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FINAL

Pre-Design Scoping Study

Extension of KY 1008 Bypass from KY 100 to US 31W in Franklin

Simpson County

Item No. 03-106.00

Prepared for:

The Kentucky Transportation Cabinet

Department of Highways

Division of Planning

Prepared by:

Wilbur Smith Associates

February 2004

EXECUTIVE SUMMARY

PRE-DESIGN SCOPING STUDY
Extension of KY 1008 Bypass from KY 100 to US 31W in Franklin, Kentucky
Simpson County
ITEM #3-106.00

The proposed bypass (extension of KY 1008) is located in the northwest portion of Franklin, Kentucky between KY 100 and US 31W. Franklin is in Simpson County which is located in the southwestern portion of the state.

This project is identified in the Kentucky Transportation Cabinet's (KYTC) FY 2003-2008 Six Year Highway Plan as Item No. 3-106.00. The project is defined as a Franklin Northwest Bypass or the extension of KY 1008 from KY 100 on the west side of town to US 31W.

Project Goals

Through this Pre-Design Scoping Study, a number of goals were established for this project:

- Reduce traffic congestion along major roads such as US 31W and KY 100 in downtown Franklin;
- Provide a corridor that would reduce truck traffic in downtown Franklin and along residential streets; and
- Improve safety for study area routes.

Traffic Considerations

Consideration of future traffic in the study area included historical growth rate forecasts and testing of various scenarios in the Simpson County Travel Demand Model. The results of these future traffic studies indicate the following:

- Without any future transportation improvements in the study area, US 31W is expected to operate at unacceptable conditions by the design Year 2025.
- Construction of a Franklin Northwest Bypass is expected to reduce traffic in Year 2025 along existing routes through Franklin: 1) Volumes along US 31W will decrease by 15-20% and 2) Volumes along KY 100 will decrease by 20%.
- Connection of the Franklin Northwest Bypass to the existing sections of KY 1008 is expected to attract the most users of the new route, about 6,700 vehicles per day (vpd) in Year 2025.
- Disjunction of the bypass route at either end of the existing KY 1008 is expected to reduce use of the bypass between 10% and 30% in Year 2025.

Environmental Overview

Environmental concerns and issues identified within the project area include:

- Public and private water sources;
- Potential water quality issues;
- Wetland areas;
- Karst groundwater basins/development;
- Potential endangered, threatened or special concern species;
- Sensitive community resources;
- Potential environmental justice issues related to minority and low-income populations;
- Historic structures;
- Cropland and farming operations; and
- Sites monitored by the Environmental Protection Agency (EPA).

Public Involvement

Throughout the course of this study, local citizens, public officials and interest groups were given the opportunity to provide input. Comments and discussions from the local involvement meetings indicate that there is mixed support for the bypass extension project.

Some participants suggested that the bypass could be moved further west on KY 100 and further north on US 31W to avoid homes and serve the industrial park. Others suggested that it should connect at the existing 1008 intersections, indicating that it would be inconvenient to have disjunctions along the bypass. Other comments received included the following:

- The proposed bypass would relieve congestion and truck traffic in Franklin;
- It would also improve access to areas north and west of town;
- Negative impacts to homeowners and farmland should be considered; and
- Landscaping and buffering to reduce visual and noise impacts on the adjacent neighborhoods should be considered.

Corridor Recommendations

As a result of the Pre-Design Scoping Study process, the following conclusions and recommendations were developed:

- The Franklin Northwest Bypass project should be moved forward to future phases of development.
- Additional funding will be required for the completion of construction activities for this project.
- Design corridors considered during future phase of this project should fall within the identified study area.
- Connection of the proposed route to the existing sections of KY 1008 is expected to attract the most users of the new route.
- Landscaping and buffering options should be considered along the proposed route to reduce impacts to residential areas.
- Provide a corridor that has minimal impacts to environmental issues in the study area.
- Involve local officials, interest groups, and the general public as much as possible throughout any future project phases.

Cost Estimates

As shown in the following table, the 2.7-mile corridor is expected to cost approximately $12.1 million. A total of $4.0 million is currently scheduled in the Six Year Highway Plan (FY 2003-FY 2008) for all future phases except construction of this project. Current scheduled funds are adequate, but additional funds are needed for the unscheduled construction phase of this project.

Phase	Anticipated Project Cost
Design	$400,000
Right-of-Way	$2,600,000
Utility Relocation	$1,000,000
Construction	$8,100,000
Total	$12,100,000

It is recommended that the scheduled project phases, with the addition of construction activities, remain as the schedule for the Franklin Northwest Bypass (KY 1008 extension).

Special Considerations

The following special considerations should be made in future phases of this project to address issues identified through this study.

- Environmental justice issues related to minority and low-income populations within close proximity to the project area should be closely monitored throughout further phases of this project.
- Threatened and endangered species should also be carefully monitored. The Gray Mytosis, Kentucky Creekshell, Spotted Darter, and Sedge Wren are known to exist within Simpson County.
- Consideration should be given to potential water quality issues related to the Barren River watershed, its tributaries and wetland areas.
- A more detailed study of karst topography and groundwater basins within the study area should be considered as the project develops.
- The presence of farms within and near the project area could present issues related to agricultural impacts.

Next Steps

- Upcoming project development activities should consist of environmental base studies and initial design activities for alternative alignments within the recommended corridor area.
- Future consideration should be given to long-term improvements such as completing a full western bypass which would utilize portions of the Franklin Northwest Bypass.

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I. INTRODUCTION

The purpose of this Pre-Design Scoping Study is to define and gather critical information relative to the project prior to the design phase. The study intends to help define the purpose of the project, establish an approximate location for future improvements and define potential project development issues.

Through this Pre-Design Scoping Study, the Kentucky Transportation Cabinet (KYTC) is able to insure that future project improvements effectively address the identified transportation needs and that the project development effort meets Federal requirements as defined in the National Environmental Policy Act (NEPA).

This project is identified in the Kentucky Transportation Cabinet's (KYTC) FY 2003-2008 Six Year Highway Plan as Item No. 3-106.00. The project is defined as a Franklin Northwest Bypass or the extension of KY 1008 from KY 100 on the west side of town to US 31W.

This report provides a general introduction and description of the project; presents a traffic and environmental overview of the proposed project area; summarizes the public and agency input received to-date on the project; and provides recommendations and next steps for project development.

Report Contents

- General Information
- Study Area Characteristics
- Public and Agency Input
- Preliminary Environmental Overview
- Future Traffic Considerations
- Draft Project Goals
- Recommendations and Conclusions
- Contact Information

A. Project Location

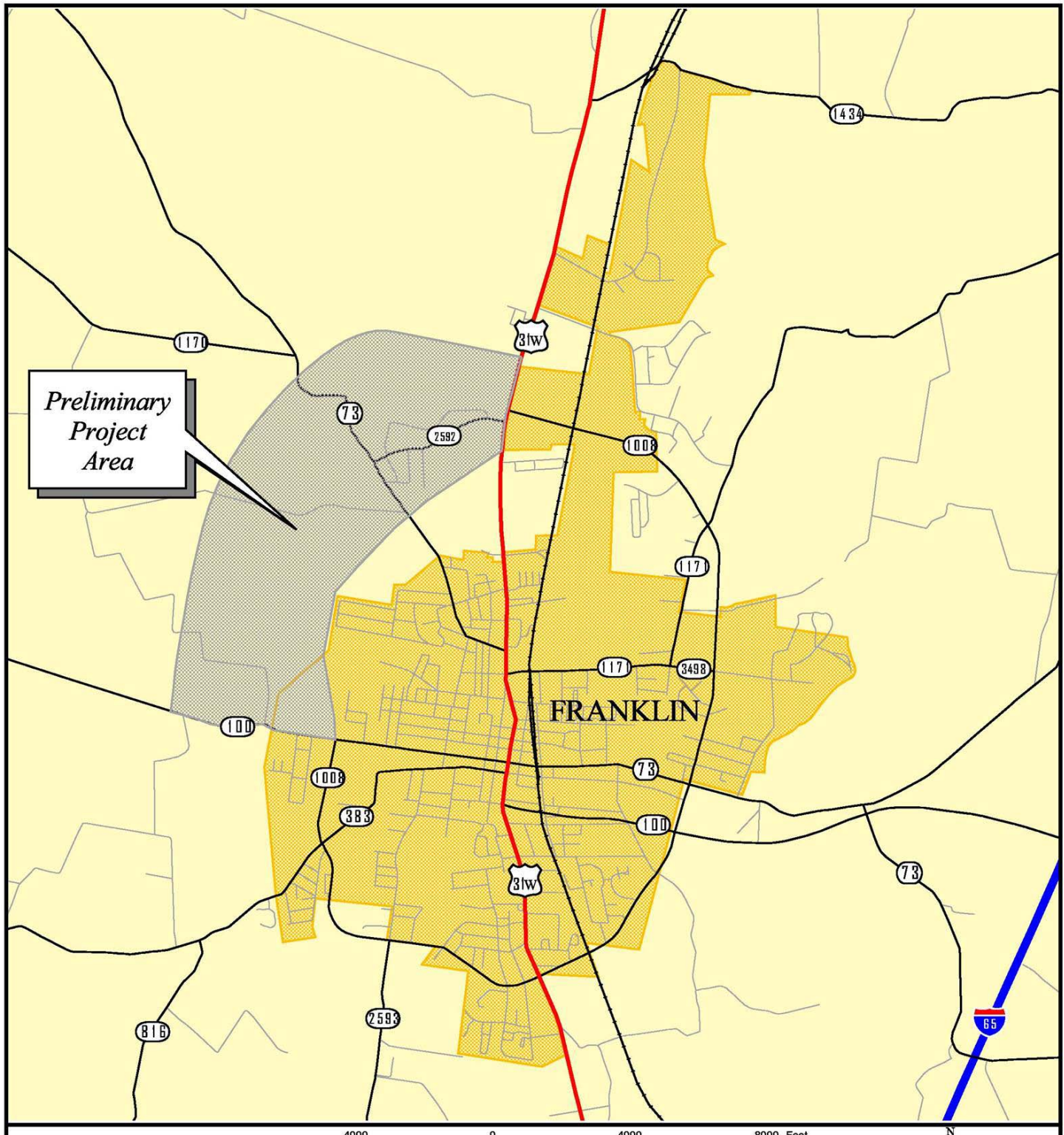
The proposed bypass (extension of KY 1008) is located in the northwest portion of Franklin, Kentucky between KY 100 and US 31W. Franklin is in Simpson County which is located in the southwestern portion of the state, as shown in **Figure 1**. A preliminary project area is included in this figure.

The existing segments of the Franklin Bypass (KY 1008) were built in separate stages. The intent of the original bypass segments was to divert truck traffic away from downtown Franklin. The most recent segment, from US 31W to North Street, was completed in the late 1980's. The construction of the proposed northwest bypass segment would complete a full circle bypass around the city.

