB 9004	Reconstruct Breathitt Parkway Northbound On-Ramp at KY 70	0.1	$1.4 Million
9	Reconstruction	KY 70	Reconstruct KY 70 between Main Street and Poole Road	2.2	$14.8 Million

Note: Projects presented in Table IV-3 are not prioritized.

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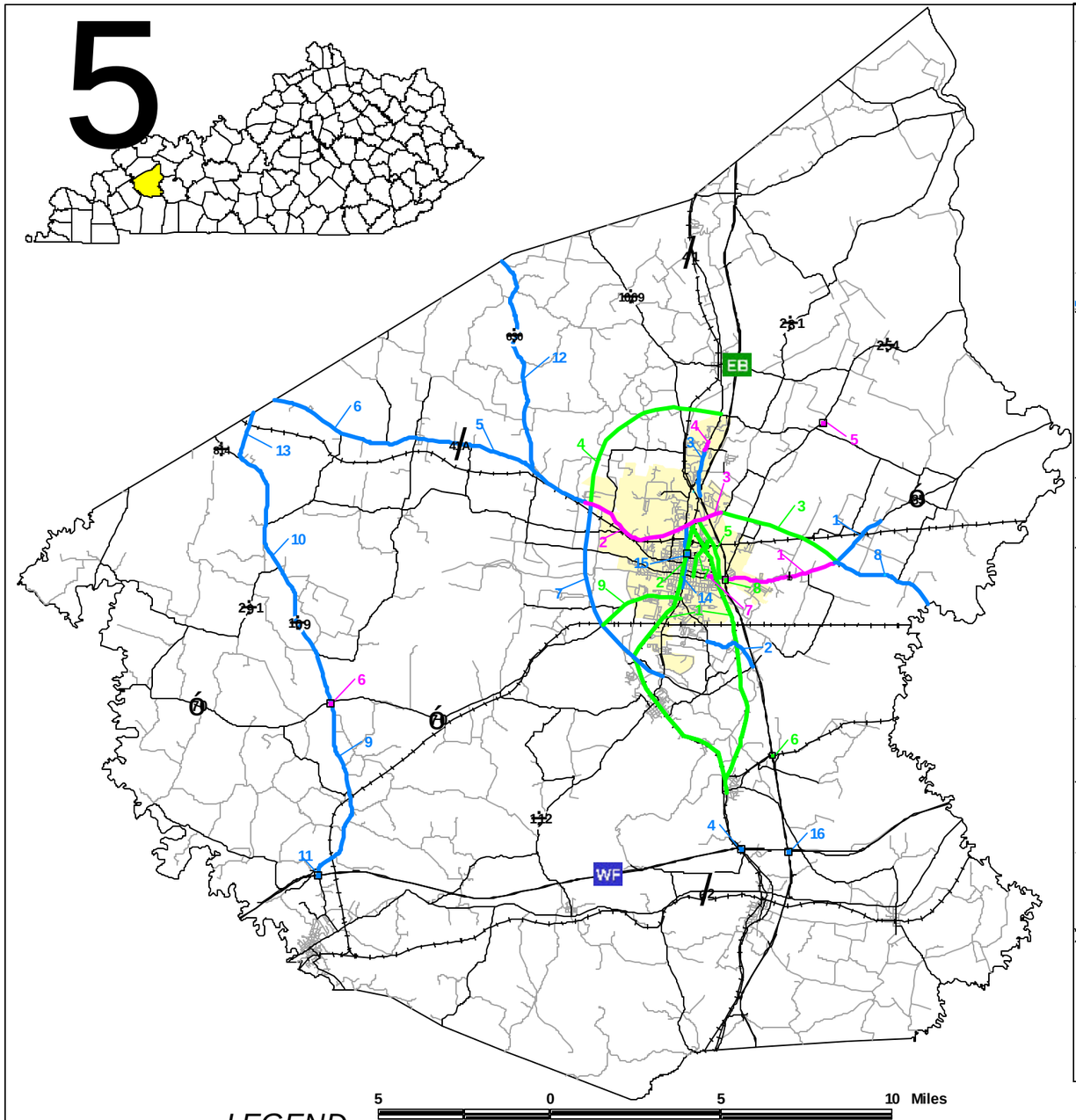

LEGEND

Previously Identified Highway Improvement Needs
- Highway Improvements
- Spot Improvements

Committed Projects
- Highway Improvements
- Spot Improvements

New Highway Improvement Ideas
- Highway Improvements
- Spot Improvements
- Rail Lines
- Highways & Parkways
- Local Roads

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FIGURE IV-6

PROPOSED HIGHWAY IMPROVEMENTS

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V. PROJECT COMPARISONS

In order to develop a recommended transportation plan for the Madisonville/Hopkins County study area, the projects previously listed in Table IV-3 had to be compared to one another in order to determine the benefits of each project. Several methods were used to determine which projects would provide the most benefit. These include the evaluation of the Madisonville Traffic Model, project evaluation matrix, existing and future traffic conditions, and input from the project advisory committee and public.

Traffic Conditions

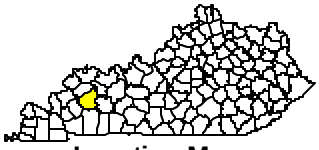
As previously discussed, existing and future year traffic conditions were analyzed. This information was an important component in the development of the Madisonville Recommended Plan. In particular, unacceptable levels of service were noted along KY 70 west of Main Street for the future condition. This potential project had not been identified in previous efforts. As a result, this project was added to the identified projects and evaluated accordingly. The year 2025 existing and committed LOS analysis also noted unacceptable levels on Main Street, Pride Avenue, Center Street and Noel Street. In addition, these streets were found to have potential and/or high accident segments. Other routes with high accident segments included Stagecoach Road (KY 1069) and both parkways. Although specific projects were not identified for each route, other identified projects are anticipated to reduce traffic on several of these routes, which should help to reduce congestion and accidents along these routes.

Madisonville Traffic Model

Since several major projects exist in the proposed highway improvement list, it was decided that the traffic model would be used as a tool to compare similar projects and new construction projects. For instance, two of the most significant issues within the study area involve a connector road west of Madisonville and the removal of an existing CSXT rail line in order to construct a new north-south route in downtown Madisonville. While both projects would help to alleviate projected traffic congestion in downtown Madisonville, each alternative is expected to have variable impacts on traffic and land use development patterns within the study area. Since the cost of each of these projects is significant, it was determined that the probability of high priority funding for both projects was low. As a result, the traffic model results were important in comparing the rail relocation project against four western connector alternatives.

A total of eight alternatives were coded into the traffic model for analysis. These alternatives, seen in **Figure V-1**, were selected from the proposed highway improvement list. Each of the eight alternatives is described below with a brief description of location as well as the general intent of the alternative.

Alternative 1: Madisonville Southwest Connector – This alternative consists of the construction of a southwestern connector between US 41 south of Madisonville and US 41A (Nebo Road) west of Madisonville. This two-lane, two-way roadway would provide an alternate path for drivers traveling on the western side of Madisonville. This route would also provide additional opportunities for economic development in the area.



Location Map

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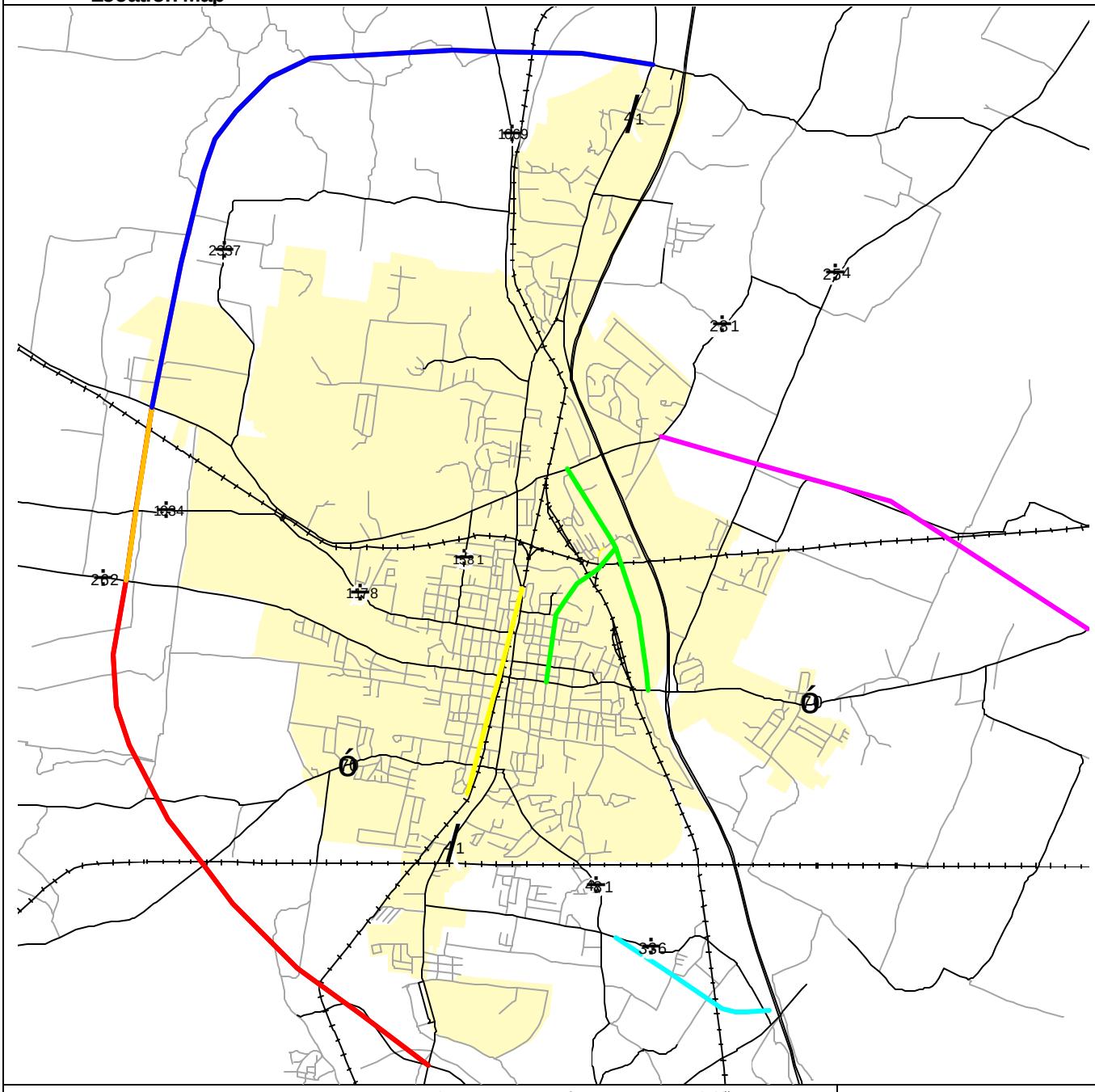

LEGEND

Alternatives 1
Alternatives 2
Alternatives 3
Alternative 4
Alternative 5
Alternative 6
Alternative 7
Alternative 8

FIGURE V-1

ALTERNATIVES IN TRAFFIC MODEL

MADISONVILLE URBAN AREA TRANSPORTATION AREA

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Alternative 2: Madisonville West Connector – This alternative considered the construction of a western connector between US 41 south of Madisonville and US 41 north of Madisonville. This alternative would include the Southwest Connector in Alternative 1 as well as a northwestern portion that extends back to US 41 north of Madisonville. This alternative would aim to relieve congestion along such roads as Nebo Road and Main Street while also promoting opportunities for economic development.

Alternative 3: Roadway Construction on Existing Railway – Alternative 3 would provide for the construction of a roadway on the existing CSXT rail mainline in downtown Madisonville. The estimated length of the proposed roadway is two miles. This project would serve to relieve congestion in downtown Madisonville.

Alternative 4: KY 85 Extension – This alternative consists of the construction of a new two-lane facility between the KY 70 / KY 85 intersection east of Madisonville and KY 281 (Island Ford Road). This new route would provide an alternative path for those motorists wishing to drive to northern Madisonville from the east.