B. Study Objectives and Tasks

The idea for the Northwest Franklin Bypass has been discussed for several years; however, public opposition stopped the project from moving past the design phase. As a result, previous design efforts will not be considered as part of this Pre-Design Scoping Study. This planning study serves as a clean slate for the Franklin Northwest Bypass project.

This study is intended to help better define the need for a Franklin Northwest Bypass, which would connect KY 100 and US 31W. The study is also intended to help expedite the project development process and identify potential environmental issues. In addition, the study process affords an opportunity for public and agency input so that



LEGEND

- Interstates
- US Highway
- State Roads
- Local Roads
- Railroad
- Towns
- Corporate Boundary

4000 0 4000 8000 Feet

N W E S

Location Map

EDUCATION PAYS

KENTUCKY TRANSPORTATION CABINET

ENGINEERS PLANNERS ECONOMISTS
Wilbur Smith Associates

Project Location

Figure 1
Simpson County
Item No. 3-106.00

KY 1008 from
KY 100 to US 31W

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project needs, improvement options, and issues and concerns can be clearly defined at the earliest stage of project development.

Specific tasks involved with this study include:

- Define project goals;
- Identify project termini;
- Consider existing conditions and future needs;
- Identify preliminary environmental and other concerns;
- Initiate contact with public officials and agencies;
- Listen to and share information with the public; and
- Provide recommendations.

C. Programming and Schedule

The project description listed in the KYTC's Six Year Highway Plan identifies this project as involving a 2.8-mile extension of KY 1008 from KY 100 on the west side of Franklin to US 31W. According to the Pre-construction Status Report (December 2003), funding has been scheduled for this project through the Utility Relocation Phase, which includes $100,000 for the Planning phase. Subsequent phases of project development include Design ($400,000 in FY 2006), Right-of-Way Acquisition ($2.6 million in FY 2007), and Utility Relocation ($1.0 million in FY 2007), as shown below:

Phase	Timeline	Funding
Design	FY 2006	$0.4 million
Right-of-Way Acquisition	FY 2007	$2.6 million
Utility Relocation	FY 2007	$1.0 million
Construction	----	----

Since the Construction phase is not scheduled in the current Six Year Highway Plan, it is anticipated that additional project funds will be required to complete the Franklin Northwest Bypass project.

II. EXISTING CONDITIONS

Characteristics of the major highways in the study area are identified in the following sections. Included are transportation systems, geometric data, bridges, traffic conditions, crash history, and planned highway improvements. Features of the highways in the study area are summarized from the KYTC Highway Information System (HIS) database. It should be noted that maps and table summaries located throughout this report may also include roadway segments that fall outside of the preliminary project area. Photographs of some features in the study area are contained in **Appendix A** and throughout this chapter.

Much of the following discussion is based on the existing sections of KY 1008 in Franklin. KY 1008 currently rings the city of Franklin on three sides. The southwest portion of KY 1008, between US 31W and KY 100, was converted from existing city streets and is the oldest section of the bypass. The southeast and northeast sections are the newer portions of the bypass, with geometric standards improving from south to north.

A. Highway Systems

The various highway systems represented by study area roadways are summarized in **Table 1**. These include the State System, the National Truck Network (NN), and the National Highway System (NHS). Functional classification and truck weight class are also listed for the study area routes. The highway systems information is summarized as follows:

- State-maintained roads in Kentucky are classified into one (1) of six (6) categories under the State System, ranging from Supplemental Road to State Primary. In the study area, existing KY 1008 is classified as a State Secondary route.
- The National Truck Network (NN) includes roads that have been specifically designated for use by commercial trucks with increased dimensions (102 inches wide; 13 feet, six (6) inches high; semi-trailers up to 53 feet long; trailers up to 28 feet long – not to exceed two (2) trailers per truck). KY 1008 in southeast and northeast Franklin (MP 2.276 to MP 6.526) is included in the NN system. Also, a portion of US 31W (MP 4.500 to MP 5.273 and MP8.477 to MP 9.053) is designated as an NN corridor.
- The National Highway System (NHS) was established by the Intermodal Surface Transportation Efficiency Act (ISTEA). It includes the Interstate Highway System and other significant principal arterial roads important to the nation's economy, defense, and mobility. In the study area, there are no NHS routes.
- One (1) of 12 functional classification categories is assigned to each state-maintained road in Kentucky. In the study area, KY 1008 is classified as an Urban Collector Street.
- Kentucky Revised Statutes require weight limits on the state-maintained highway system. With the exception of permits for over-dimensional or over-gross-vehicle-weight-classification-limit vehicles issued by the KYTC, Division of Motor Carriers, there are three weight classification limits: 1) AAA – 80,000 lbs. gross vehicle weight; 2) AA – 62,000 lbs. gross vehicle weight; and 3) A – 44,000 lbs. gross vehicle weight. In southwest Franklin (MP 0.000 to MP 2.276), KY 1008 has a weight classification limit of AA. The weight classification limit on KY 1008 is AAA in southeast and northeast Franklin (MP 2.276 to MP 6.526).

Table 1. Highway Systems

Simpson County, Item No. 03-106.00
Pre-Design Scoping Study, KY 1008 from KY 100 to US 31W

Begin MP	Begin Route	End MP	End Route	State System	National Truck Network (NN)	National Highway System (NHS)	Functional Classification	Truck Weight Class
KY 1008 MP 0.000 - MP 6.526								
0.000	KY 100	0.590	KY 383	State Secondary	No	No	Urban Collector Street	AA
0.590	KY 383	2.276	US 31W in south Franklin	State Secondary	No	No	Urban Collector Street	AA
2.276	US 31W in south Franklin	4.350	North Street	State Secondary	Yes	No	Urban Collector Street	AAA
4.350	North Street	6.526	US 31W in north Franklin	State Secondary	Yes	No	Urban Collector Street	AAA
US 31W MP 4.500 - MP 9.053								
4.500		4.905	Southern Urban Limits of Franklin	State Secondary	Yes	No	Rural Minor Arterial	AAA
4.905	Southern Urban Limits of Franklin	5.273	KY 1008	State Secondary	Yes	No	Urban Minor Arterial	AAA
5.273	KY 1008	6.070	KY 100	State Secondary	No	No	Urban Minor Arterial	AAA
6.070	KY 100	6.170	Washington Street	State Secondary	No	No	Urban Minor Arterial	AAA
6.170	Washington Street	6.995	KY 1171	State Secondary	No	No	Urban Minor Arterial	AAA
6.995	KY 1171	7.120	KY 73	State Secondary	No	No	Urban Minor Arterial	AAA
7.120	KY 73	7.400	Akin Street	State Secondary	No	No	Urban Minor Arterial	AAA
7.400	Akin Street	7.950	Patton Road	State Secondary	No	No	Urban Minor Arterial	AAA
7.950	Patton Road	8.477		State Secondary	No	No	Urban Minor Arterial	AAA
8.477		9.053	Broadway	State Secondary	Yes	No	Urban Minor Arterial	AAA
KY 73 MP 7.690 - MP 16.310								
7.690	Filter Plant Road	7.943	NA	State Secondary	No	No	Rural Minor Collector	A
7.943	NA	8.870	Water Street	State Secondary	No	No	Urban Collector Street	A
8.870	Water Street	9.234	US 31W	State Secondary	No	No	Urban Collector Street	A
9.234	US 31W	9.390	Parkway Drive	State Secondary	No	No	Urban Minor Arterial	A
9.390	Parkway Drive	10.228	Robey Bethel Drive	State Secondary	No	No	Urban Minor Arterial	A
10.228	Robey Bethel Drive	10.554		State Secondary	No	No	Urban Minor Arterial	A
10.554		16.310	Logan County Line	State Secondary	No	No	Rural Major Collector	A
KY 100 MP 6.302 - MP 11.000								
6.302	Harris School Road	8.284	Allen Road	State Secondary	No	No	Rural Major Collector	AAA
8.284	Allen Road	8.308		State Secondary	No	No	Rural Major Collector	AAA
8.308		8.551	KY 1008	State Secondary	No	No	Urban Minor Arterial	AAA
8.551	KY 1008	8.719		State Secondary	No	No	Urban Minor Arterial	AAA
8.719		9.111	High Street	Rural Secondary	No	No	Urban Minor Arterial	AAA
9.111	High Street	9.647	US 31W	Rural Secondary	No	No	Urban Minor Arterial	AAA
9.647	US 31W	9.675		Rural Secondary	No	No	Urban Minor Arterial	AAA
9.675		10.315	Macedonia Road	State Secondary	No	No	Urban Minor Arterial	AAA
10.315	Macedonia Road	10.648		State Secondary	No	No	Urban Minor Arterial	AAA
10.648		11.000		State Secondary	No	No	Rural Minor Arterial	AAA
KY 383 MP 7.500 - MP 9.513								
7.500		7.893	Southern Urban Limits of Franklin	State Secondary	No	No	Rural Major Collector	AAA
7.893	Southern Urban Limits of Franklin	8.279	KY 1008	State Secondary	No	No	Urban Minor Arterial	AAA
8.279	KY 1008	8.560	Briggs Avenue	Rural Secondary	No	No	Urban Minor Arterial	AAA
8.560	Briggs Avenue	9.001	KY 2151	Rural Secondary	No	No	Urban Minor Arterial	AAA
9.001	KY 2151	9.513	US 31W	Rural Secondary	No	No	Urban Minor Arterial	AAA
KY 1170 MP 4.656 - MP 7.156								
4.656	Feehon Road	7.156	KY 73	Rural Secondary	No	No	Rural Minor Collector	A
KY 1171 MP 0.000 - MP 2.090								
0.000	US 31W	0.907	KY 3498	Rural Secondary	No	No	Urban Minor Arterial	A
0.907	KY 3498	2.078	Northern Urban Limits of Franklin	Rural Secondary	No	No	Urban Minor Arterial	A
2.078	Northern Urban Limits of Franklin	2.090		Rural Secondary	No	No	Rural Minor Collector	A
KY 2592 MP 0.000 - MP 0.774								
0.000	KY 73	0.774	US 31W	Rural Secondary	No	No	Urban Local Street	A
KY 2593 MP 4.000 - MP 4.874								
4.000		4.724		Rural Secondary	No	No	Rural Local	A
4.724	Southern Urban Limits of Franklin	4.874	KY 1008	Rural Secondary	No	No	Urban Collector Street	
KY 3498 MP 0.000 - MP 0.246								
0.000	KY 1171	0.246	KY 1008	Rural Secondary	No	No	Urban Collector Street	A

Source: KYTC's *Highway Information System (HIS)* database

B. Geometric Characteristics

Geometric characteristics for major routes in the study area, listed in **Table 2**, include items such as the number of lanes, lane widths, shoulder widths, roadway type, local terrain, and route speed limits. The percent passing sight distance information was not available in the HIS database for most of the study area routes. In the study area, KY 1008 has the following characteristics:

- Southwest KY 1008 – KY 100 to US 31W (MP 0.000 to MP 2.276)
  - Two (2) lanes;
  - Nine-foot (MP 0.000 to MP 1.320) and ten-foot (MP 1.320 to 2.276) lanes;
  - Four-foot stabilized shoulders;
  - An undivided highway cross-section;
  - Flat terrain; and
  - Posted speed limits of 45 mph.

Southwest KY 1008

- Southeast KY 1008 – US 31W to KY 3498 (MP 2.276 to MP 4.333)
  - Two (2) lanes;
  - 11-foot (MP 2.276 and MP 3.688) and 10-foot (MP 3.688 and 4.333) lanes;
  - Four-foot stabilized shoulders;
  - An undivided highway cross-section;
  - Flat terrain (MP 2.276 to 3.176) and rolling terrain (MP 3.176 to MP 4.333); and
  - Posted speed limits of 45 mph (MP 2.276 to MP 3.500) and 35 mph (MP 3.500 to MP 4.333).
- Northeast KY 1008 – KY 3498 to US 31W (MP 4.333 to MP 6.526)
  - Two (2) twelve-foot lanes;
  - Ten-foot shoulders paved with bituminous material;
  - An undivided highway cross-section;
  - Rolling terrain; and
  - Posted speed limits of 45 mph (MP 4.333 to MP 4.485) and 55 mph (MP 4.485 to MP 6.526).

Northeast KY 1008

C. Bridges

Bridge data for the routes considered in this study are listed in **Table 3**. According to the KYTC Bridge Division, a bridge structure is eligible for Federal rehabilitation funds when it meets two criteria: 1) the bridge has a sufficiency rating below 50.0 and 2) the bridge is considered either structurally deficient or functionally obsolete. Structurally deficient bridges cannot carry the weight they were originally designed to carry. Bridges are considered functionally obsolete if they do not meet today's design standards.

The most recent sufficiency ratings indicate that one (1) study area bridge is eligible for Federal Rehabilitation funds. This bridge, also considered to be functionally obsolete, is located along KY 73 at MP 11.267 and is scheduled for replacement in FY 2003. In addition, one study area bridge along KY 100 at MP 9.751 is considered to be functionally obsolete.

Table 2. Geometric Characteristics

Simpson County, Item No. 03-106.00
Pre-Design Scoping Study, KY 1008 from KY 100 to US 31W

Begin MP	Begin Route	End MP	End Route	Length (miles)	# of Lanes	Lane Width (feet)	Shoulder Width (feet)	% Passing Sight Distance	Speed Limit (mph)	Roadway Type	Terrain Type	Pavement Type
KY 1008 MP 0.000 - MP 6.526												
0.000	KY 100	0.590	KY 383	0.590	2	9	4	NA	45	Undivided	Flat	Mixed Bituminous
0.590	KY 383	1.320	KY 2593 (Witt Road)	0.730	2	9	4	NA	45	Undivided	Flat	Mixed Bituminous
1.320	KY 2593 (Witt Road)	2.276	US 31W (Main Street)	0.956	2	10	4	NA	45	Undivided	Flat	Mixed Bituminous
2.276	US 31W (Main Street)	3.176	Macdonia Road	0.900	2	11	4	NA	45	Undivided	Flat	High Flexible
3.176	Macdonia Road	3.500	-	0.324	2	11	4	NA	45	Undivided	Rolling	High Flexible
3.500	-	3.688	KY 73	0.188	2	11	4	NA	35	Undivided	Rolling	High Flexible
3.688	KY 73	4.333	KY 3498 (North Street)	0.645	2	10	4	NA	35	Undivided	Rolling	High Flexible
4.333	KY 3498 (North Street)	4.485		0.152	2	12	10	NA	45	Undivided	Rolling	High Flexible
4.485		4.550		0.065	2	12	10	NA	55	Undivided	Rolling	High Flexible
4.550	-	6.526	US 31W	1.976	2	12	10	NA	55	Undivided	Rolling	High Flexible
US 31W MP 4.500 - MP 9.053												
4.500	-	4.905	Memorial Lane	0.405	2	11	10	59	55	Undivided	Rolling	High Flexible
4.905	Memorial Lane	5.178	-	0.273	2	11	10	NA	55	Undivided	Flat	High Flexible
5.178	-	5.207	-	0.029	2	11	10	NA	45	Undivided	Flat	High Flexible
5.207	-	5.424	Commerce Street	0.217	2	11	4	NA	45	Undivided	Flat	High Flexible
5.424	Commerce Street	5.720	Industrial Drive	0.296	2	11	4	NA	35	Undivided	Flat	High Flexible
5.720	Industrial Drive	6.070	Iris Drive	0.350	3	12	Curbed	NA	35	Undivided	Flat	High Flexible
6.070	Iris Drive	6.396	KY 383	0.326	3	12	Curbed	NA	35	Undivided	Flat	High Flexible
6.396	KY 383	6.610	Washington Street	0.214	3	12	Curbed	NA	25	Undivided	Flat	High Flexible
6.610	Washington Street	6.670	McGoodwin Street	0.060	3	11	Curbed	NA	25	Undivided	Rolling	High Flexible
6.670	McGoodwin Street	7.410	Akin Avenue	0.740	3	11	Curbed	NA	35	Undivided	Rolling	High Flexible
7.410	Akin Avenue	7.550	-	0.140	3	11	6	NA	35	Undivided	Rolling	High Flexible
7.550	-	8.069	-	0.519	2	11	6	NA	45	Undivided	Rolling	High Flexible
8.069	-	8.250	-	0.181	2	11	6	NA	55	Undivided	Rolling	High Flexible
8.250	-	8.275	-	0.025	2	11	6	NA	55	Divided	Rolling	High Flexible
8.275	-	8.665	JL Farmer Road	0.390	2	11	10	NA	55	Divided	Rolling	High Flexible
8.665	JL Farmer Road	9.053	Broadway	0.388	2	11	6	67	55	Undivided	Rolling	High Flexible
KY 73 MP 7.690 - MP 16.310												
7.690	Crestview Road	8.417	-	0.727	2	10	4	NA	45	Undivided	Flat	High Flexible
8.417	-	8.490	-	0.073	2	10	4	NA	35	Undivided	Flat	High Flexible
8.490	-	8.652	Macedonia Road	0.162	2	10	4	NA	35	Undivided	Flat	High Flexible
8.652	Macedonia Road	9.040	Railroad Street East	0.388	2	11	1	NA	35	Undivided	Flat	High Flexible
9.040	Railroad Street East	9.234	US 31W	0.194	2	11	1	NA	25	Undivided	Flat	High Flexible
9.234	US 31W	9.660	Lynnwood Drive	0.426	2	9	4	NA	35	Undivided	Flat	Mixed Bituminous
9.660	Lynnwood Drive	10.250	Robey-Bethel Grove	0.590	2	9	4	NA	45	Undivided	Flat	Mixed Bituminous
10.250	Robey-Bethel Grove	10.554	KY 2592	0.304	2	8	4	NA	55	Undivided	Flat	Mixed Bituminous
10.554	KY 2592	16.310	KY 621	5.756	2	8	4	35	55	Undivided	Flat	Mixed Bituminous
KY 100 MP 6.302 - MP 11.000												
6.302	Harris School Road	6.508	Dinwiddie Road	0.206	2	9	4	34	55	Undivided	Flat	High Flexible
6.508	Dinwiddie Road	8.308	Allen Road	1.800	2	9	4	63	55	Undivided	Flat	High Flexible
8.308	Allen Road	8.364	-	0.056	2	9	4	NA	55	Undivided	Flat	High Flexible
8.364	-	8.534	-	0.170	2	9	4	NA	45	Undivided	Flat	High Flexible
8.534	-	8.572	Fairview Avenue	0.038	2	9	4	NA	35	Undivided	Flat	High Flexible
8.572	Fairview Avenue	8.900	D & H Street	0.328	2	10	1	NA	35	Undivided	Flat	High Flexible
8.900	D & H Street	9.536	-	0.636	2	12	1	NA	35	Undivided	Flat	High Flexible

Source: KYTC's *Highway Information System (HIS)* database

Table 2. Geometric Characteristics (continued)

Simpson County, Item No. 03-106.00
Pre-Design Scoping Study, KY 1008 from KY 100 to US 31W

Begin MP		End MP		Length (miles)	# of Lanes	Lane Width (feet)	Shoulder Width (feet)	% Passing Sight Distance	Speed Limit (mph)	Roadway Type	Terrain Type	Pavement Type
KY 100 MP 6.302 - MP 11.000												
9.536	-	9.647	US 31W	0.111	4	12	2	29	55	Divided	Rolling	High Rigid
9.647	US 31W	9.750	-	0.103	4	12	2	NA	55	Divided	Rolling	High Rigid
9.750	-	9.954	-	0.204	2	12	6	NA	55	Divided	Rolling	High Flexible
9.954	-	10.137	Russell Street	0.183	2	12	6	29	55	Divided	Rolling	High Flexible
10.137	Russell Street	10.315	Railroad Street West	0.178	2	12	6	60	55	Divided	Rolling	High Flexible
10.315	Railroad Street West	10.502	Montague Avenue	0.187	2	12	6	60	55	Divided	Rolling	High Flexible
10.502	Montague Avenue	10.524	-	0.022	2	12	10	60	55	Divided	Rolling	High Flexible
10.524	-	10.648	KY 1008 (Franklin Bypass)	0.124	2	12	10	Curbed	55	Divided	Rolling	High Flexible
10.648	KY 1008 (Franklin Bypass)	10.700	-	0.052	2	12	10	100	55	Divided	Rolling	High Flexible
10.700	-	10.854	-	0.154	2	12	10	100	55	Undivided	Rolling	High Flexible
10.854	-	11.000	Crestview Road	0.146	2	12	10	44	55	Undivided	Rolling	High Flexible
KY 383 MP 7.500 - MP 9.513												
7.500	-	7.650	-	0.150	2	9	4	0	55	Undivided	Rolling	High Flexible
7.650	-	7.949	Western Avenue	0.299	2	9	4	0	45	Undivided	Rolling	High Flexible
7.949	Western Avenue	8.279	KY 1008 (Franklin Bypass)	0.330	2	9	4	NA	45	Undivided	Rolling	High Flexible
8.279	KY 1008 (Franklin Bypass)	8.580	-	0.301	2	9	4	NA	45	Undivided	Rolling	High Flexible
8.580	-	9.230	Liberty Street	0.650	2	9	4	NA	35	Undivided	Rolling	High Flexible
9.230	Liberty Street	9.513	US 31W (Main Street)	0.283	2	9	2	NA	35	Undivided	Rolling	High Flexible
KY 1170 MP 4.656 - MP 7.156												
4.656	Stanley Lane	7.156	KY 73	2.500	2	8	4	NA	55	Undivided	Rolling	Mixed Bituminous
KY 1171 MP 0.000 - MP 2.090												
0.000	US 31W	0.907	KY 3498 (Woodland Drive)	0.907	2	10	4	NA	35	Undivided	Rolling	Mixed Bituminous
0.907	KY 3498 (Woodland Drive)	1.630	-	0.723	2	10	4	NA	45	Undivided	Rolling	Mixed Bituminous
1.630	-	1.800	KY 1008 (Franklin Bypass)	0.170	2	11	4	NA	45	Undivided	Rolling	Mixed Bituminous
1.800	KY 1008 (Franklin Bypass)	2.090	Broadway	0.290	2	9	4	NA	45	Undivided	Rolling	Mixed Bituminous
KY 2592 MP 0.000 - MP 0.774												
0.000	KY 73	0.774	US 31W	0.774	2	10	4	NA	35	Undivided	Rolling	Mixed Bituminous
KY 2593 MP 4.000 - MP 4.874												
4.000	-	4.874	KY 1008 (Franklin Bypass)	0.874	2	8	4	NA	55	Undivided	Rolling	Mixed Bituminous
KY 3498 MP 0.000 - 0.246												
0.000	KY 1171 & Woodland Drive	0.170	-	0.170	2	11	5	NA	35	Undivided	Flat	High Flexible
0.170	-	0.246	KY 1008 (Franklin Bypass)	0.076	2	11	6	NA	35	Undivided	Flat	High Flexible