Alternative 5: New Route Between Center Street and Island Ford Road and the Upgrade of Kentucky Avenue – This alternative considered the construction of a new route between Center Street and Island Ford Road. The facility would be west of the Edward T. Breathitt Parkway. This project would provide an alternative path for motorists traveling north-south as well as providing the opportunity for residential and commercial development in the area. Also included in this alternative was the upgrade of Kentucky Avenue between East Center Street and Island Ford Road. This project consisted of connecting Kentucky Avenue to the new route mentioned above and upgrading existing Kentucky Avenue.

Alternative 6: KY 336 Re-alignment – This alternative consists of the construction of a new alignment of KY 336 south of Madisonville. It would improve the geometrics of the roadway while serving to provide improved access to the southern portion of Madisonville.

Alternative 7: Madisonville Northwest Connector (to US 41A) – This alternative would provide for the construction of a northwestern bypass between US 41A (Nebo Road) west of Madisonville and US 41 north of Madisonville. This alternative would be the supplement of the Southwest Connector (Alternative 1) in order to realize the entire West Connector (Alternative 2). The intent of this alternative would be to serve the growth currently taking place north of Madisonville.

Alternative 8: Madisonville Northwest Connector (to KY 262) – Alternative 8 is similar to Alternative 7 with the exception that the southern terminus is located at KY 262 as opposed to US 41A. This extension to KY 262 was included in this alternative to determine if additional traffic from western Madisonville would use the connector as a result of additional access.

The total vehicle-miles of travel (VMT) and vehicle-hours of travel (VHT) were calculated for each alternative. **Table V-1** displays the results. Also included in this table is the annual VMT and VHT savings for each alternative when compared to the 2025 E+C network.

As can be seen in Table V-1, Alternative 4, the KY 85 extension to KY 281, provides the greatest annual VMT savings of all of the alternatives. Following close behind Alternative 4 in relation to annual VMT savings is Alternative 2, which is the West Connector. Both of these alternatives are expected to reduce total VMT within the study area by approximately 1.3 million.

The remaining connector alternatives, Alternatives 1, 7, and 8 are also expected to reduce VMT considerably.

Table V-1. Alternative Measure of Effectiveness Comparisons

Alternative	Description	Daily		Annual VMT Savings	Annual VHT Savings
		VMT	VHT		
E+C	Existing + Committed Highway Network	2,446,114	58,573	-	-
Alternative 1	Southwest Connector	2,444,419	58,196	618,690	137,635
Alternative 2	Western Connector	2,442,466	58,150	1,331,513	154,569
Alternative 3	New Route along CSXT Mainline[1]	2,445,044	58,511	390,754	92,743
Alternative 4	KY 85 Extension to KY 281	2,442,326	58,507	1,382,631	24,331
Alternative 5	New Route Between Center Street and Island Ford Road and Upgrade of Kentucky Avenue	2,445,850	58,522	96,502	18,840
Alternative 6	KY 336 Reconstruction	2,445,460	58,423	238,925	54,963
Alternative 7	Northwest Connector (to US 41A)	2,444,295	58,530	664,077	15,855
Alternative 8	Northwest Connector (to KY 262)	2,444,225	58,498	689,704	27,482

1) Includes 70,000 annual VHT savings as a result of removing CSXT trains.

With respect to VHT, Alternatives 1 and 2 provide the greatest annual savings. Each alternative is expected to reduce total VHT for the network by 100,000 vehicle-hours of travel. Following closely in third is Alternative 3 with approximately 93,000 VHT savings. It should be noted that Alternative 3 includes estimated annual VHT savings of 70,000 due to the removal of the CSXT trains. This estimate is a hand calculation taking into account the average number of trains, train speed, train length and estimated auto average daily traffic at each of the 14 crossings along the route.

Evaluation Matrix

Another method used to compare projects to be placed in the Madisonville Long-Range Transportation Plan was the use of a matrix evaluation process. Each proposed highway improvement was considered relative to how well they served to address the adopted study objectives. 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 V-2** and provides a generalized means of comparing the relative advantages and disadvantages provided by the proposed highway improvements.

Based on the Evaluation Matrix, the top three projects were the new Southwest Connector, Northwest Connector and CSXT rail relocation. These projects best meet the goals and objectives for the study, scoring average or above average on almost all categories. New construction projects such as the KY 85 extension and new route between Center Street and Island Ford Road along with the major widening of Main Street between Hospital Drive and Nebo Road also favored well. In particular, they showed strength in achieving Goal 1 and Goal 4, “safety” and “develop an efficient transportation system”, respectively.

Table V-2. Alternative Evaluation Matrix

Proposed Highway Improvements	GOAL 1: Safety			GOAL 2: Community Development & Economic Opportunity			GOAL 3: Balance Environmental & Development Concerns			GOAL 4: Develop an Efficient Transportation System				GOAL 5: Enhance Multimodal/Intermodal System			TOTALS
	1.1 Address Accident Locations	1.2 Improve Design Standards	1.3 Improve Emergency Services	2.1 Serve Areas of Growth and New Development	2.2 Serve Central Business District	2.3 Boost Areas of Economic Decline	3.1 Minimize Impacts to Sensitive Environmental Locations	3.2 Minimize Air & Noise Pollution	2.3 Minimize Community Disruption	4.1 Reduce Congestion	4.2 Improve Travel Times	4.3 Serve Existing/Future Traffic Demand	4.4 Cost-Effectiveness of Transportation Improvement	5.1 Provide Pedestrian/Bicycle Facilities	5.2 Enhance Freight Movement	5.3 Improve System Connectivity	
Committed Projects																	
1. Major Widening of KY 70 from Breathitt Pkwy to KY 85																	
2. Major Widening of US 41A to 5 lanes from US 41 to Kingdom Hall Rd																	
3. Widening of US 41 to 3 lanes north of Madisonville																	
4. Bridge Replacement along KY 254 at North Fork of Elk Creek																	
5. Reconstruction of Intersection at KY 70 and KY 109																	
6. Island Removal & Restriping of KY 70 from Park Ave to Breathitt Pkwy																	
Previously Identified Highway Improvement Needs																	
1. Major Widening of KY 85 from KY 70 to Madisonville Airport	0	+	0	++	0	0	0	0	0	0	+	++	+	0	++	+	10
2. Reconstruction/Widening of KY 336 from KY 481 to Breathitt Pkwy	+	+	+	0	+	++	0	0	0	+	+	0	+	0	+	+	11
3. Major Widening of US 41 from Breathitt Pkwy to Northhaven Dr	+	+	0	0	0	0	-	0	0	+	0	+	0	0	0	0	3
4. New Interchange along Ford Pkwy at US 41	0	0	+	0	0	+	0	+	0	0	+	+	0	0	+	+	7
5. Major Widening of US 41A from Kingdom Hall Rd. to KY 502	+	+	+	+	0	0	-	0	0	++	+	++	+	0	+	0	10
6. Major Widening of US 41A from KY 502 to Webster County Line	+	+	+	+	0	0	-	0	0	+	+	+	+	0	+	0	8
7. New Western Loop for Madisonville from S Main St. to Nebo Rd.	++	++	+	++	0	+	-	+	+	++	++	++	++	+	++	++	22
8. Major Widening of KY 70 from KY 85 to Muhlenburg County Line	0	+	0	+	-	0	-	0	0	0	0	+	0	0	0	0	1
9. Reconstruction/Widening of KY 109 from Ford Pkwy to KY 70	+	+	0	+	0	0	0	0	0	+	+	0	0	0	+	0	6
10. Reconstruction/Widening of KY 109 from KY 70 to KY 814	+	+	0	+	0	0	0	0	0	0	+	0	0	0	+	0	5
11. Interchange Reconstruction along Ford Pkwy at KY 109	0	+	0	+	0	0	0	0	0	0	0	0	0	0	0	0	2
12. Reconstruction KY 630 from US 41A to Webster County Line	0	+	0	+	0	0	0	0	0	0	+	0	0	0	0	0	3
13. Reconstruction/Widening of KY 814 from KY 109 to US 41A	+	+	0	+	0	0	0	0	0	0	+	0	0	0	+	0	5
14. Reconstruction of Main St (US 41) between Hospital Dr & Nebo Rd	++	+	++	+	++	0	0	+	-	++	+	++	0	+	+	0	15
15. Widening of CSX Railroad Bridge (B001) along US 41	++	+	++	0	+	0	-	+	--	++	+	+	0	0	0	0	8
16. Interchange Reconstruction at the Breathitt Pkwy and Ford Pkwy	++	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
New Highway Improvement Ideas																	
1. Removal of Earlington Main Line & Double Track Earlington Cut-Off	++	+	++	0	++	+	+	++	+	+	+	+	+	0	++	+	19
2. Conversion of Earlington Main Line to a Greenway/Recreational Trail	0	0	0	0	++	+	+	+	0	0	0	0	+	++	0	0	8
2a. Conversion of Earlington Main Line to a Roadway	+	0	+	0	++	0	-	0	-	++	+	++	0	+	+	+	10
3. Extend KY 85 to KY 281 east of the Breathitt Pkwy	++	0	++	++	0	0	0	+	+	++	+	++	++	0	+	++	18
4. New Western Loop for Madisonville from Nebo Rd. to N Main St.	++	++	+	++	-	+	-	+	+	++	++	++	+	+	++	++	20
5. New Route Between Center St. and Island Ford Rd.	++	0	++	++	0	0	-	+	+	++	+	++	0	+	+	++	16
6. Reconstruction of Breathitt Pkwy Interchange at KY 813	+	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7. Reconstruction Kentucky Av. between E Center St. and Island Ford Rd.	+	+	++	++	++	0	-	+	-	++	+	++	0	+	+	+	15
8. Reconstruction of Breathitt Pkwy Northbound On-Ramp at KY 70	++	+	0	+	0	0	0	0	-	+	0	0	0	0	0	0	4
9. Major Widening of KY 70 from Main Street to Poole Road	++	+	0	0	+	0	0	0	0	++	+	++	+	0	+	0	11

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

Local Input

Poker chips were used as a simple, but effective means of determining the public's top three priority projects.

Using the traffic conditions, Madisonville Traffic Model, alternative evaluation matrix, and previous input, the projects listed in the proposed highway improvements project list were revised and modified to a smaller list of twelve projects. These twelve projects were then presented to the project advisory team and the public for further refinement. **Figure V-2** shows the potential recommended projects. A project sheet for each of these potential recommended projects was created and presented at the March 11, 2002 public meeting. These projects sheets are presented in **Appendix B** and referenced by number according to **Figure V-2**. At this public meeting, attendees were provided two methods for voting on their favorite projects. First, everyone was provided a questionnaire to rank each of the twelve projects. Secondly, each attendee was given three pokers chips, each a different color. Everyone was asked to vote for their top three projects using their poker chips. The poll results for both are presented in **Table V-3.**

Overall, the reconstruction of Main Street between Hospital Drive and Nebo Road was the favored project, followed closely by the upgrade of Kentucky Avenue and the new route between Center Street and Island Ford Road. The abandonment of the CSXT railroad through downtown Madisonville ranked fourth followed closely by the northwest connector and the widening of KY 85 to the Madisonville Airport.