Source: KYTC's *Highway Information System (HIS)* database

Table 3. Bridge Data

Simpson County, Item No. 3-106.00
Pre-Design Scoping Study, KY 1008 from KY 100 to US 31W

Route	Bridge MP	Bridge No.	Bridge Length	Bridge Width	Horizontal Clearance	Sufficiency Rating	Structural[1] Function	Feature Intersected
KY 1008	0.137	B00027	25	0.0	30.0	92.8		Unnamed stream
KY 1008	2.581	B00028	150	35.0	34.0	96.2		CSX RR
KY 73	9.400	B00037	29	0.0	21.0	96.0		Unnamed stream
KY 73	11.267	B00011	33	23.0	22.0	39.0	F	Sinking Creek
KY 100	9.751	B00035	173	79.3	76.0	95.0	F	CSX RR & Railroad St.

1) S-Indicates Structurally Deficient, F-Indicates Functionally Obsolete

Source: KYTC's *Highway Information System (HIS)* database

D. Existing Traffic and Level of Service

The study area's existing traffic and operational conditions, for each major route, are listed in **Table 4**. For this project, existing (Year 2002) traffic volumes and level of service (LOS) have been identified and are discussed further in the following subsections.

1. Existing Traffic Volumes and Level of Service (Year 2002)

Existing traffic volumes (Year 2002) for segments of the study area routes were primarily summarized based on information provided in the HIS database. Existing truck percentages were determined for the study area routes using the HIS data and KYTC default values based on the functional classification of the segment.

The existing average daily traffic (ADT) volumes are shown in **Figure 2**. Those volumes and the corresponding truck percentages are located in **Table 4**. The existing traffic volumes along KY 1008 range between 2,520 vehicles per day (vpd) in southwest Franklin (MP 0.000 to MP 0.590) and 6,920 vpd in southeast Franklin (MP 3.770 to MP 3.968). Existing truck percentages are approximately 7.9% of the total traffic along KY 1008.

A northwest bypass of Franklin would potentially serve some of the traffic currently using KY 100 west and US 31W north. Currently, traffic volumes along US 31W in Franklin range from 10,600 vpd to 24,700 vpd. KY 100 in the study area has traffic volumes that range from 2,510 vpd to 5,930 vpd. Truck percentages from US 31W and KY 100 are approximately 7.5% and 11.1%, respectively. The highest truck percentages (11.1%) are currently found along KY 100 through town.

2. Level of Service

Level of Service (LOS) is a qualitative measure defined in the *2000 Highway Capacity Manual*, published by the Transportation Research Board (TRB), and used to describe traffic conditions. Individual levels of service characterize these conditions in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. Six (6) levels of service are defined and are given letter designations from A to F, with LOS A representing free flow conditions and LOS F representing severe congestion. Typically, a minimum of LOS D is acceptable in urban areas and LOS C in rural areas. Chapters 15, 20 and 21 of the 2000 Highway Capacity Manual provide guidelines on the analytical procedures for estimating LOS for streets and highways.

Level of Service

- LOS is used to describe traffic conditions, where LOS A is the best and LOS F is the worst.
- KY 1008 operates at LOS D or better in the study area.
- US 31W operates at LOS D and LOS E in the study area.

Figure 2 and **Table 4** also show existing LOS calculated for segments of each route in the study area. KY 1008 currently operates at or above LOS C except from MP 3.176 to MP 3.968, where it falls to LOS D. KY 100 operates at LOS C and above in the study area. US 31W, on the other hand, operates at LOS D and LOS E within the study area. The most congested portion of US 31W falls between North Street/Roosevelt Avenue and KY 73 in Franklin (MP 6.995 to MP 7.120).

Table 4. Existing Traffic Characteristics

Simpson County, Item No. 03-106.00
Pre-Design Scoping Study, KY 1008 from KY 100 to US 31W

Begin MP	End MP	Length (miles)	% Trucks	2002 ADT	2002 LOS	HCS Module[3]	Free Flow Speed	% No Passing	Access Pts / Mile
KY 1008 MP 0.000 - MP 6.526									
0.000	0.590	0.590	7.9 [1]	2,520	B	II	50	100	10
0.590	2.280	1.690	7.9 [1]	6,030	C	II	50	100	10
2.280	3.176	0.896	7.9 [1]	5,630	C	II	50	100	10
3.176	3.500	0.324	7.9 [1]	6,800	D	II	50	100	10
3.500	3.770	0.270	7.9 [1]	6,800	D	II	45	100	10
3.770	3.968	0.198	7.9 [1]	6,920	D	II	45	80	8
3.968	4.350	0.382	7.9 [1]	5,010	C	II	45	80	8
4.350	4.550	0.200	7.9 [1]	4,620	C	II	45	80	8
4.550	6.526	1.976	7.9 [1]	4,620	C	II	60	80	2
US 31W MP 4.500 - MP 9.053									
4.500	5.178	0.678	7.5	14,500	D	II	60	41	8
5.178	5.273	0.095	7.5	14,500	D	II	50	41	10
5.273	5.424	0.151	7.5 [2]	13,300	D	II	50	41	20
5.424	5.720	0.296	7.5 [2]	13,300	D	II	45	41	20
5.720	6.070	0.350	7.5 [2]	12,900	D	II	45	41	20
6.070	6.170	0.100	7.5 [2]	12,400	D	II	45	41	20
6.170	6.396	0.226	7.5 [2]	14,900	D	II	45	41	20
6.396	6.670	0.274	7.5 [2]	14,900	D	II	45	41	20
6.670	6.995	0.325	7.5 [2]	14,900	D	II	45	41	20
6.995	7.120	0.125	7.5 [2]	24,700	E	II	45	41	20
7.120	7.400	0.280	7.5 [2]	11,600	D	II	45	41	20
7.400	7.550	0.150	7.5 [2]	10,600	D	II	45	41	20
7.550	7.950	0.400	7.5 [2]	10,600	D	II	50	41	10
7.950	8.069	0.119	7.5 [2]	12,500	D	II	50	41	10
8.069	9.053	0.984	7.5 [2]	12,500	D	II	60	41	10
KY 73 MP 7.690 - MP 16.310									
7.690	8.417	0.727	7.9 [1]	3,820	C	II	50	100	15
8.417	8.490	0.073	7.9 [1]	3,820	C	II	45	100	15
8.490	8.870	0.380	7.9 [1]	4,070	C	II	45	100	15
8.870	9.040	0.170	7.9 [1]	3,740	C	II	45	100	15
9.040	9.234	0.194	7.9 [1]	3,740	C	II	45	100	15
9.234	9.390	0.156	7.9 [1]	4,620	C	II	45	65	8
9.390	9.660	0.270	7.9 [1]	4,120	C	II	45	65	8
9.660	10.228	0.568	7.9 [1]	4,120	C	II	50	65	8
10.228	10.250	0.022	7.9 [1]	1,440	A	II	50	65	8
10.250	16.310	6.060	7.9 [1]	1,440	A	II	60	65	8
KY 100 MP 6.302 - MP 11.000									
6.302	6.508	0.206	11.1 [2]	2,510	B	II	60	66	10
6.508	8.284	1.776	11.1 [2]	2,510	B	II	60	37	10
8.284	8.308	0.024	11.1 [2]	4,190	B	II	60	37	10
8.308	8.364	0.056	11.1 [2]	4,190	B	II	60	50	20
8.364	8.534	0.170	11.1 [2]	4,190	B	II	50	50	20
8.534	8.551	0.017	11.1 [2]	4,190	B	II	45	50	20
8.551	9.111	0.560	11.1 [2]	4,090	B	II	45	50	20
9.111	9.536	0.425	11.1 [2]	5,150	C	II	45	50	20
9.536	9.647	0.111	11.1 [2]	5,150	A	M	60	50	20
9.647	9.654	0.007	11.1	3,080	A	M	60	71	20
9.654	9.750	0.096	11.1	3,080	A	M	60	71	20
9.750	9.954	0.204	11.1	3,080	B	II	60	71	20
9.954	10.137	0.183	11.1	3,080	C	II	60	71	20
10.137	10.315	0.178	11.1	3,080	B	II	60	40	20
10.315	10.524	0.209	11.1	3,110	B	II	60	40	20
10.524	10.613	0.089	11.1	3,110	C	II	60	100	20
10.613	10.648	0.035	11.1	5,930	C	II	60	100	20
10.648	10.854	0.206	11.1	5,930	B	II	60	0	10
10.854	11.000	0.146	11.1	5,930	C	II	60	56	10

Table 4. Existing Traffic Characteristics (continued)

Simpson County, Item No. 03-106.00
Pre-Design Scoping Study, KY 1008 from KY 100 to US 31W