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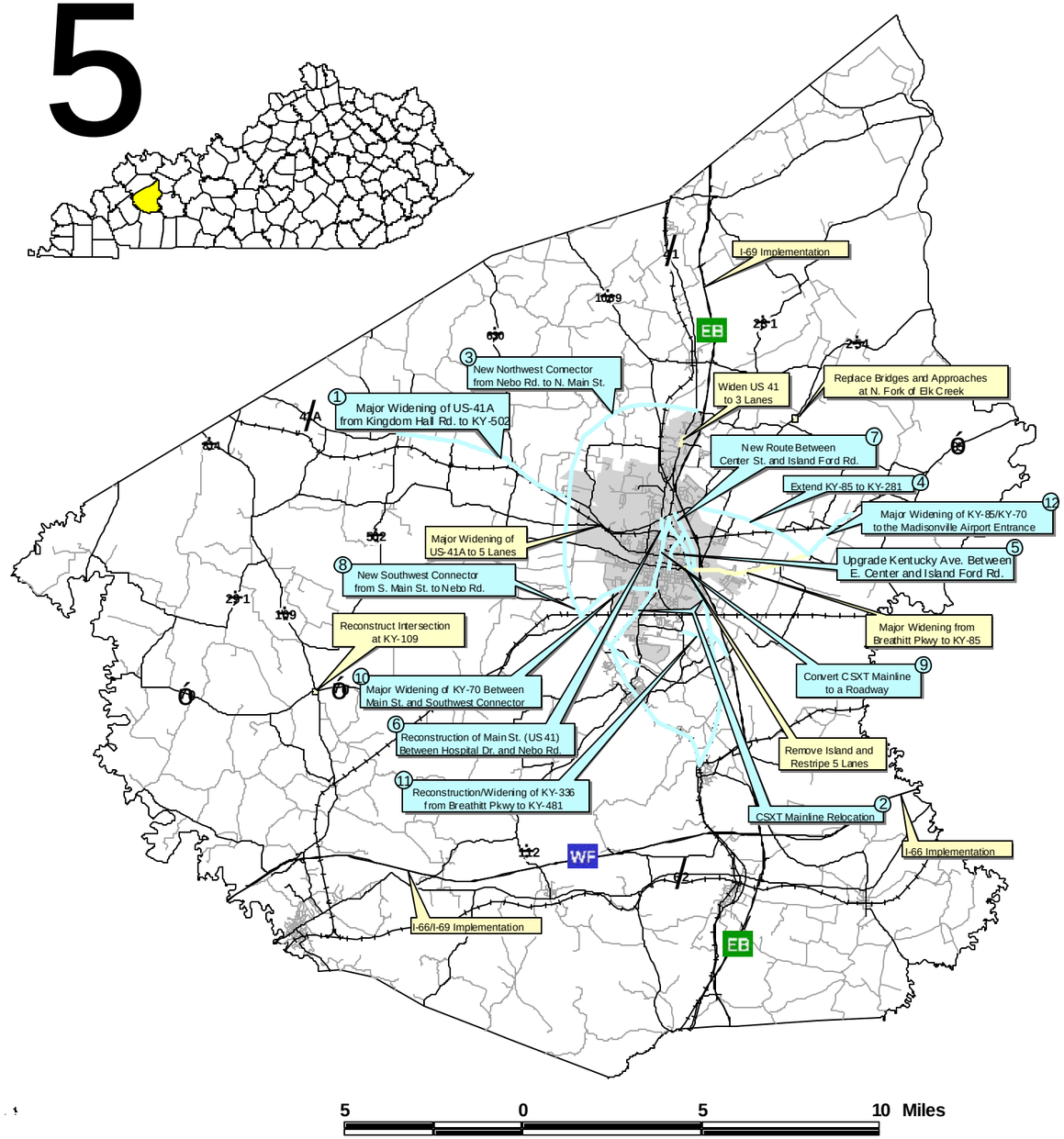

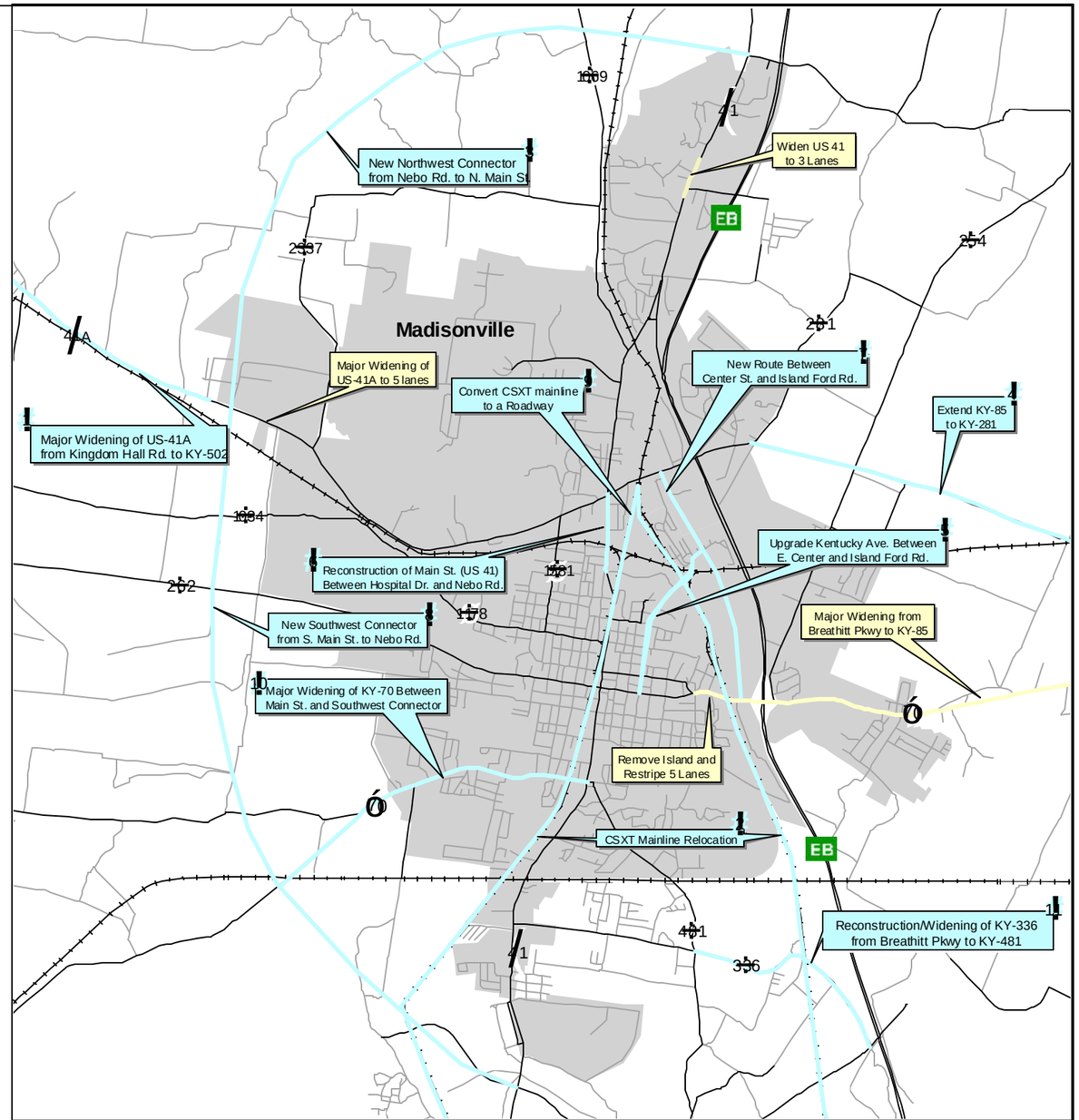

LEGEND

Potential Recommended Projects

- Highway Improvements
- Spot Improvements

Committed Projects

- Highway Improvements
- Spot Improvements

- Rail Lines
- Highways & Parkways
- Local Roads

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FIGURE V-2

POTENTIAL RECOMMENDED PROJECTS

MADISONVILLE URBAN AREA TRANSPORTATION STUDY

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Table V-3. Public Meeting Project Ranking Summary

Description	Cost $Million	Project Length	Poll Rank	Questionnaire Rank	Average	Rank
Reconstruction of Main Street (US 41) between Hospital Drive and Nebo Road (US 41A).	10.4	0.6 miles	1	1	1	1
Upgrade Kentucky Avenue between E. Center Street and Island Ford Road west of the Edward T. Breathitt Parkway.	11.0	1.0 miles	3	2	2.5	2
New Route between Center Street and Island Ford Road west of the Edward T. Breathitt Parkway and east of CSXT's Earlington Cut-off.	10.0	1.8 miles	2	5	3.5	3
Abandon 10.1 miles of the Henderson Subdivision Main Line track owned and operated by CSX Transportation through	22.0	8.9 miles	5	4	4.5	4
New Northwest Connector from Nebo Road (US 41A) to N Main Street (US 41).	20.6	5.8 miles	7	3	5	5
Major Widening of KY 85 from KY 70 to the Madisonville Airport entrance.	4.3	1.7 miles	4	6	5	5
Major Widening of US 41A from Kingdom Hall Road to KY 502.	22.0	5.4 miles	7	7	7	7
New Southwest Connector from S Main Street (US 41) to Nebo Road (US 41A).	16.8	4.1 miles	6	8	7	7
New Route along the CSXT Henderson Sub Main Line track through Madisonville. *Note this project is dependent on the existing track being abandoned.*	7.5	2.0 miles	9	11	10	9
Major Widening of KY 70 between Main Street and the proposed Southwest Connector.	14.8	2.2 miles	11	9	10	9
New Route extending KY 85 northwest to KY 281 terminating east of the Edward T. Breathitt Parkway.	11.4	3.8 miles	11	10	10.5	11
Reconstruction/Widening of KY 336 from the Edward T. Breathitt Parkway to KY 481.	5.0	1.4 miles	10	11	10.5	11
Totals	155.8					

VI. YEAR 2025 RECOMMENDED TRANSPORTATION PLAN

As discussed in the previous chapter, a number of factors were involved in developing the Madisonville Year 2025 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 Madisonville 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. In addition, the Madisonville Traffic Model results and the information gathered at the project advisory committee and public meetings played an important role in considerations of project selection. 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 Madisonville UATS, three phases of implementation were considered:

- Phase I (through FY 2010) – 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 2011 – 2016) – Representing intermediate improvements
- Phase III (FY 2017-2025) – 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 Madisonville UATS area, the current Six Year Highway Plan identifies approximately $1.0 billion per year. Given these considerations, a twenty-year funding level of approximately $230 million dollars was determined to be a reasonable target for this planning effort. This value is based upon the assumption of $1 billion annual budget compared with the population of Hopkins County. This targeted funding level includes $90 million in rehabilitation projects and $40 million estimated for the I-66/I-69 corridors. Therefore, subtracting these values from the $230 million leaves approximately $100 million for other projects in the study area.

Year 2025 Recommended Long-Range Transportation Plan

Given the preceding analysis and considerations, fourteen transportation projects totaling $155.8 million (in present dollars) are proposed for advancement between now and the Year 2025. This amount exceeds the $100 million figure discussed previously because of two factors. Project #6 (CSXT mainline relocation) is not a traditional highway improvement project, and it is assumed that additional funding from non-traditional sources would be required to implement this project. Additionally, it can be anticipated that all of these projects will not be advanced to construction for various reasons (such as unforeseen negative impacts or changing priorities over time). Therefore, some amount of over-programming is appropriate for the development if this long range transportation plan. The Recommended Year 2025 Long-Range Transportation Plan projects are illustrated in **Figure VI-1** and listed in **Table VI-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 I (FY 2005-2010) - $42.0 million
- Phase II (FY 2011-2016) - $54.4 million
- Phase III (FY 2017-2025) - $59.4 million

Table VI-2 displays the project phase cost for each Recommended Year 2025 Long-Range Transportation Plan project. The following phases are included: planning, design, right-of-way (ROW), utilities, and construction.

To determine overall network benefits, the Year 2025 Long-Range Transportation Plan was coded into the Madisonville/Hopkins County Traffic Model. **Table VI-3** displays the annual VMT and VHT savings for the network as compared to the Year 2025 Existing + Committed Network. Year 2025 Recommended Plan traffic and Level of Service is displayed in **Figure VI-2**.

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8 New Northwest Connector from Nebo Rd. to N. Main St.

13 Major Widening of US-41A from Kingdom Hall Rd. to KY-502

2 New Route Between Center St. and Island Ford Rd.

9 Extend KY-85 to KY-281

4 Western Connector Segment from KY 262 to Nebo Rd.

6 Major Widening of KY-85/KY-70 to Madisonville Airport Entrance

3 Planning / Preliminary Design for complete West Connector

5 Upgrade Kentucky Ave. Between E. Center and Island Ford Rd.

10 New Southwest Connector from S. Main St. to Nebo Rd.

12 Convert CSXT Mainline to a Roadway

11 Major Widening of KY-70 Between Main St. and Southwest Connector

1 Reconstruction of Main St. (US 41) Between Hospital Dr. and Nebo Rd

14 Reconstruction/Widening of KY-336 from Breathitt Pkwy to KY-481

7 CSXT Mainline Relocation

Edward T. Breathitt Parkway (Pennyrile Parkway)

Wendell H. Ford Parkway (Western Kentucky Parkway)

Madisonville

EB WF

5 0 5 10 Miles

LEGEND

- Phase I Improvements
- Phase II Improvements
- Phase III Improvements
- Major Railroads
- Highways & Parkways
- Local Roads

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FIGURE VI-1

RECOMMENDED PLAN

MADISONVILLE URBAN AREA TRANSPORTATION STUDY

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Table VI-1. Year 2025 Transportation Plan

Project No.	Description	Cost $ Million	Phase
	I-66/I-69 Implementation[1]	(40.0)	1
1	Reconstruction of Main Street (US 41) between Hospital Drive and Nebo Road (US 41A). *Note the southern termini could be extended to North Street if the CSXT Mainline Relocation project is not funded.*	10.4	1
2	New Route between Center Street and Island Ford Road west of the Edward T. Breathitt Parkway and east of CSXT's Earlington Cut-off.	10.0	1
3	Planning and Preliminary Design for a New Western Connector from S. Main Street (US 41) to N. Main Street (US 41).	1.6	1
4	Design and Construction of the New Western Connector Segment between KY 262 and Nebo Road (US 41A).	4.7	1
5	Upgrade Kentucky Avenue between E. Center Street and Island Ford Road west of the Edward T. Breathitt Parkway.	11.0	1
6	Major Widening of KY 85 from KY 70 to the Madisonville Airport entrance.	4.3	1
	Total Phase I	42.0	
7	CSXT Mainline Relocation[2]	22.0	2
8	New Northwest Connector from Nebo Road (US 41A) to N. Main Street (US 41).	21.0	2
9	New Route extending KY 85 northwest to KY 281 terminating east of the Edward T. Breathitt Parkway	11.4	2
	Total Phase II	54.4	
10	New Southwest Connector from S. Main Street (US 41) to KY 262.	10.1	3
11	Major Widening of KY 70 between Main Street and the proposed Southwest Connector.	14.8	3
12	New Route along the CSXT Henderson Sub Main Line track through Madisonville including the reconfiguring of the Main Street bridge over the existing CSXT line. *Note this project is dependent on the existing track being abandoned.*	7.5	3
13	Major Widening of US 41A from Kingdom Hall Road to KY 502.	22.0	3
14	Reconstruction /Widening of KY 336 from the Edward T. Breathitt Parkway to KY 481.	5.0	3
	Total Phase III	59.4	
	Total Recommended Plan[3]	155.8	

Notes: 1) I-66 and I-69 would require earmarked appropriations and are independent commitments outside of this plan.

2) Priority would depend on significant funding participation by CSXT, FRA, FHWA in addition to KYTC.

3) The program is based on estimated KYTC funding of $230 Million for Madsonville/Hopkins County projects with $90 Million estimated for rehabilitation of existing roadways and approximately $40 Million estimated for I-66/I-69 implementation.

Table VI-2 Recommended Plan Cost Breakdown by Project Phase

Project Number	Project Description	Total Cost $ Million	Phases	Phase Cost $ Million
1	Reconstruction of Main Street (US 41) between Hospital Drive and Nebo Road (US 41A). *Note the southern termini could be extended to North Street if the CSXT Mainline Relocation project is not funded.*	10.4	Planning	--
			Design	0.7
			ROW	2.0
			Utilities	1.1
			Construction	6.6
2	New Route between Center Street and Island Ford Road west of the Edward T. Breathitt Parkway and east of CSXT's Earlington Cut-off.	10.0	Planning	0.2
			Design	0.6
			ROW	2.0
			Utilities	1.2
			Construction	6.0
3	Planning and Preliminary Design for a New Western Connector from S. Main Street (US 41) to N. Main Street (US 41).	1.6	Planning	0.6
			Design	1.0
			ROW	--
			Utilities	--
			Construction	--
4	Design and Construction of the New Western Connector Segment between KY 262 and Nebo Road (US 41A).	4.7	Planning	--
			Design	0.3
			ROW	1.0
			Utilities	0.6
			Construction	2.8
5	Upgrade Kentucky Avenue between E. Center Street and Island Ford Road west of the Edward T. Breathitt Parkway.	11.0	Planning	--
			Design	0.7
			ROW	2.0
			Utilities	1.8
			Construction	6.5
6	Major Widening of KY 85 from KY 70 to the Madisonville Airport entrance.	4.3	Planning	--
			Design	0.3
			ROW	1.0
			Utilities	0.5
			Construction	2.5
7	CSXT Mainline Relocation.	22.0	Planning	--
			Design	1.0
			ROW	1.5
			Utilities	3.5
			Construction	16.0
8	New Northwest Connector from Nebo Road (US 41A) to N. Main Street (US 41).	21.0	Planning	--
			Design	2.0
			ROW	3.0
			Utilities	1.9
			Construction	14.1
9	New Route extending KY 85 northwest to KY 281 terminating east of the Edward T. Breathitt Parkway.	11.4	Planning	0.3
			Design	0.7
			ROW	2.1
			Utilities	1.6
			Construction	6.7
10	New Southwest Connector from S. Main Street (US 41) to KY 262.	10.1	Planning	--
			Design	1.0
			ROW	1.9
			Utilities	1.1
			Construction	6.1
11	Major Widening of KY 70 between Main Street and the proposed Southwest Connector.	14.8	Planning	--
			Design	1.0
			ROW	3.0
			Utilities	2.3
			Construction	8.5
12	New Route along the CSXT Henderson Sub Main Line track through Madisonville including the reconfiguring of the Main Street bridge over the existing CSXT line. *Note this project is dependent on the existing track being abandoned.*	7.5	Planning	0.3
			Design	0.4
			ROW	1.6
			Utilities	1.0
			Construction	4.2
13	Major Widening of US 41A from Kingdom Hall Road to KY 502.	22.0	Planning	--
			Design	1.3
			ROW	4.5
			Utilities	3.0
			Construction	13.2
14	Reconstruction /Widening of KY 336 from the Edward T. Breathitt Parkway to KY 481.	5.0	Planning	--
			Design	0.3
			ROW	1.0
			Utilities	0.7
			Construction	3.0

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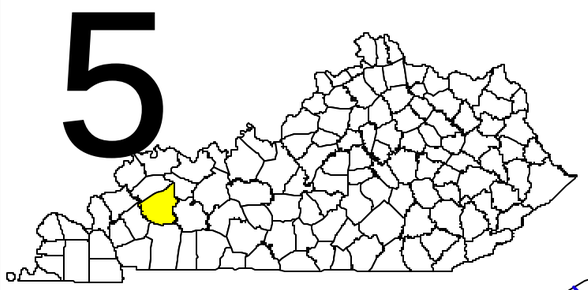

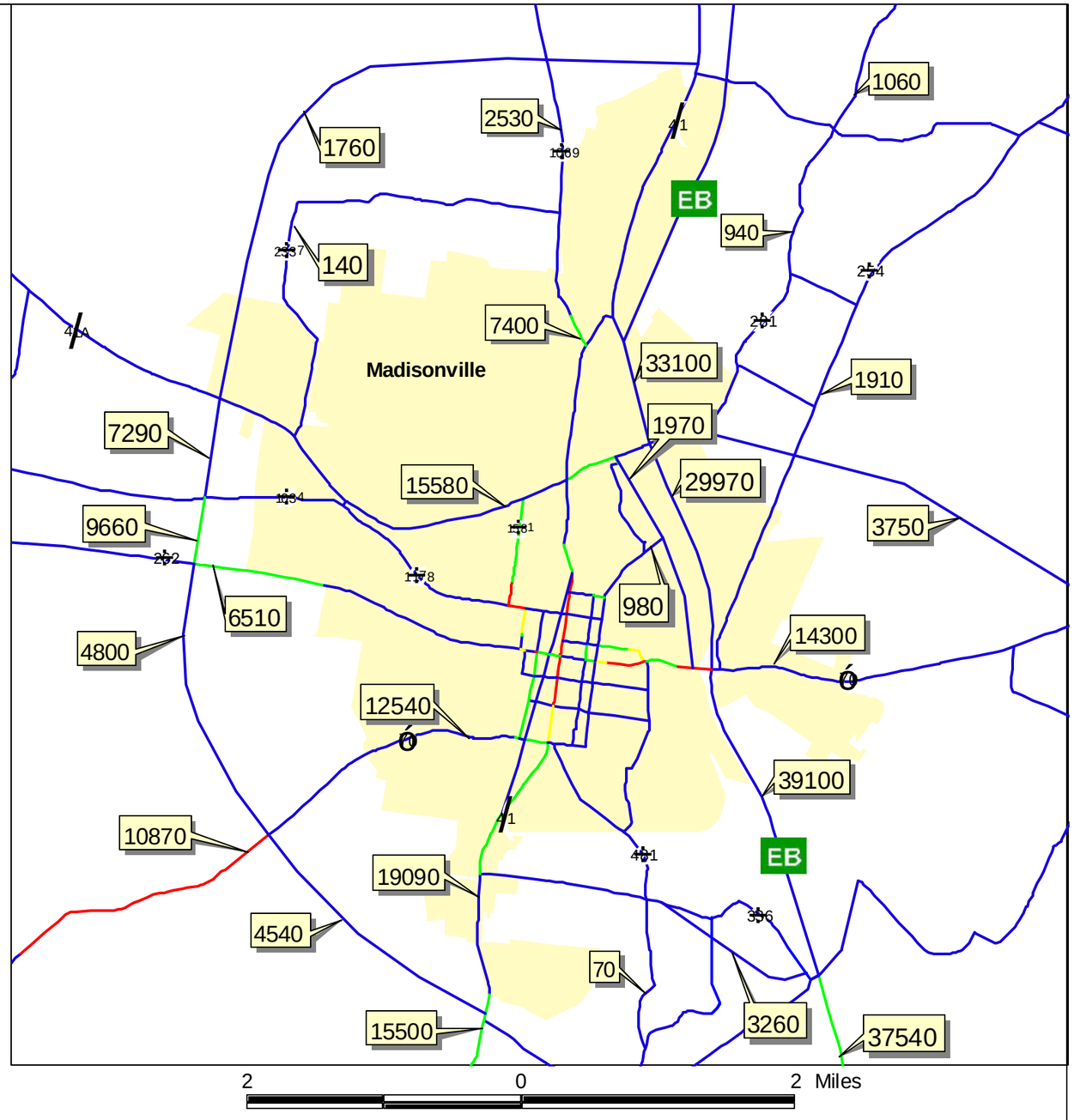

LEGEND
(Level of Service)

- 7400 — Average Daily Traffic (ADT)
- LOS - C or Better
- LOS - D
- LOS - E
- LOS - F

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FIGURE VI-2

YEAR 2025
RECOMMENDED PLAN
TRAFFIC AND LEVEL OF SERVICE

MADISONVILLE URBAN AREA TRANSPORTATION STUDY

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Table VI-3 Recommended Plan Measure of Effectiveness Comparison

Network	Description	Daily		Annual VMT Savings	Annual VHT Savings
		VMT	VHT		
E+C	Year 2025 Existing + Committed	2,446,114	58,573	-	-
Rec. Plan	Year 2025 Long-Range Recommended Transportation Plan	2,436,605	57,664	3,470,913	331,745

Brief project discussions of the plan recommendations are as follows:

Reconstruction of Main Street (Project 1): Project 1 involves the major widening of Main Street between Hospital Drive and Nebo Road. Identified as a northern bottleneck, this project will help to alleviate congestion north of downtown Madisonville. This project would complement the existing five-lane section of US 41 north of this section and the proposed five-lane sections of Nebo Road and Island Ford Road. In addition, the reconstruction of Main Street will help to mitigate the problems caused by excessive access along this section of Main Street improving overall safety.