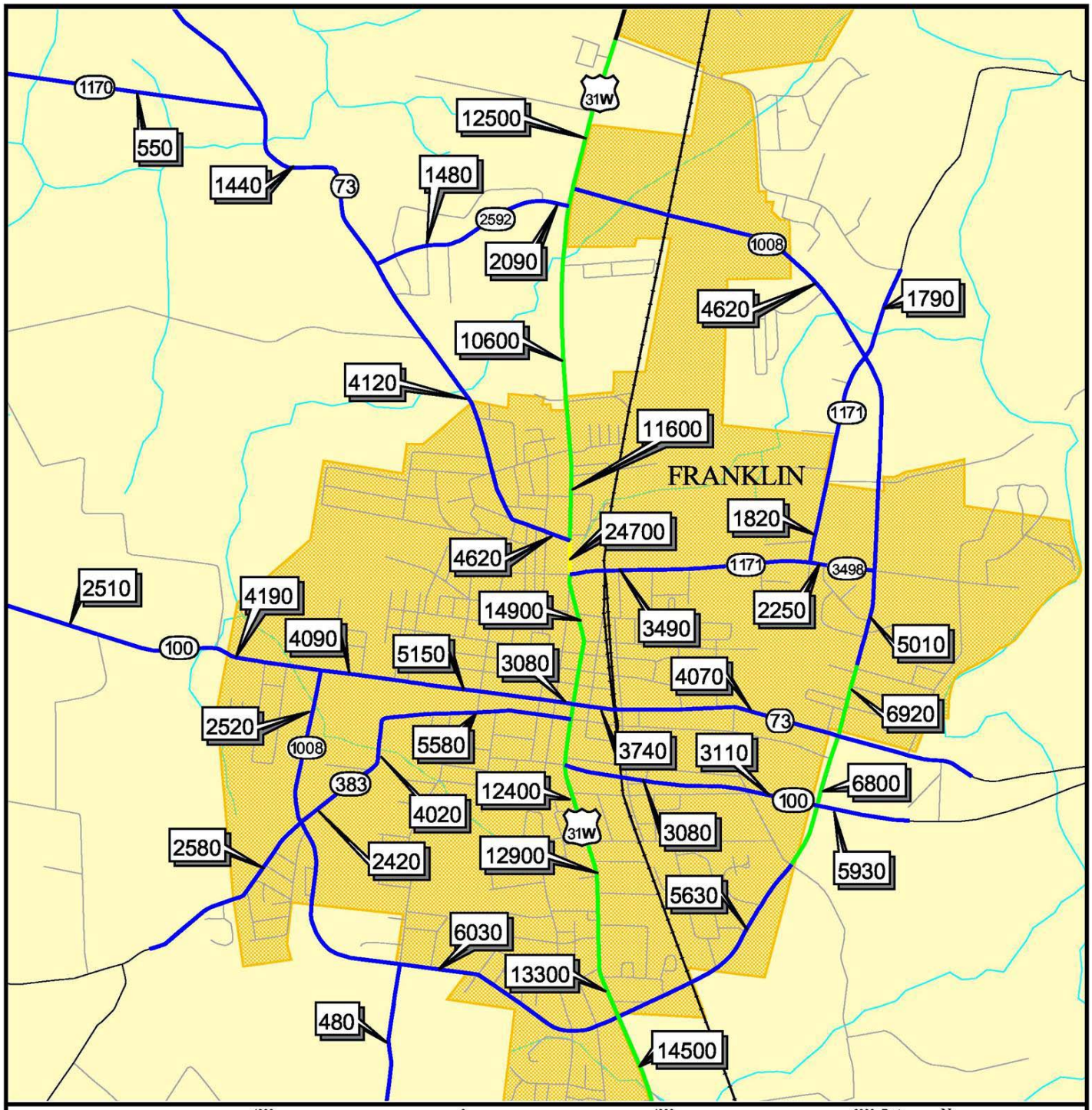
Begin MP	End MP	Length (miles)	% Trucks	2002 ADT	2002 LOS	HCS Module[3]	Free Flow Speed	% No Passing	Access Pts / Mile
KY 383 MP 7.500 - MP 9.513									
7.500	7.650	0.150	5.6 [1]	2,580	B	II	55	100	10
7.650	8.279	0.629	5.6 [1]	2,580	B	II	45	100	10
8.279	8.560	0.281	5.6 [1]	2,420	B	II	45	100	10
8.560	8.58	0.020	5.6 [1]	4,020	C	II	45	100	10
8.580	9.001	0.421	5.6 [1]	4,020	C	II	35	100	10
9.001	9.513	0.512	5.6 [1]	5,580	C	II	35	100	10
KY 1170 MP 4.656 - MP 7.156									
4.656	7.156	2.500	5.6 [1]	550	A	II	55	80	10
KY 1171 MP 0.000 - MP 2.090									
0.000	0.907	0.907	2.1	3490	C	II	35	80	10
0.907	1.110	0.203	2.1	1820	B	II	45	80	10
1.110	2.090	0.980	2.1	1790	B	II	45	80	10
KY 2592 MP 0.000 - MP 0.774									
0.000	0.078	0.078	7.9 [1]	1,170	A	II	35	80	10
0.078	0.685	0.607	7.9 [1]	1,480	B	II	35	80	10
0.685	0.774	0.089	7.9 [1]	2,090	B	II	35	80	10
KY 2593 MP 4.000 - MP 4.874									
4.000	4.874	0.874	7.9 [1]	480	A	II	55	80	8
KY 3498 MP 0.000 - 0.246									
0.000	0.246	0.246	7.9 [1]	2,250	B	II	35	80	8

1) Value Taken From 2002 Traffic Forecasting Report, KYTC Division of Multimodal Programs, Table 4F, pg. 20

2) Estimated based on other segments along route included in Highway Information System (HIS) database

3) F=Freeway; M=Multilane Highway; I=Two Lane - Class 1; II=Two Lane - Class II

Sources: KYTC's Highway Information System (HIS) database, Transportation Research Board's 2000 Highway Capacity Manual, 2000 Highway Capacity Software



4000 0 4000 8000 Feet

N
W E
S

LEGEND

9360	Estimated 2002 ADT
	C or Better
	D
	E
	F

Location Map

EDUCATION PAYS

KENTUCKY TRANSPORTATION CABINET

ENGINEERS PLANNERS ECONOMISTS
Wilbur Smith Associates

Year 2002 Traffic and Level of Service

Figure 2
Simpson County
Item No. 3-106.00

KY 1008 from
KY 100 to US 31 W

Printed: 10/28/03

E. Crash Analysis

Crash data for the major routes in the study area were considered for a four-year period from January 1, 1998, to December 31, 2001. The location of crashes with valid milepoint designations, recorded in the HIS database, are shown by corridor segment in **Table 5** and by spot (0.1 miles in length) in **Table 6** to determine possible high crash locations. A spot location or segment of roadway is considered to have a high crash rate when the total crash rate is higher than the critical crash rate for similar roads in the area.

Crash Analysis

- Segments of US 31W and KY 100 have higher crash rates than similar highways.
- There are three (3) high crash spots along KY 1008 in the study area.
- There are several high crash spots along US 31W, KY 73, KY 100, and KY 383.

When a spot location or segment has a critical rate factor greater than one (1.00), it indicates that crashes at this location may not be occurring randomly. The critical rate factors are calculated on the methodology presented in the Kentucky Transportation Center's Analysis of Traffic Accident Data in Kentucky (1997-2001)[1].

As part of this process, each crash was classified into one (1) of three (3) categories based on the degree of severity: fatal, injury, or property-damage-only. During the period studied, there were no fatal, twenty-eight (28) injury, and fifty-four (54) property-damage-only crashes along KY 1008 in the study area.

Figure 3 displays the crash data by severity and location, along with the identified high crash segments and spots. As shown highlighted in red, portions of US 31W and KY 100 have historical crash rates which are higher than those for similar highway segments.

High crash spot locations are identified along most of the routes considered. There are three (3) high crash spots along KY 1008 in the study area: 1) at the western intersection with KY 100; 2) just east of US 31W; and 3) just northwest of the KY 1171 intersection. In addition, there are several high crash spots along US 31W, KY 73, KY 100, and KY 383.

[1] Agent and Pigman. *Analysis of Traffic Accident Data in Kentucky (1997-2001)*. Kentucky Transportation Center. August 2002.

Table 5. Crash Segment Analysis (1998-2001)

Simpson County, Item No. 03-106.00

Pre-Design Scoping Study, KY 1008 from KY 100 to US 31W

Begin MP	End MP	Length (miles)	ADT	Number of Lanes	Divided / Undivided	Rural / Urban	Avg. Acc. Rate	Critical Acc. Rate	Crashes				HMVM	Rates per HMVM				Critical Rate Factor
									Fatal	Injury	PDO	Total		Fatal	Injury	PDO	Total	
KY 1008 MP 0.000 - MP 6.526																		
0.000	0.590	0.590	2,520	2	Undivided	Urban	308	637.878	0	6	6	12	0.02	0.00	276.40	276.40	552.81	0.87
0.590	2.280	1.690	6,030	2	Undivided	Urban	308	428.565	0	8	22	30	0.15	0.00	53.77	147.87	201.63	0.47
2.280	3.176	0.896	5,630	2	Undivided	Urban	308	481.374	0	3	3	6	0.07	0.00	40.73	40.73	81.47	0.17
3.176	3.770	0.594	6,800	2	Undivided	Urban	308	502.643	0	8	5	13	0.06	0.00	135.66	84.79	220.44	0.44
3.770	3.968	0.198	6,920	2	Undivided	Urban	308	652.633	0	0	1	1	0.02	0.00	0.00	49.99	49.99	0.08
3.968	4.350	0.382	5,010	2	Undivided	Urban	308	596.349	0	0	3	3	0.03	0.00	0.00	107.37	107.37	0.18
4.350	6.526	2.176	4,620	2	Undivided	Urban	308	429.410	0	3	14	17	0.15	0.00	20.44	95.38	115.82	0.27
US 31W MP 4.500 - MP 9.053																		
4.500	4.905	0.405	14,500	2	Undivided	Rural	252	397.487	0	2	12	14	0.09	0.00	23.33	139.96	163.29	0.41
4.905	5.273	0.368	14,500	2	Undivided	Urban	308	476.389	0	14	31	45	0.08	0.00	179.70	397.92	577.62	1.21
5.273	5.720	0.447	13,300	2	Undivided	Urban	308	467.210	0	5	11	16	0.09	0.00	57.60	126.73	184.34	0.39
5.720	6.070	0.350	12,900	2	Undivided	Urban	308	491.667	0	7	14	21	0.07	0.00	106.19	212.38	318.57	0.65
6.070	6.170	0.100	12,400	2	Undivided	Urban	308	671.614	0	2	7	9	0.02	0.00	110.47	386.65	497.13	0.74
6.170	6.995	0.825	14,900	2	Undivided	Urban	308	417.501	0	25	117	142	0.18	0.00	139.30	651.92	791.22	1.90
6.995	7.120	0.125	24,700	2	Undivided	Urban	308	532.024	0	10	29	39	0.05	0.00	221.84	643.34	865.18	1.63
7.120	7.400	0.280	11,600	2	Undivided	Urban	308	526.148	0	2	32	34	0.05	0.00	42.18	674.81	716.98	1.36
7.400	7.950	0.550	10,600	2	Undivided	Urban	308	468.831	0	4	4	8	0.09	0.00	46.99	46.99	93.99	0.20
7.950	8.250	0.300	10,600	2	Undivided	Urban	308	528.582	0	3	3	6	0.05	0.00	64.62	64.62	129.23	0.24
8.250	8.665	0.415	10,600	2	Divided	Urban	308	494.174	0	5	6	11	0.06	0.00	77.85	93.42	171.27	0.35
8.665	9.053	0.388	12,500	2	Undivided	Urban	308	484.954	0	2	6	8	0.07	0.00	28.24	84.73	112.98	0.23
KY 73 MP 7.690 - MP 16.310																		
7.690	7.943	0.253	3820	2	Undivided	Rural	252	631.688	0	0	0	0	0.01	0.00	0.00	0.00	0.00	0.00
7.943	8.490	0.547	3820	2	Undivided	Urban	308	583.222	0	0	2	2	0.03	0.00	0.00	65.56	65.56	0.11
8.490	8.870	0.380	4070	2	Undivided	Urban	308	630.997	0	1	3	4	0.02	0.00	44.29	132.86	177.15	0.28
8.870	9.234	0.364	3740	2	Undivided	Urban	308	653.826	0	0	9	9	0.02	0.00	0.00	452.81	452.81	0.69
9.234	9.390	0.156	4620	2	Undivided	Urban	308	796.236	0	0	3	3	0.01	0.00	0.00	285.10	285.10	0.36
9.390	10.228	0.838	4120	2	Undivided	Urban	308	519.280	0	0	10	10	0.05	0.00	0.00	198.38	198.38	0.38
10.228	16.310	6.082	1440	2	Undivided	Rural	252	370.268	0	8	17	25	0.13	0.00	62.56	132.95	195.51	0.53
KY 100 MP 6.302 - MP 11.000																		
6.302	8.284	1.982	2,510	2	Undivided	Rural	252	410.617	1	5	17	23	0.07	13.77	68.84	234.06	316.66	0.77
8.284	8.551	0.267	4,190	2	Undivided	Urban	308	692.350	0	2	1	3	0.02	0.00	122.45	61.22	183.67	0.27
8.551	9.111	0.560	4,090	2	Undivided	Urban	308	570.175	0	3	10	13	0.03	0.00	89.71	299.04	388.76	0.68
9.111	9.536	0.425	5,150	2	Undivided	Urban	308	576.545	0	3	23	26	0.03	0.00	93.88	719.75	813.63	1.41
9.536	9.750	0.214	5,150	4	Undivided	Urban	500	985.166	0	1	4	5	0.02	0.00	62.15	248.59	310.74	0.32
9.750	10.315	0.565	3,080	2	Divided	Urban	308	611.305	0	1	1	2	0.03	0.00	39.36	39.36	78.72	0.13