An alternate southern termini to be considered in future planning for this project would be North Street. If funding isn't secured for the CSXT rail relocation project, discussed below, the reconstruction of Main Street should explore options to widen the existing Main Street Bridge over the CSXT Railroad. Additional funding would need to be secured for this project extension. With the bridge being the only remaining two lane section of Main Street within Madisonville, the project extension would be important for reducing congestion in northern Madisonville. If funding is secured for the CSXT rail relocation project, the bridge could be widened or potentially eliminated as part of that project.

New Route between Center Street and Island Ford Road (Project 2): Implementation of the proposed new route between Center Street and Island Ford Road is included as part of the Phase I plan implementation. Ultimate design of this facility should provide for a four-lane urban cross section with partially controlled access. Initial construction of the facility may consider a two-lane cross section with turn lanes. A cost saving strategy may be to require interior portions of the route to be financed by the developer. KYTC funds would be used for the railroad crossing, and termini intersections.

Upgrade Kentucky Avenue (Project 5): This project should provide an improved facility between Center Street and the proposed new route between Center Street and Island Ford Road discussed above. Key components of the project would include reconstruction of Kentucky Avenue to avoid the two one-lane underpasses crossing the CSX Transportation rail lines, measures to improve progression and the removal of portions of the on street parking along this route. Additional options may be explored if problems persist.

Western Connector (Projects 3, 4, 8 and 10): These projects are divided across all three phases of the Year 2025 Long-Range Transportation Plan. The first project would be the planning, environmental assessment and preliminary design of the entire route. This would identify fatal flaws unforeseen at this time and further define the route for future phasing of the project. Once this is completed, design and construction of the section between Laffoon Trail (KY 262) and Nebo Road (US 41A) would take place, also part of Phase I. This section was selected as a Phase I project because traffic model results showed this section to attract the largest amount of traffic and it would serve the proposed industrial park area south of Nebo Road. The Northwest Connector is included as part of Phase II plan implementation. Ultimate design of this facility

between Nebo Road and North Main Street should provide for a four-lane cross section, but projected traffic volumes would allow for a two-lane facility to be considered. The Southwest Connector is included as a Phase III project and would complete the western connector between US 41 north and south of Madisonville. Similar to the Northwest Connector, this facility could be initially built as a two-lane roadway with partially controlled access. When traffic volumes warrant additional capacity, the roadway could be upgraded to a four-lane facility. Right-of-way for a four-lane facility should be purchased initially to ease financial and environmental burdens.

Major Widening of KY 85 to the Madisonville Airport (Project 6): This project is defined as the the major widening of KY 85 from KY 70 to the Madisonville Airport. This would be designed as an improved two-lane cross section facility with turn lanes, where needed, and six foot minimum width shoulders. This project would provide improved access to the Madisonville Airport and the community of Anton. The major widening of KY 70 from the Edward T. Breathitt Parkway to KY 85 is a scheduled Six Year Highway Plan improvement and is depicted in **Figure IV-4**. The major widening of KY 85 would be an extension of the major widening of KY 70 project, producing a fully upgraded roadway between the Madisonville Airport and the City of Madisonville.

CSX Transportation Rail Relocation (Projects 7 and 12): These projects would involve the abandonment of the CSXT Henderson Sub Main Line track through downtown Madisonville. To maintain capacity, CSXT would require that the Earlington Cut-off Line be double tracked. It is currently a single track with double track right-of-way. As previously mentioned, due to the high project costs, this project would require additional funding sources such as the Federal Railroad Administration, Federal Highway Administration and/or CSX Transportation. The second component is to construct a new route along the abandoned track through Madisonville. Future study will be needed to determine termini locations, but the route is estimated to be two miles in length. Due to right-of-way constraints in the downtown area, the roadway would be a two-lane facility with turn lanes as needed. This project will also consider the reconstruction or elimination of the Main Street Bridge over the CSXT rail line.

New Route extending KY 85 to KY 281 (Project 9): This project would provide a new route east of Madisonville extending KY 85 from its intersection with KY 70 northwest to KY 281. The potential northern terminus at KY 281 would be approximately one-half mile east of the Edward T. Breathitt Parkway. This project would provide an alternative route for motorists seeking travel to northern Madisonville or extended travel north. It would serve to reduce congestion along Center Street, Arch Street, Main Street and the Breathitt Parkway. The project would also help open up eastern Hopkins County for potential economic development. The facility would be designed as a two-lane facility with turn lanes where needed and shoulders.

Other State Projects (Projects 11, 13 and 14): These additional Phase III projects were identified as major widening and/or reconstruction projects. Identified through the traffic analysis, the major widening of KY 70 between Main Street and the proposed Southwest Connector would improve congestion and safety along this route. Another Phase III project identified was the major widening of US 41A from Kingdom Hall Road to KY 502. This project should provide a four-lane facility complementing the committed five-lane improvement to Kingdom Hall Road. The final project identified was the widening/reconstruction of KY 336 from the Edward T. Breathitt Parkway to Grapevine Road (KY 481) and would create a safer facility providing alternative access to southern Madisonville.

Conclusion

The Madisonville Urban Area Transportation Study and the 2025 Recommended Transportation Plan have 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 Madisonville/Hopkins County 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 Madisonville 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 Madisonville 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.

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Appendix A – TAC and Public Meetings

Technical Advisory Committee (TAC) Meetings

The project Kick-Off meeting for the Madisonville UATS was conducted October 6, 2000 at the KYTC Department of Highways District 2 Office in Madisonville, Kentucky. The purpose of the meeting was to discuss the purpose, goals and objectives of the proposed project, to review preliminary existing conditions data for the study area, and to identify future study needs. Concerns and comments voiced at the meeting include:

- A need for a north-south arterial to relieve congestion along Main Street and improve north-south traffic flow through town – either by adding capacity to existing roads or by providing alternatives.

- A bypass could pull citizens and business from the downtown area damaging the Renaissance Kentucky Program (a downtown revitalization effort) supported by the Governor.

- The first leg of a potential bypass (KY 2171) has turned out to be a minimally used road and a longer route for motorists.

- The bypass was believed to have been originally driven by the coal industry, which has leveled off if not declined.

- Need a purpose to build new roads and need to identify who will use it.

The second project advisory team meeting was conducted December 15, 2000 at the KYTC Department of Highways District 2 Office in Madisonville, Kentucky. The purpose of the meeting was to review the previous meeting minutes, discuss the study area and draft socio-economic information, summarize the meeting with CSXT, and prepare for the January public meeting. Comments and concerns noted at the meeting include:

- It was suggested that the number of TAZs split by the bypass be minimized when the attendees were asked if a bypass around Madisonville should be explored. It was mentioned that a bypass around Madisonville is still listed on the unscheduled needs list. Furthermore, it was decided that the bypass should continue to be considered and that the hope was that current efforts would determine the need and priority, if any for a bypass.

- One attendee was concerned with how the model took into account the coal industry employment given the continual redistribution of employees to mining sites. The attendee requested a breakup of employee types.

- Relating to the rail aspect of the project, one suggestion was to create a “Quiet Zone” while the other was to relocate the mainline track passing through downtown to the Earlington Cut-Off, east of Madisonville.

- The availability of funds to relocate the existing Henderson Sub Rail Line to the Earlington Cut-Off was of concern.

- The need for additional connectors to the southern area of the city to boost growth in this part of town was expressed.

The third project advisory team meeting was conducted September 10, 2001 at the KYTC Department of Highways District 2 Office in Madisonville, Kentucky. The purpose of the meeting was to get an update on the status of the project, review results of public survey/questionnaires, discuss preliminary traffic forecast results, discuss environmental footprint, discuss proposed highway improvements, and evaluate the goals and objectives for the project. Issues discussed during the meeting included:

- Judge Frymire supported the reconstruction/widening of KY 336. Reconstructing part of the roadway to create an improved railroad crossing and straighter road was suggested.

- It was asked if the potential abandoned right-of-way along the railroad could be used to create a no or limited access facility. It was agreed that this would cause unnecessary separation between east and west Madisonville.

- One attendee suggested the rail relocation project is an eligible use of Highway Trust Funds, but determination of it being a justifiable use of funds remains to be seen and will require further investigation.

- It was noted that approximately $22 million is needed to relocate the downtown tracks. This is a total cost for the project, and a specific breakdown of costs incurred by contributing parties is unknown and will not be explored as part of this project.

- One attendee explained the benefits of both rail relocation and a bypass. The rail relocation project with a new roadway would improve mobility and reduce congestion in the downtown area. A bypass would serve to open up economic development opportunities.

- Due to funding issues, it was suggested that both projects (rail relocation and bypass) would likely not be able to be pursued as high priorities.

- One major concern with converting the abandoned right-of-way of the railroad to a recreational trail is safety. Train and automobile dangers would be replaced with pedestrian or bicyclist conflicts with automobiles.

- It was stated that the development of plans for the effective use of the abandoned right-of-way would be key to the viability of the rail relocation project concept.

- The proposed new route between KY 70/KY 85 and KY 281 has merit and would provide improved system connectivity.

- One attendee was concerned how the consultant would select between the rail relocation project and the bypass. It was agreed that the traffic model would dictate the direction of the recommended plan, given no other major differentiators.

On February 11, 2002, the forth project advisory team meeting was held in Madisonville at the Highway District 2 office. At this meeting, local officials, KYTC representatives, and consultant representatives discussed the Preliminary Recommended Plan and associated projects that were being considered for recommendation in the Madisonville Transportation Plan. From the meeting, the following was established:

- Either the Western Connector or CSXT Railroad Project could be recommended as a high priority but both could not due to the high costs associated with each;
- The reconstruction of Main Street from Hospital Drive to US 41A should be considered;
- The new route between Center Street and Island Ford Road would provide an alternative to widening Main Street;
- I-66/I-69 should be considered as having designated money as opposed to new federal money; and,
- The Northwest Connector may open up areas of growth but some questioned the amount of use the Southwest Connector would receive.

On June 10, 2002, the fifth and final project advisory team meeting was held in Madisonville at the Highway District 2 office. The purpose of the meeting was to provide an update on the status of the project, discuss the completion schedule, review the Draft Madisonville Urban Area Transportation Study, and further discuss the recommended plan. Comments and discussion items included the following:

- Design and construction of the new western connector segment between KY 262 and Nebo Road is considered justifiable if thought of as the first piece (segment) of the western connector. It was recommended that the entire western connector be preserved before construction begins on any segment.
- It was recommended that the upgrade of Kentucky Avenue be redirected on the northern end based on hospital concerns of cut through traffic.
- It was noted the dependence of both the new route between Center Street and Island Ford Road and the upgrade of Kentucky Avenue projects on one another.
- The widening of KY 85 to the Madisonville Airport was discussed and the committee agreed this project should be upgraded to a Phase I project.
- Concern was expressed for the upgrade of the North Main Street Bridge over the CSXT Railroad. It was agreed upon that the elimination or reconstruction of this bridge should be included in the CSXT rail relocation project. If this project is not funded, it should be included as part of the major widening of North Main Street.

Public Information Meetings

The first public information meeting was conducted on Tuesday, January 23, 2001 at the Chamber of Commerce in Madisonville, Kentucky. A total of fifty-three (53) persons (including twenty-five public officials, agency and KYTC representatives, and consultant staff) attended the three-hour public session. Following a short presentation that provided attendees a project background, timeline and current status along with the project goals, purpose and issues for this project, attendees were encouraged to visit exhibit stations and complete survey questionnaires about the project. At each location, KYTC and consultant staff was available to address issues and comments from the public. Comments received by those present at the meeting included:

At the first public meeting, those in attendance were given the opportunity to view exhibits and provide comments and suggestions.

- Attendees provided both support and concern for a Western Bypass connecting US 41 in the south, Nebo Road (US 41A) in the west and US 41 in the north. Reasons for support included the opportunity to open up development and improve downtown Madisonville thru traffic. One reason for concern included the relocation of businesses from downtown to the bypass area.
- Several attendees expressed concern for the limited number of options when traveling across town. They felt a need for more east-west and north-south roadways.
- Attendees expressed support for a north-south road connecting KY 70 and KY 281. Anticipated terminus would be Center Street between Arch Street and the Edward T. Breathitt (Pennyrile) Parkway and Island Ford Road (KY 281) between US 41 and the Edward T. Breathitt (Pennyrile) Parkway. Another option presented was to build a new route from the KY 70/KY 85 split to Island Ford Road near the corporate boundary.
- Mayor Stafford from Mortons Gap would like to see the Edward T. Breathitt (Pennyrile) Parkway interchange with KY 813 at Mortons Gap improved.
- One attendee suggested the need for a new, more direct, roadway between Dawson Springs and Madisonville.
- Other improvement recommendations included the extension of scheduled improvements of KY 70 beyond the KY 85 terminus to the Madisonville Regional Airport, the need for additional lighting along the Edward T. Breathitt (Pennyrile) Parkway, particularly in the urban areas and widening of Princeton Road to at least three lanes between Madisonville and Princeton in Webster County.
- Additional comments included the identification of an accident hazard near Victoria Hill Drive, Moreland Avenue and the CSXT Main Line in the southern area of town and the need for a traffic signal at Nebo Road and Pride Avenue.
- One attendee suggested spot improvements to the Edward T. Breathitt Parkway Connector and US 41 intersection. The suggestion was to separate thru and left turning traffic on the connector prior to merging with US 41 traffic.

As part of the informational handout, a survey questionnaire supplied by the Kentucky Transportation Cabinet was provided for public input. A total of twenty-one (21) people responded to this survey. Their responses are summarized in the following:

- When asked to list their *major concerns with the existing transportation network in Madisonville and Hopkins County,* the following concerns were noted:
  Several citizens cited the need for improving north-south traffic through Madisonville. Other items referred to were railroad crossings, improving KY 85 to the airport, improving traffic flow west on US 41A, and improving traffic congestion in downtown Madisonville,

especially on Main Street. Also noted was the deteriorating condition of the parkways in the county and the need for improvements to KY 70, Island Ford Road, Kentucky Avenue, and East Center Street between Park Avenue and the Pennyrile Parkway.

- In reply to the question, *"Have you noticed any significant changes in traffic patterns?"* The following changes were noted:
  Heavier traffic downtown, at the entrance to Wal-Mart and in the vicinity of the community college. Other areas noted as having increased traffic or congestion were North Kentucky Avenue, Center Street, KY 70 west and the northern side of Madisonville in general. Only one individual stated he saw less morning and afternoon traffic, which he felt was likely due to mine closings in the area.

- The survey also asked which *roads are in need of repair to maintain safe travel*. The following locations were listed:
  The Pennyrile Parkway from the Western Kentucky Parkway to Madisonville, KY 70 from east of Madisonville to Central City, KY 85 from east of Madisonville to the county line, turn lanes on South Main Street out to Country Club Lane, the Arch Street railroad overpass, KY 281, US 62 west from Nortonville, the 4-way stop in Nortonville, the Western Kentucky Parkway from the Pennyrile Parkway to Dawson Springs and US 41A.

- When asked the *location and the time of day for Madisonville/Hopkins County's worst traffic congestion*, the time was generally thought to be at the 5PM rush hour, although the twelve noon to one o'clock lunch hour was also mentioned. The locations of greatest congestion were thought to be North Main Street, (especially in the vicinity of McDonalds), downtown Madisonville, East Center Street and the industrial park area.

- The survey asked for any *locations in the city or county that may be environmentally sensitive and should be avoided in terms of roadway construction*. The following areas were listed under this category: The Lake Pee Wee drainage area, mined areas west of the city of Madisonville, woodlands and wetlands on the west side of Madisonville, KY 70 west of the city and KY 70 and KY 85 east of town due to potential water problems.

- These areas were identified in response to a question for *suggested highway improvements:* Constructing a new north-south route through Madisonville, add bicycle lanes and greenways in future right-of-way acquisitions; improve, widen and resurface the Pennyrile Parkway and improve lighting on the parkways. One citizen noted that additional traffic lights may be needed on US 41A where access is at times difficult from side streets due to heavy traffic.

- The following items were listed in response to the question, *"What are your expectations for this Transportation Study?"*: A need to identify growth areas and plan for the future, along with setting priorities in the planning process. Also mentioned was a desire to see the improvements implemented quickly and not just discussed.

- Some *additional comments* given included the need to improve traffic count data and encourage officials to get the Pennyrile Parkway included as a part of the proposed I-69 corridor.

The public was able to review project descriptions for each of the proposed recommended projects.

The second public meeting was held on March 11, 2002 at Jesse Stuart Elementary School. A total of sixty (60) persons (including the public officials, agency and KYTC representatives, and consultant staff) attended the four-hour public session. The purpose of this meeting was to obtain the public's input as to which projects should be considered for the recommended transportation plan for Madisonville. The meeting was organized as an open format meeting with the public encouraged to visit anytime during the four-hour meeting. Presentation boards detailing twelve potential recommended projects were on display for the public to view. In addition, two identical presentations were made over the course of the evening providing a project update, review of issues, and discussion of the potential projects. Each attendee was given a handout with a map and list of the twelve projects being considered for the recommended plan along with a questionnaire. The purpose of the questionnaire was to rank and comment on each of the projects. In addition, the public was provided three poker chips to vote for their top three projects as part of an informal poll. The results for both the questionnaire and poker chip poll are presented in Chapter V. At the public meeting, the following comments were provided regarding each referenced project:

- In reference to the *major widening of US 41A*, attendees noted the need for the project to promote economic development, provide better access to the industrial park and relieve congestion. A high occurrence of accidents along US 41A was also noted.

- Regarding the *CSX Transportation abandonment*, opinions were mixed. Supporters noted the decrease of traffic congestion downtown as important, while detractors pointed out the questionable benefit to cost and environmental concerns.

- In reference to the new *northwest and southwest connectors* attendees noted both projects had the best value for the money and felt it is necessary to allow for new commercial and industrial development and congestion relief in downtown Madisonville. One drawback noted was the environmental concerns associated with the mined areas.

- Mixed feelings were expressed regarding the *new route extending KY 85 northwest to KY 281*. Some felt that with the scheduled upgrade of KY 70, the project was not warranted. Others noted the cost effectiveness of the project and the need to open up the area for economic development and additional access to the eastern part of the county.

- Regarding the *upgrade of Kentucky Avenue*, One attendee suggested eliminating parking on Kentucky Avenue as a sufficient upgrade while another attendee noted the importance improving access to the hospital.

- Significant support was expressed for the *reconstruction of Main Street (US 41) between Hospital Drive and Nebo Road*. This is viewed as a current bottleneck area. Although viewed as costly by some, the large volumes and high number of access points justified the project.

- In reference to the *new route between Center Street and Island Ford Road*, concern was expressed for the increase of traffic on Island Ford Road that would result, while supporters noted the economic development potential.

- Mixed feelings were noted regarding the *new route along the CSXT rail line*. Supporters noted the decrease in traffic, while opponents felt there wasn't a need for additional roads downtown and even felt traffic bottlenecks may develop due to the close proximity to Main Street and Seminary Street.

- Support was expressed for the *widening of KY 70*; however, one individual noted that an alternative would be to provide access from Lakeview subdivision to West Broadway and upgrade West Center Street to be a west connector from the courthouse out past the new jail.

- Regarding the *reconstruction/widening of KY 336*, the public's comments varied. One attendee questioned why the project would not extend to US 41. Others noted the upgrade would create a safer and easier route to access US 41. Still others felt the route would only carry local traffic and noted the high project cost.

- Supporters of the *widening of KY 85 to the Madisonville Airport* noted the economic development boost and increased access a key reasons to support the project.

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Appendix B – Project Sheets

Note: The project number shown in the upper right hand corner of each project sheet refer to Figure V-2.

Madisonville Urban Area Transportation Study

Major Widening of US 41A from Kingdom Hall Rd to KY 502

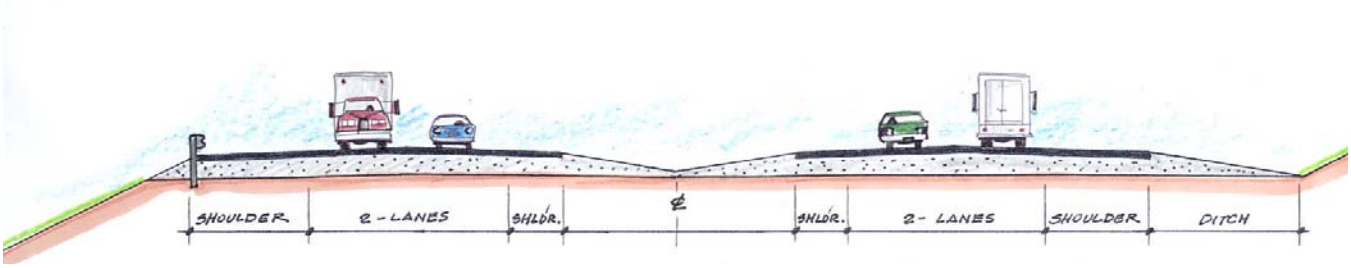
1

Project Location

Roadway: US 41A
Length: 5.4 miles
Physical Description: Major widening of US 41A from Kingdom Hall Road to KY 502.

Summary Rankings

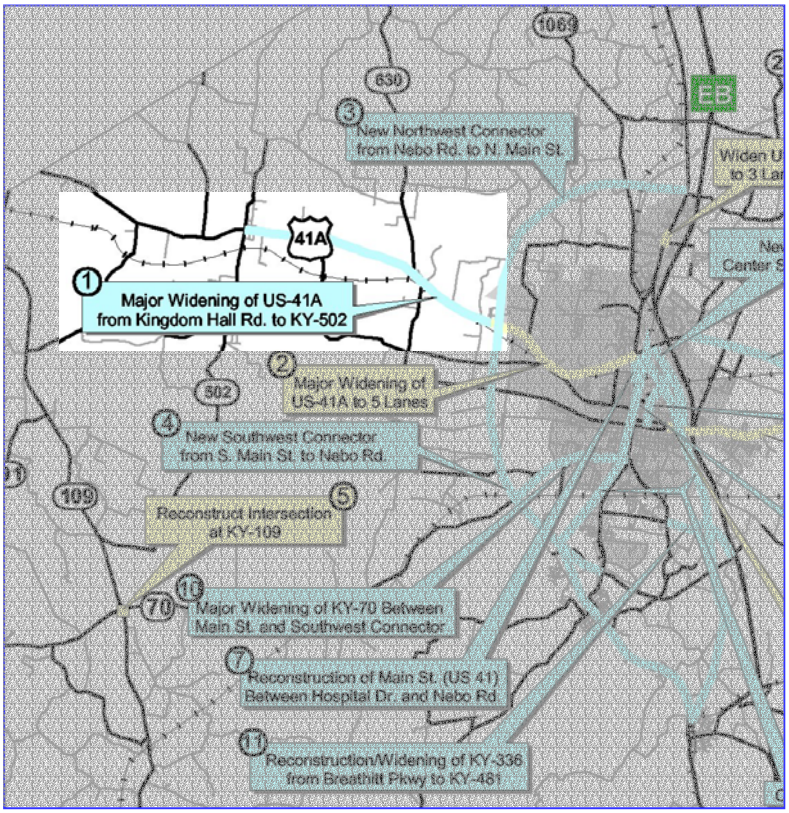
Promote Safety	Med
Promote Development/Opportunity	Low
Balance Concerns	Low
Develop Efficient Transportation System	High
Enhance Multimodal/Intermodal System	Low



Typical Rural Cross Section

Project Summary

US 41A is currently a two-lane roadway through Hopkins County. Plans are in place to upgrade US 41A between US 41 and Kingdom Hall Road. This proposed project would extend the improved section to KY 502 in Nebo. This project in combination with the committed improvements to US 41A would create an improved connection between neighboring western cities and Madisonville.



Estimated Cost: $22.0 Million

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Madisonville Urban Area Transportation Study

CSXT Mainline Relocation

2

Project Location

Roadway: CSX Transportation
Length: 10.1 miles/8.9 miles
Physical Description: Abandon 10.1 miles of the Henderson Subdivision Earlington Main Line track owned and operated by CSX Transportation through Downtown Madisonville and double track 8.9 miles of the Earlington Cut-off track through eastern Madisonville.