Table 5. Crash Segment Analysis (1998-2001) (continued)

Simpson County, Item No. 03-106.00

Pre-Design Scoping Study, KY 1008 from KY 100 to US 31W

Begin MP	End MP	Length (miles)	ADT	Number of Lanes	Divided / Undivided	Rural / Urban	Avg. Acc. Rate	Critical Acc. Rate	Crashes				HMVM	Rates per HMVM				Critical Rate Factor
									Fatal	Injury	PDO	Total		Fatal	Injury	PDO	Total	
KY 100 MP 6.302 - MP 11.000																		
10.315	10.613	0.298	3,110	2	Divided	Urban	308	733.600	0	0	0	0	0.01	0.00	0.00	0.00	0.00	0.00
10.613	10.648	0.035	5,930	2	Divided	Urban	308	1294.269	0	2	2	4	0.00	0.00	660.02	660.02	1320.03	1.02
10.648	11.000	0.352	5,930	2	Undivided	Rural	252	502.652	0	4	2	6	0.03	0.00	131.25	65.63	196.88	0.39
KY 383 MP 7.500 - MP 9.513																		
7.500	7.893	0.393	2,580	2	Undivided	Rural	252	621.872	0	1	0	1	0.01	0.00	67.55	0.00	67.55	0.11
7.893	8.279	0.386	2,580	2	Undivided	Urban	308	717.311	0	2	5	7	0.01	0.00	137.55	343.88	481.44	0.67
8.279	8.560	0.281	2,420	2	Undivided	Urban	308	812.077	0	2	5	7	0.01	0.00	201.44	503.61	705.06	0.87
8.560	9.001	0.441	4,020	2	Undivided	Urban	308	608.322	0	4	4	8	0.03	0.00	154.54	154.54	309.08	0.51
9.001	9.513	0.512	5,580	2	Undivided	Urban	308	541.344	0	3	13	16	0.04	0.00	71.92	311.66	383.59	0.71
KY 1170 MP 4.656 - MP 7.156																		
4.656	7.156	2.500	545	2	Undivided	Urban	308	653.671	0	0	3	3	0.02	0.00	0.00	150.81	150.81	0.23
KY 1171 MP 0.000 - MP 2.090																		
0.000	0.907	0.907	3,490	2	Undivided	Urban	308	529.114	0	2	4	6	0.05	0.00	43.28	86.55	129.83	0.25
0.907	1.110	0.203	1,820	2	Undivided	Urban	308	1016.240	0	0	2	2	0.01	0.00	0.00	370.77	370.77	0.36
1.110	2.078	0.968	1,790	2	Undivided	Urban	308	612.002	0	1	5	6	0.03	0.00	39.53	197.65	237.18	0.39
2.078	2.090	0.012	1,790	2	Undivided	Rural	252	4155.499	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
KY 2592 MP 0.000 - MP 0.774																		
0.000	0.078	0.078	1,170	2	Undivided	Urban	308	1921.788	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
0.078	0.685	0.607	1,480	2	Undivided	Urban	308	740.869	0	0	0	0	0.01	0.00	0.00	0.00	0.00	0.00
0.685	0.774	0.089	2,090	2	Undivided	Urban	308	1359.626	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00
KY 2593 MP 4.000 - MP 4.800																		
4.000	4.874	0.874	476	2	Undivided	Rural	252	859.018	0	0	1	1	0.01	0.00	0.00	164.64	164.64	0.19
KY 3498 MP 0.000 - 0.246																		
0.000	0.246	0.246	2,250	2	Undivided	Urban	308	872.778	0	0	0	0	0.01	0.00	0.00	0.00	0.00	0.00

Sources: KYTC's *Highway Information System (HIS)* database, Kentucky Transportation Center's *Analysis of Traffic Accident Data in Kentucky (1997-2001)*

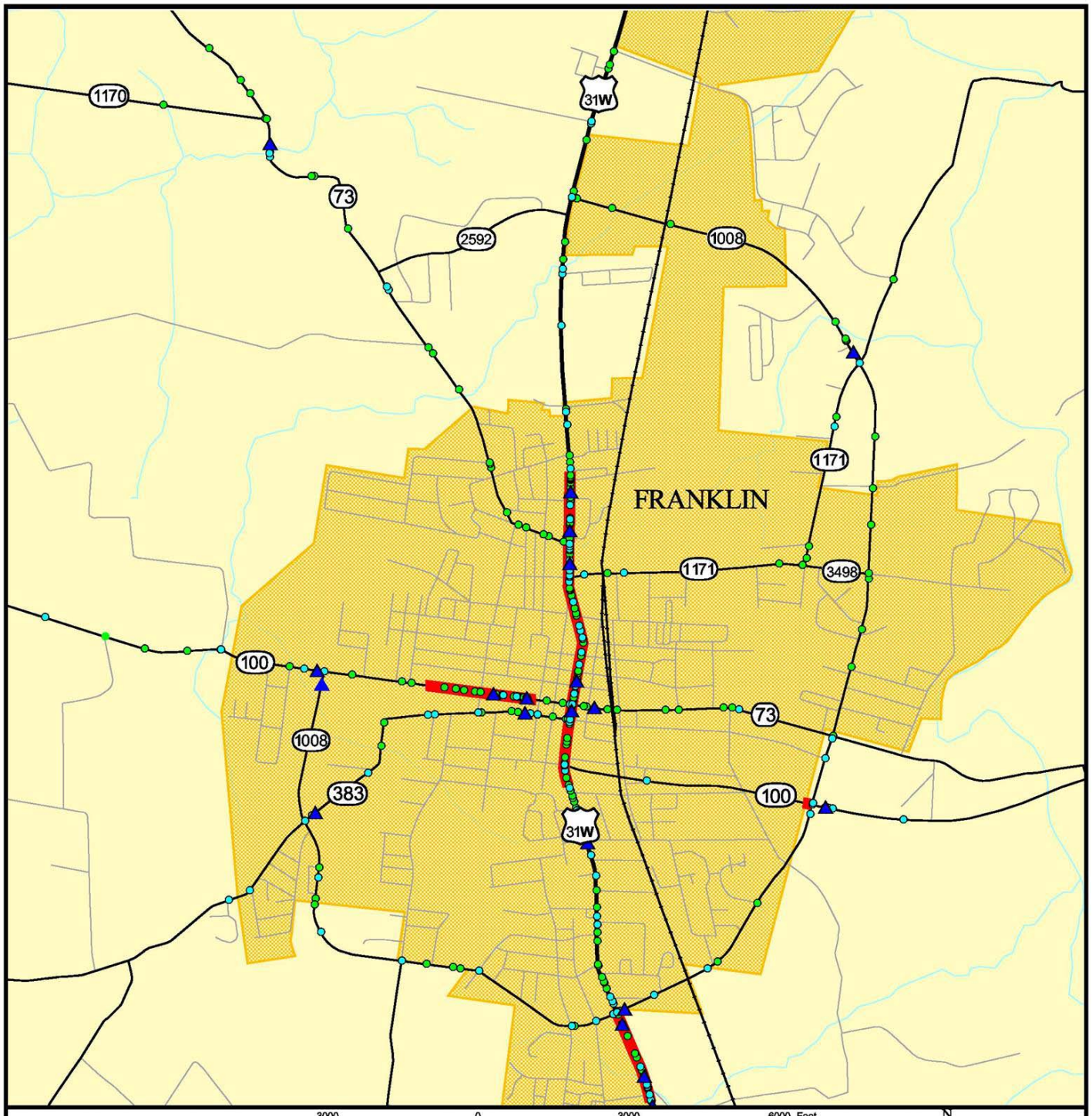
Table 6. Crash Spot Analysis (1998-2001)