Summary Rankings

Promote Safety	High
Promote Development/Opportunity	Med
Balance Concerns	High
Develop Efficient Transportation System	Med
Enhance Multimodal/Intermodal System	Med

Project Summary

Just north of KY 281, CSX Transportation's Henderson Subdivision track splits creating the Earlington Main and Earlington Cut-off and join back together in Mortons Gap. The Earlington Main is a 10.1 mile section of track running through downtown Madisonville and the Earlington Cut-off is a 8.9 mile section of track running in the eastern section of Madisonville. Shown below are two of the fourteen crossings along the Earlington Main Line. The goal of this proposed project would be to abandon the 10.1 miles of the Earlington Main and double track the 8.9 mile section of the Earlington Cut-off. This would eliminate a number of highway-rail at-grade crossings while maintaining CSXT's double trackage in the Madisonville area. If and when the trackage through downtown was abandoned, a follow-up project would be to build a roadway along a portion of the track to ease congestion problems in downtown Madisonville.

Estimated Cost: $22.0 Million

Madisonville Urban Area Transportation Study

New Northwest Connector from Nebo Road (US 41A) to N Main St (US 41)

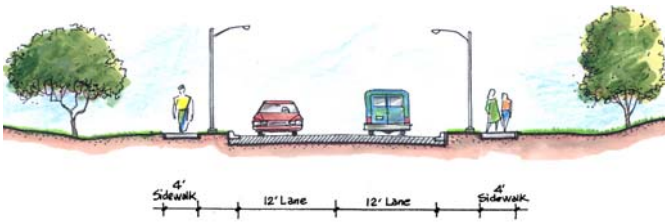
3

Project Location
Roadway: New Connector
Length: 5.8 miles
Physical Description: New Connector from Nebo Road (US 41A) to North Main Street (US 41) northwest of Madisonville.

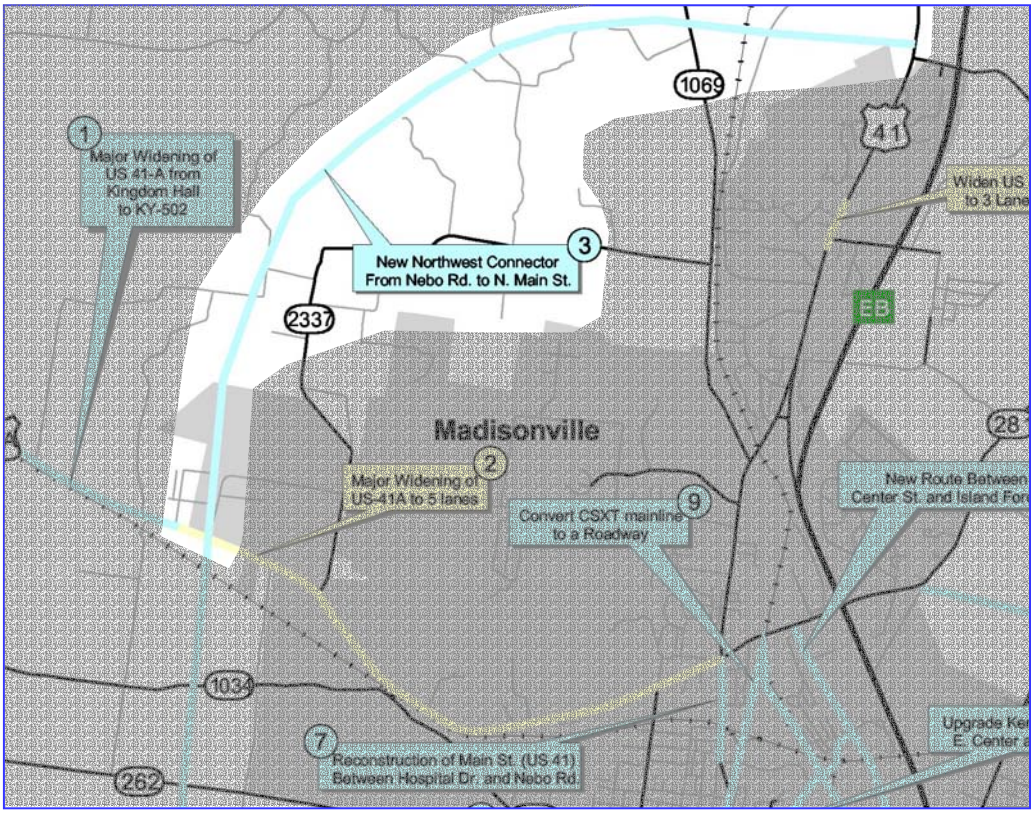
Summary Rankings

Promote Safety	High
Promote Development/Opportunity	Med
Balance Concerns	Low
Develop Efficient Transportation System	High
Enhance Multimodal/Intermodal System	High

Project Summary
The proposed Connector between Nebo Road and N. Main Street would serve the growth areas of northern Madisonville, reducing congestion on portions of Nebo Road and Main Street. The connector would also open up areas for economic development.



Typical Cross Section of New Roadways



Estimated Cost: $20.6 Million

Madisonville Urban Area Transportation Study

New Route to Extend KY 85 to KY 281

4

Project Location

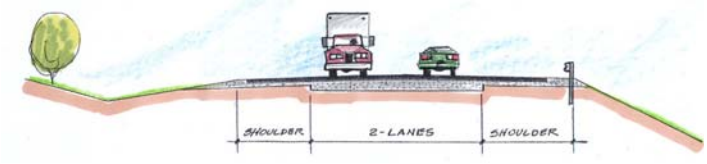
Roadway: New Route
Length: 3.8 miles
Physical Description: New Route extending KY 85 northwest to KY 281 terminating east of the Edward T. Breathitt Parkway.

Summary Rankings

Promote Safety	High
Promote Development/Opportunity	Med
Balance Concerns	Med
Develop Efficient Transportation System	High
Enhance Multimodal/Intermodal System	Med

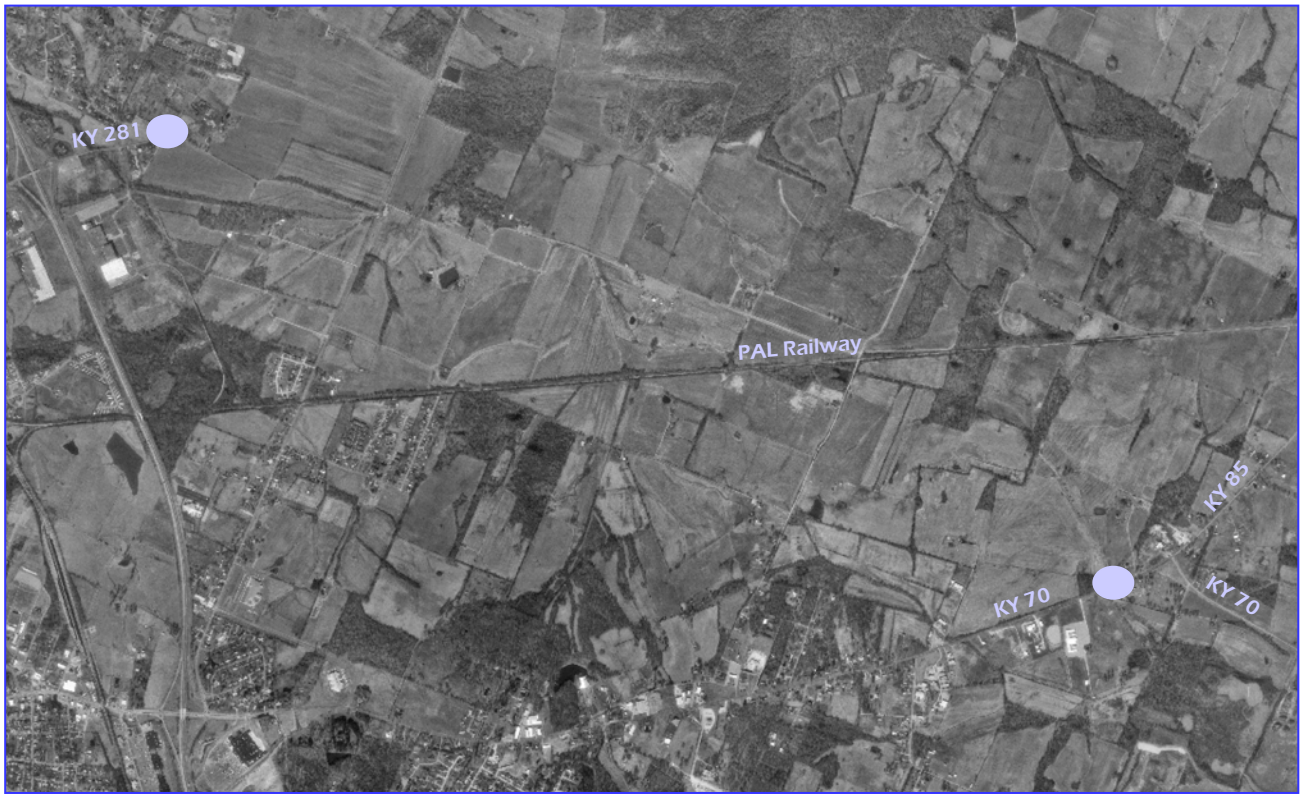
Project Summary

This new route proposed at the first public meeting for the study would provide an alternative route into northern Madisonville.



Typical Cross Section of New Roadways

Typical Terrain in and around the Project Area



Represents potential project termini

Estimated Cost: $11.4 Million

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Madisonville Urban Area Transportation Study

Upgrade Kentucky Avenue between E. Center Street and Island Ford Road

5

Project Location

Roadway: Kentucky Avenue
Length: 1.0 miles
Physical Description: Upgrade Kentucky Avenue between E. Center Street and Island Ford Road west of the Breathitt Parkway.

Summary Rankings

Promote Safety	High
Promote Development/Opportunity	High
Balance Concerns	Low
Develop Efficient Transportation System	Med
Enhance Multimodal/Intermodal System	Med

Project Summary

A desire for additional or improved north-south roadways through Madisonville have been identified as a key community concern. This project would help address this concern providing improved connection between the industrial, commercial and residential areas of northern Madisonville. Key concerns with this project are the difficulty in improving the two one-lane railroad bridges (pictured below) and the residential areas in the northern portion of the project. Although Kentucky Avenue does not connect to Island Ford Road, an improved roadway to Island Ford Road is desired and will likely be investigated as part of this proposed project.

Estimated Cost: $11.0 Million

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Madisonville Urban Area Transportation Study

Reconstruction of Main Street (US 41) between Hospital Drive and Nebo Road (US 41A)

6

Project Location

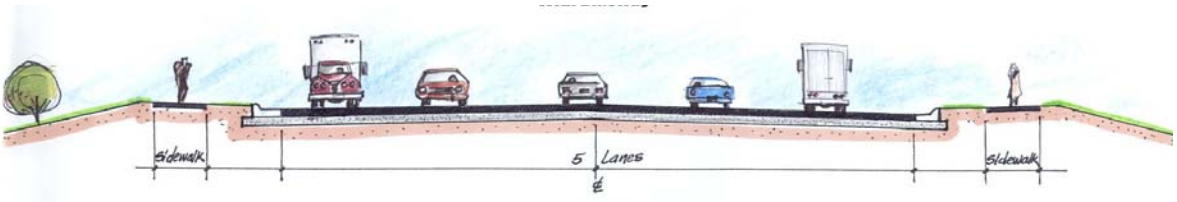
Roadway: US 41
Length: 0.6 miles
Physical Description: Reconstruction of Main Street (US 41) between Hospital Drive and Nebo Road

Summary Rankings

Promote Safety	High
Promote Development/Opportunity	Med
Balance Concerns	Low
Develop Efficient Transportation System	Med
Enhance Multimodal/Intermodal System	Med

Project Summary

A desire for additional or improved north-south roadways through Madisonville have been identified as a key community concern. This project would help address this concern by increasing capacity and reducing congestion along North Main Street.