Simpson County, Item No. 03-106.00

Pre-Design Scoping Study, KY 1008 from KY 100 to US 31W

Begin MP	End MP	Length (miles)	ADT	Number of Lanes	Divided / Undivided	Rural / Urban	Avg. Acc.	Critical Acc.	Accidents				MVM	Rates per MVM				Critical Rate
									Fatal	Injury	PDO	Total		Fatal	Injury	PDO	Total	
KY 1008 MP 0.000 - MP 0.590																		
0.000	0.100	0.100	2,520	2	Undivided	Urban	0.29	1.149	0	5	3	8	3.68	0.00	1.36	0.82	2.17	1.89
2.257	2.357	0.100	5,830	2	Undivided	Urban	0.29	0.824	0	2	10	12	8.51	0.00	0.23	1.17	1.41	1.71
5.164	5.264	0.100	4,620	2	Undivided	Urban	0.29	0.898	0	3	4	7	6.75	0.00	0.44	0.59	1.04	1.16
US 31W MP 6.070 - MP 9.053																		
4.838	4.938	0.100	14,500	2	Undivided	Urban	0.29	0.615	0	3	10	13	21.17	0.00	0.14	0.47	0.61	1.00
4.957	5.057	0.100	14,500	2	Undivided	Urban	0.29	0.615	0	4	9	13	21.17	0.00	0.19	0.43	0.61	1.00
5.173	5.273	0.100	14,500	2	Undivided	Urban	0.29	0.615	0	8	17	25	21.17	0.00	0.38	0.80	1.18	1.92
5.890	5.990	0.100	12,900	2	Undivided	Urban	0.29	0.636	0	4	8	12	18.83	0.00	0.21	0.42	0.64	1.00
6.415	6.515	0.100	14,900	2	Undivided	Urban	0.29	0.610	0	9	41	50	21.75	0.00	0.41	1.88	2.30	3.77
6.530	6.630	0.100	14,900	2	Undivided	Urban	0.29	0.610	0	4	26	30	21.75	0.00	0.18	1.20	1.38	2.26
6.995	7.095	0.100	24,700	2	Undivided	Urban	0.29	0.535	0	7	23	30	36.06	0.00	0.19	0.64	0.83	1.56
7.120	7.220	0.100	11,600	2	Undivided	Urban	0.29	0.657	0	3	33	36	16.94	0.00	0.18	1.95	2.13	3.24
7.270	7.370	0.100	11,600	2	Undivided	Urban	0.29	0.657	0	1	12	13	16.94	0.00	0.06	0.71	0.77	1.17
KY 73 MP 8.490 - MP 16.310																		
9.100	9.200	0.100	3,740	2	Undivided	Urban	0.29	0.975	0	0	7	7	5.46	0.00	0.00	1.28	1.28	1.31
11.267	11.367	0.100	1,440	2	Undivided	Rural	0.25	1.376	0	3	3	6	2.10	0.00	1.43	1.43	2.85	2.07
KY 100 MP 6.302 - MP 10.315																		
6.425	6.525	0.100	2,510	2	Undivided	Rural	0.25	1.059	1	4	5	10	3.66	0.27	1.09	1.36	2.73	2.58
8.640	8.740	0.100	4,090	2	Undivided	Urban	0.29	0.941	0	3	4	7	5.97	0.00	0.50	0.67	1.17	1.25
9.320	9.420	0.100	5,150	2	Undivided	Urban	0.29	0.862	0	1	8	9	7.52	0.00	0.13	1.06	1.20	1.39
9.449	9.549	0.100	5,150	2	Undivided	Urban	0.29	0.862	0	2	8	10	7.52	0.00	0.27	1.06	1.33	1.54
10.648	10.748	0.100	5,930	2	Undivided	Rural	0.25	0.745	0	5	3	8	8.66	0.00	0.58	0.35	0.92	1.24
KY 383 MP 8.279 - MP 9.513																		
8.279	8.379	0.100	2,420	2	Undivided	Urban	0.29	1.170	0	2	5	7	3.53	0.00	0.57	1.42	1.98	1.69
9.288	9.388	0.100	5,580	2	Undivided	Urban	0.29	0.837	0	2	8	10	8.15	0.00	0.25	0.98	1.23	1.47

Sources: KYTC's *Highway Information System (HIS)* database, Kentucky Transportation Center's *Analysis of Traffic Accident Data in Kentucky (1997-2001)*



LEGEND

- Fatal
- Injury
- Property Damage Only
- High Vehicle Crash Spot-0.1 Mile
- Potential High Vehicle Crash Segment Critical Rate (0.9 - 0.99)
- High Vehicle Crash Segment Critical Rate (> = 1.0)

Location Map

EDUCATION PAYS

KENTUCKY TRANSPORTATION CABINET

ENGINEERS PLANNERS ECONOMISTS
Wilbur Smith Associates

Vehicle Crash Information by Severity

Figure 3
Simpson County
Item No. 3-106.00

KY 1008 from
KY 100 to US 31 W

Printed: 10/28/03

F. Programmed Highway Improvements

In addition to the KY 1008 Pre-Design Scoping Study, there are several other projects which are planned and programmed for study area routes in the KYTC's Six Year Highway Plan, as outlined in **Table 7**. There is one major project in the study area which involves the widening of US 31W from the Tennessee State Line to KY 1008 on the south side of Franklin. Right-of-way, utility, and construction funding for this project has been scheduled for FY 2005, FY 2006, and FY 2007, respectively.

Table 7. Six-Year Highway Plan Improvements

Simpson County, Item No. 03-106.00
Pre-Design Scoping Study, KY 1008 from KY 100 to US 31W

Route	Item Number	Begin MP	End MP	Length (miles)	Project Description	Scope of Work	Stage of Project Development	Fiscal Year Scheduled	Phase Cost
KY 1008	03-106.00	N / A	N / A	2.800	Franklin-Northwest Bypass; Extend KY 1008 From US 31W to KY 100 West	New Route	Planning	2003	$100,000
							Design	2004	$400,000
							Right of Way	2006	$2,600,000
							Utility Relocation	2006	$1,000,000
							Total:		$4,100,000
US 31W	03-8.00	0.000	5.273	5.273	Major Widening from Tennessee State Line to KY 1008 at Franklin (includes I-65 Interchange Reconstruction)	Major Widening	Right of Way	2005	$5,000,000
							Utility Relocation	2006	$4,500,000
							Construction	2007	$25,000,000
							Total:		$34,500,000
I-65	03-15.00	4.000	4.100	0.100	Add Restrooom Facility to I-65 Weigh Station in Simpson County	Weigh Station Rehab	Construction	2003	$457,000
KY 73	03-1052.00	11.217	11.317	0.100	Franklin-South Union; Bridge and Approaches at Sinking Creek 2.0 miles NW of US 31W	Bridge Replacement	Construction	2003	$900,000

Source: FY 2003 - 2008 Six Year Highway Plan

III. CABINET, PUBLIC AND AGENCY INPUT

Throughout the course of this Pre-Design Scoping Study of the Franklin Northwest Bypass, the local citizens, public officials and representatives of government resource agencies were given the opportunity to provide input. This chapter describes the public and agency involvement that occurred throughout the study process and describes the comments and input received as a result of these efforts. In addition to the information presented in this chapter, material related to the public involvement process is included in the *February 25, 2003 Public Information Meeting Notebook*, a separate report documenting public meeting events.

Public and Agency Involvement

- Project Team Meetings
- Local Officials Meeting
- Stakeholders/Media Meeting
- Property Owners Meeting
- Public Involvement Meeting
- Public Comment Surveys

A. Project Team Meeting

A project team meeting was conducted on Friday, December 6, 2002, via conference call. The purposes of the meeting were to discuss the purpose, goals and objectives of the proposed project; review preliminary existing conditions data for the study corridor; and identify future study needs. A copy of the meeting minutes is included in **Appendix B**. Items discussed by those present at the meeting included:

- As a result of the past opposition by the public, it was decided that this Pre-Design Scoping Study would be a clean slate for the Franklin Northwest Bypass. The District 3 staff noted that the city of Franklin is aware of this current project and is willing to start again.
- With respect to project area, it was noted that the project location may extend farther west along KY 100 than the existing intersection of KY 100 (west) and KY 1008. Although not part of this study, it is possible that a new western bypass could be an option for Franklin since existing KY 1008 southwest of Franklin fails to meet desired geometric criteria. It was agreed by meeting participants that a 'band' would best represent the project area. The band would stretch along KY 100 in the west to KY 1008 in the north. In addition, the band would range approximately 1500' on either side of KY 1008 along US 31W north of Franklin.
- The strong downtown presence and related traffic volumes in Franklin were also noted in the discussion. Attempts should be made to ensure that a future bypass would not remove patronage of the downtown stores.
- With respect to growth, there is concern about growth and development along US 31W to the south of Franklin as a result of the new Wal-Mart recently built within the area. It was originally believed that growth would occur along KY 100 to the west as the result of a proposed industrial park in the study area. However, this industrial park was built along KY 100, east of I-65, reducing the potential for growth west of Franklin.
- It was noted that minority populations within Franklin will need to be considered in this project in accordance with environmental justice. A cluster of mobile homes was also noted south of KY 100 and west of KY 1008.
- Without detailed analysis, it was estimated that approximately 5,000-6,000 vehicles per day would utilize the new bypass in the future year. Based on this traffic volume, it was believed that a two-lane cross-section would be adequate for the Franklin

Northwest Bypass. A traffic model could provide additional information related to the new bypass route.

- With respect to bikeways, pedways, or ITS in the study area, it was mentioned that since this was an urban study, such issues would be considered. However, such facilities may not be necessary since there are not any destinations such as parks or trails in the study area.

B. Local Officials and Groups Meetings

As part of the public involvement portion of this study, meetings were held with local officials, potential stakeholders, and the media in Franklin on January 9, 2003. The purpose of these meetings was to inform these groups about the project and gain input about the issues and concerns of the community. Copies of the meeting minutes are included in **Appendix B**.

A total of eight (8) persons attended the local officials meeting to discuss the planning study of the Franklin Northwest Bypass. Topics discussed during the meeting included:

- Since the storm water from the western half of the city of Franklin drains into this area, water flow in the streams in the project area can be tremendous in heavy rainfalls.
- Cave systems are known to exist in the study area.
- More local traffic would use a northwest bypass if the road were built without obstructions. This could be accomplished by limiting the access along the new route similar to that of the newest section of KY 1008 near US 31W.
- A meeting between project team members and the landowners that may be affected by the project was recommended in order to determine their opinions on the project before a public meeting.
- Noise issues resulting from a new route are not anticipated with this project; however, residents may not want to see the new road from their dwellings. To improve the visual appearance, landscaping and buffering could be considered as part of this project.
- Citizens south of Patton Place (KY 2592) were noted as potential allies of this project. These citizens often complain of high speeds and high traffic volumes along Patton Place as a result of many drivers using it as a cut-through. A meeting participant noted that the traffic volumes would increase as a result of new houses currently under construction.
- Emergency services and public school transportation would benefit from the new bypass.
- The Franklin Northwest Bypass project has been mentioned as a high priority, even in non-transportation meetings.

Thirty-four (34) persons attended the stakeholders/media meeting. Issues discussed during the meeting included:

- Relieve future traffic congestion along US 31W;

- High crash segments should be addressed along US 31W and KY 100;
- Landscaping and buffering should be considered along the proposed route;
- Access control should be similar to that of US 68, which has 1200-foot spacing between access points in addition to fencing. Access control should be coordinated with the Franklin-Simpson Planning and Zoning Commision;
- Increased truck traffic expected from the west as a result of US Tobacco expanding might use a new Northwest Bypass to bypass Franklin;
- Patton Place (KY 2592) was mentioned as a cut-through for many vehicles as a result of no other path in that part of Franklin; and
- Addition of the final piece of the bypass would make sense from a connectivity standpoint, alleviating the current confusion among truck drivers who get lost in the area in search of a north to west connection.

C. Property Owners Meeting

A property owners meeting was conducted on Friday, January 31, 2003, in Franklin. The purpose of the meeting was to discuss the potential Franklin Northwest Bypass with local property owners on the northern end of the study area. A copy of the meeting minutes is included in **Appendix B**. A summary of the key comments and discussion items for this meeting is provided below.