Typical Cross Section of Improved Roadway

Estimated Cost: $10.4 Million

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Madisonville Urban Area Transportation Study

New Route between Center Street and Island Ford Road

7

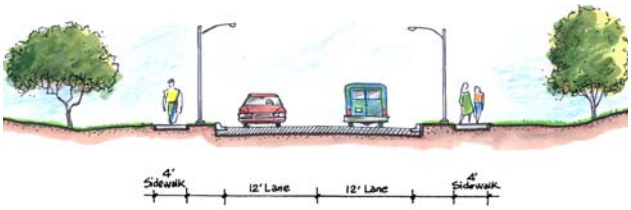
Project Location

Roadway: New Route
Length: 1.8 miles
Physical Description: New Route between Center Street and Island Ford Road west of the Edward T. Breathitt Parkway.

Summary Rankings

Promote Safety	High
Promote Development/Opportunity	Med
Balance Concerns	Low
Develop Efficient Transportation System	Med
Enhance Multimodal/Intermodal System	High

Represents potential project termini



Typical Cross Section of New Roadways

Project Summary

This project would provide an alternative north-south route through eastern Madisonville and open up previously undeveloped areas for residential and commercial development.

Estimated Cost: $10.0 Million

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Madisonville Urban Area Transportation Study

New Southwest Connector from S Main St (US 41) to Nebo Rd (US 41A)

8

Project Location

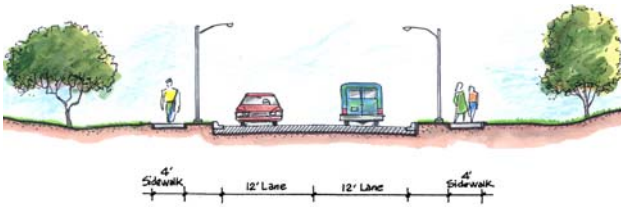
Roadway: New Roadway
Length: 4.1 miles
Physical Description: New Southwest Connector from South Main Street (US 41) to Nebo Road (US 41A).

Summary Rankings

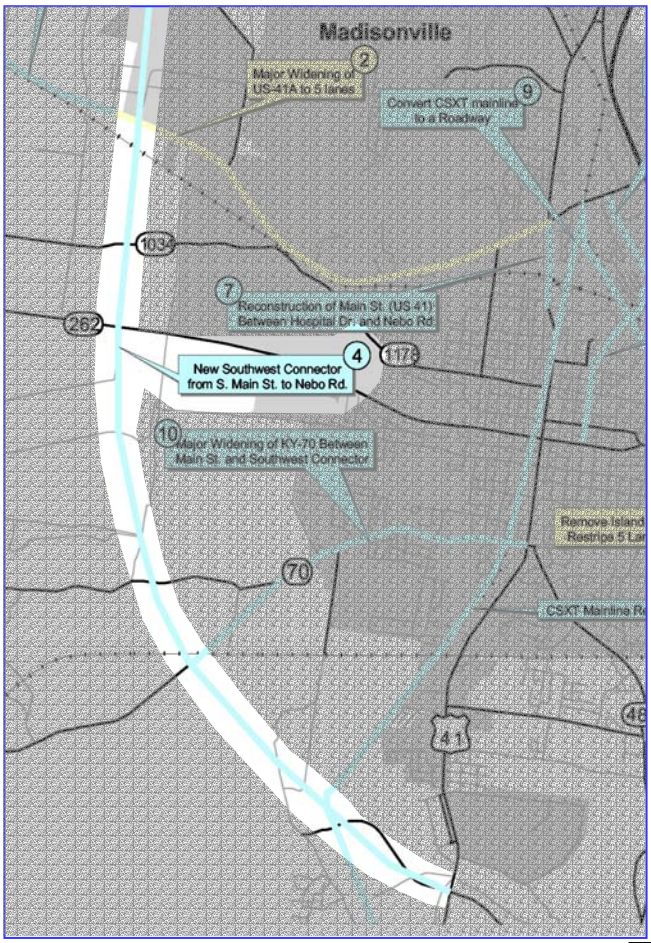
Promote Safety	High
Promote Development/Opportunity	Med
Balance Concerns	Low
Develop Efficient Transportation System	High
Enhance Multimodal/Intermodal System	High

Project Summary

The proposed Connector between Nebo Road and S. Main St. would open up areas for economic development and provide an additional alternative for motorist traveling in west Madisonville.



Typical Cross Section of New Roadways



Typical Terrain in and around the Project Area

Estimated Cost: $16.8 Million

Madisonville Urban Area Transportation Study

Convert CSXT Mainline through Madisonville to a Roadway

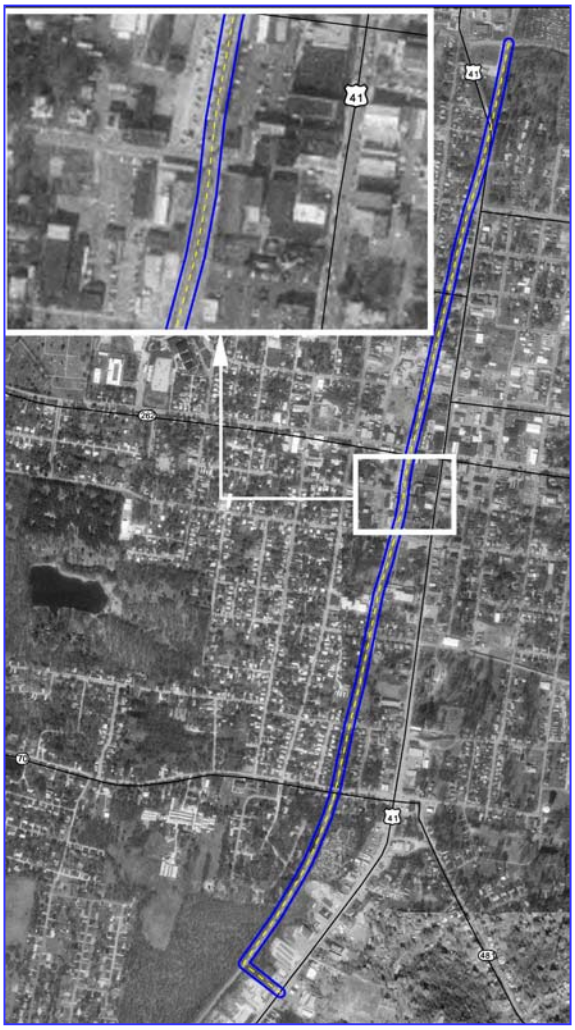
9

Project Location

Roadway: New Route
Length: 2.0 miles
Physical Description: New Route along the CSXT Henderson Sub Main Line track through downtown Madisonville.

Summary Rankings

Promote Safety	Med
Promote Development/Opportunity	Med
Balance Concerns	Low
Develop Efficient Transportation System	Med
Enhance Multimodal/Intermodal System	Med



Project Summary

This project is contingent upon the abandonment of the CSXT track through Madisonville. The corridor shown above is meant to represent one of many potential termini. Actual termini would be determined in future study efforts.

Estimated Cost: $7.5 Million

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Madisonville Urban Area Transportation Study

Major Widening of KY 70 between Main Street and the Southwest Connector

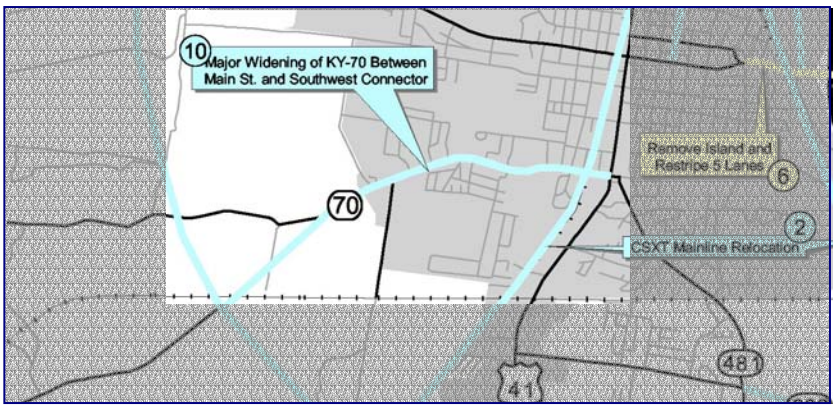
10

Project Location
Roadway: KY 70
Length: 2.2 miles
Physical Description: Major Widening of KY 70 between Main Street and the proposed Southwest Connector

Summary Rankings

Promote Safety	Med
Promote Development/Opportunity	Low
Balance Concerns	Low
Develop Efficient Transportation System	High
Enhance Multimodal/Intermodal System	Low

Project Summary
As part of the study process, KY 70 was identified as a route with increasing levels of congestion in the future. To address this concern, the upgrade of KY 70 between Main Street and the proposed Southwest Connector was proposed.



Estimated Cost: $14.8 Million

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Madisonville Urban Area Transportation Study

Reconstruction/Widening of KY 336 from the Edward T. Breathitt Pkwy to KY 481

11

Project Location
Roadway: KY 336
Length: 1.4 miles
Physical Description:
Reconstruction/Widening of KY 336 from the Edward T. Breathitt Parkway to KY 481.

Summary Rankings	
Promote Safety	Med
Promote Development/Opportunity	Med
Balance Concerns	Low
Develop Efficient Transportation System	Med
Enhance Multimodal/Intermodal System	Med

Project Summary

The reconstruction and/or widening of KY 336 would provide an improved route to access southern Madisonville. Environmental issues associated with project are shown above and include a cemetery bordering a southern portion of the route and a public lake bordering the north.

Represents potential project termini

Estimated Cost: $5.0 Million

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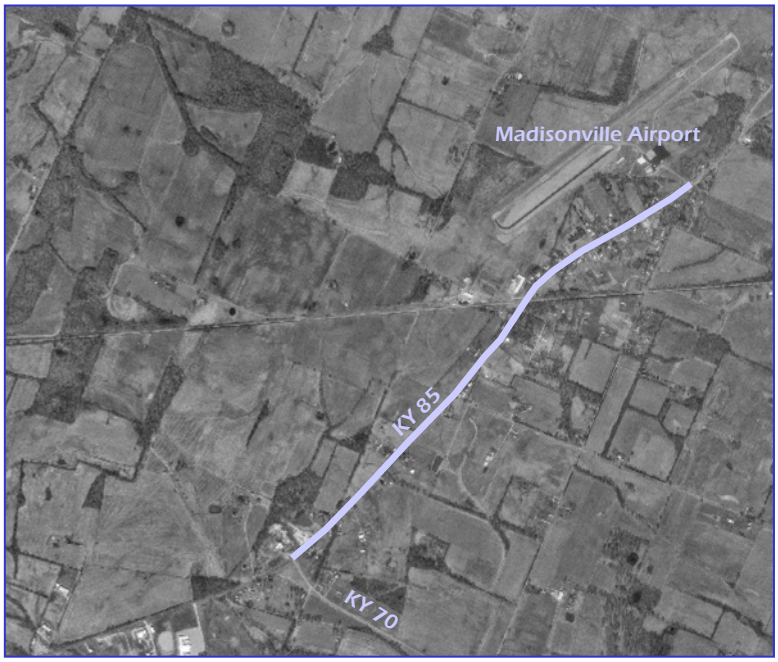
Madisonville Urban Area Transportation Study

Major Widening of KY 85 from KY 70 to the Madisonville Airport

12

Project Location
Roadway: KY 85
Length: 1.7 miles
Physical Description: Major Widening of KY 85 from KY 70 to the Madisonville Airport entrance.

Summary Rankings	
Promote Safety	Low
Promote Development/Opportunity	Med
Balance Concerns	Low
Develop Efficient Transportation System	Med
Enhance Multimodal/Intermodal System	Med



Project Summary
Currently KY 70 is scheduled to be widened from the Edward T. Breathitt Parkway to the KY 85/ KY 70 split. This project would extend this improved section an additional 1.7 miles to the Madisonville Municipal Airport. This project would promote multimodal connectivity and support a planned upgrade of the airport facility.

Estimated Cost: $4.3 Million

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