Previous meetings related to this project led the property owners to believe that any new bypass route would be located much farther to the north, near Franklin Express. The minutes of the last project meeting in 1999 indicate that a new plan would need to be developed with input from the community about their issues and concerns with the project. No definite direction was decided upon at the 1999 meeting. The property owners made several suggestions relating to this project, including:

- Improvements should be considered along other routes in the area, rather than a new northwest bypass corridor, including widening of the existing US 31W corridor and widening of Patton Road (KY 2592).
- The section of KY 1008 east of US 31W should be moved north. If this section were moved, a new extension would be located farther from homes and residential areas west of US 31W.
- Commercial development along a potential bypass corridor should be limited by planning and zoning.

Issues and concerns expressed by the property owners at the meeting included:

- There is a large cavern under Mr. Mortensen's property;
- Results of the bypass route may include depreciation of property values, noise, visual impacts and danger to children due to cut-through traffic in surrounding neighborhoods;
- A visual buffer would not be adequate if a new northwest bypass were located within the gray-shaded area on the project location map. The tree line along the southern edge of Mrs. Patton's property would not be an adequate buffer; and
- Subdivisions on the northern end of the project area offer upward mobility for people moving out of starter homes. The proposed project would prevent people from wanting to move into this neighborhood, and could possibly be detrimental to economic vitality of the entire community.

In summary, the preferences expressed by the property owners included the following:

- The money for this project should go toward the improvement of US 31W through town rather than the construction of the northwest bypass.
- If the bypass is absolutely necessary, it should be located as far to the north as possible.
- The property owners would like to continue to have input if this project moves into future phases.

D. Public Information Meeting

On Tuesday, February 25, 2003, a Public Involvement Open House was held at the Goodnight Memorial Library in Franklin, Kentucky, from 4:00 p.m. to 7:00 p.m. The purpose of the open house was to seek input from the community and present information to the general public on the overall project development process, project purpose, existing conditions information, identified issues, and potential improvements. A total of 89 persons registered their attendance at this three-hour public session, including nine (9) KYTC, ADD, and consultant staff. Minutes for this meeting are included in **Appendix B**.

The public involvement open house was organized as a walk-through tour of project information. The room was set up with an arrangement of project exhibits, with public opinion boards and refreshments at the end of the tour.

Attendees received a handout packet which included the following items:

- Post-it Note Exercise

  This exercise consisted of two questions, with three post-it notes included for answers to each question. The first question was “What are the traffic issues within the study area?” The second question was “What transportation improvements could address these issues and concerns?”
- Public Comment Survey

  Attendees were asked to complete the survey prior to leaving the meeting, or return it to the KYTC at a later date in the postage-paid envelope provided.
- Project Brochure Identifying the Study Purpose, Issues and Project Goals
- Project Location Map

The room was set up with a semi-circular arrangement of project exhibits where attendees had the opportunity to ask questions and make comments to KYTC and consultant staff. The following are the titles of the project boards displayed at the meeting:

- What Is The Project Study Area? This exhibit showed a shaded band to approximate the project study area.
- What Roads Do You Use The Most? Meeting attendees were asked to indicate usage of state and county roadways to help in the traffic modeling process.
- How Many Cars Are Out There Today? This exhibit showed Year 2002 traffic volumes and levels of service.
- How Many Cars Are Expected In The Future? Estimated Year 2025 traffic volumes and levels of service were displayed on this map.

- Where Do People Work In Franklin? Preliminary traffic model information relating to employment centers was shown for public comment and/or correction.
- Where Do People Work In Simpson County? Similar to the Franklin employment map, this exhibit showed employment densities for Simpson County.
- Where Are The Most Crashes Occurring? This exhibit showed four years of traffic crash data for Franklin, including high accident spots and segments of roadway.
- What Are The Environmental Issues? Preliminary environmental issues were shown overlayed on an aerial photograph in this exhibit.
- What Are The Environmental Issues? The same environmental information was shown on this map, but was overlayed on a topographic map.
- MINUTES – Stakeholders/Media Meeting. A meeting summary from the stakeholders/media meeting held on January 9, 2003 was provided for review by the public.
- MINUTES – Property Owners Meeting. Discussions on January 31, 2003 with three of the major property owners on the northern end of the corridor were also summarized on this exhibit.
- What Should The KY 1008 Bypass Look Like? This exhibit provided explanations and samples of landscaping and buffering techniques for similar highway projects.

At the end of the tour, attendees were asked to complete the post-it note exercise and place their responses on the public opinion boards posted on the wall. Tables, chairs, refreshments, and kids' activities were provided so that attendees could comfortably complete the post-it note activity and public comment survey provided in the handout packet.

1. Post-it Note Exercise Responses

Many responses to the questions "What are the traffic issues within the study area?" and "What transportation improvements could address these issues and concerns?" were received at the meeting. Following is a brief summary of comments and suggestions made and additional detail is included in the minutes in Appendix B:

- Landscaping and buffering must be included with any new roadway;
- Move the proposed bypass further away from town, residential areas, and farms;
- The proposed bypass is necessary to reduce congestion, reduce speed, and reduce truck traffic in downtown Franklin and along Patton Road;
- US 31W should be widened rather than construction of a new bypass; and
- Flooding concerns should be considered with any new roadway.

2. Flip Chart Comments

Several public comments were recorded on flip charts at the public meeting. Following is a summary of issues identified as a result of discussions at the meeting:

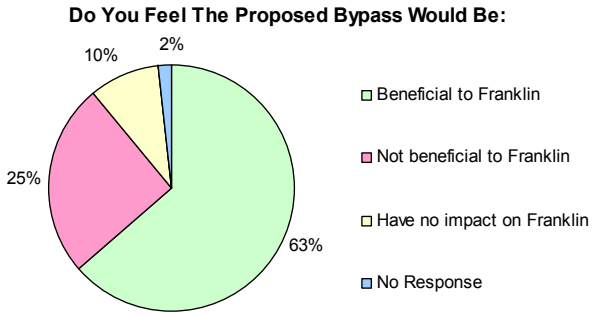
- The bypass would relieve traffic on Patton Road and US 31W;
- Downtown businesses will continue to bring traffic downtown, regardless of a new bypass;
- The bypass should be moved further north on US 31W closer to the industrial area to avoid homes; and
- Water/drainage problems north of KY 2592/Patton Road and on KY 100 near Allen Road should be considered.

3. Public Comment Survey Responses

As part of the public handout at the meeting, the KYTC supplied a survey form so that citizens could provide input on this project. Sixty-three surveys were submitted to the KYTC both during and after the meeting.

Responses to the six (6) questions on the public comment survey are tabulated in **Table 8** and summarized above.

- The majority (40 of 63) of the survey respondents felt the proposed bypass would be beneficial to Franklin;
- Thirty-two (32) respondents identified the existing KY 1008 intersection as the location along KY 100 where the bypass should intersect. Sixteen (16) respondents preferred the bypass to intersect west of the existing KY 1008 intersection.



- Thirty-two (32) persons responded that the bypass should intersect north of the existing KY 1008 intersection along US 31W. Twenty-three (23) respondents preferred the bypass to intersect at the existing KY 1008 intersection.
- The majority (50) of respondents indicated that they would drive on the proposed bypass if it existed today. Fifteen (15) respondents indicated that they would drive the proposed bypass everyday, while seven (7) persons indicated they would never drive the proposed route.
- Thirty-seven (37) respondents identified improved travel time between West Franklin and North Franklin and improved access, efficiency and safety for emergency services, such as ambulances and police as important benefits of the proposed highway.
- Personal properties or homes were identified by the majority (44) of respondents as areas that should be considered during the proposed extension of KY 1008. Eighteen (18) respondents identified natural areas or habitats and sixteen (16) noted historic or cultural sites as areas to consider.

The public survey form also provided space for respondents to make additional general comments about the project. Responses were received both supporting and opposing the bypass.

Supporters indicated that the proposed bypass would:

- Relieve truck traffic from downtown and on Patton Road;
- Improve safety and accommodate growth in Franklin and Simpson; and
- Improve access to areas north and south of town.

Comments made by those opposing the bypass included:

- The money should be used to improve existing roads;
- The amount of farmland that will be destroyed is not justified;

Table 8. Public Survey Response Summary

Simpson County, Item No. 03-106.00
Pre-Design Scoping Study, KY 1008 from KY 100 to US 31W

1. Do you feel the proposed bypass would be:

Beneficial to Franklin	*Not beneficial to Franklin*	*Have no impact on Franklin*	*No opinion*	No Response
40	16	6	0	1
63%	25%	10%	0%	2%

2. Where along KY 100, west of town, should the proposed bypass intersect?

At the existing KY 1008 intersection	*West of the existing KY 1008 intersection*	*No opinion*	*Other*
32	16	8	7
51%	25%	13%	11%

3. Where along US 31W, north of town, should the proposed bypass intersect?

At the existing KY 1008 intersection	*North of the existing KY 1008 intersection*	*No opinion*	*Other*
23	32	4	4
37%	51%	6%	6%

4. If this new highway existed today, how often would you drive it?

Everyday	*Once per week*	*Once per month*	*Rarely*	*Never*	*Other*	*No Response*
15	17	3	15	7	3	3
24%	27%	5%	24%	11%	5%	5%

5. What do you think the most important benefits of this proposed highway would be?
(Multiple benefits were selected by several respondents)

Provide improved access to jobs in and out of the area	*Provide better opportunities for new jobs in the area*	*Improve travel time between West Franklin and North Franklin*	*Improve access, efficiency and safety for emergency services, such as ambulances and police*	*Reduce number of trucks in downtown Franklin*	*Provide improved safety in the study area*	*Other*
22	15	37	37	33	22	10
35%	24%	59%	59%	52%	35%	16%

6. With respect to the human and natural environment, what are the areas that should be considered during the proposed extension of KY 1008?
(Multiple areas were selected by several respondents)

Personal properties or homes	*Natural areas or habitats*	*Recreational areas*	*Historic or cultural sites*	*Scenic areas or viewsheds*	*Other*
44	18	4	16	10	8
70%	29%	6%	25%	16%	13%

- Termination of the new bypass route at the existing KY 1008 intersections should be reconsidered. On US 31W, the KY 1008 intersection is in an unfortunate location. On KY 100, the KY 1008 intersection would not provide a true bypass around town.
- The negative impacts to homeowners and farmland should be considered.

Suggestions made related to the construction of the proposed route include:

- Some survey responses indicated that the bypass could be moved further west on KY 100 and further north on US 31W to avoid homes and serve the industrial park;
- Others indicated that it should connect at the existing 1008 locations. It would be inconvenient for traffic to have to stop and turn then turn again at a disjunction in the bypass route; and
- Landscaping and buffering should be considered.

E. Resource Agency Coordination

Many local, state and federal resource agencies, with diverse areas of public responsibility, were included in this planning process. Input was solicited through written requests. Each agency was sent a copy of the project brochure, project location, existing traffic, future traffic, and an environmental footprint map. This section describes the input received from these organizations. The remainder of recipients did not provide a response. Actual response letters from various resource agencies are located in **Appendix C**.

Resource Agencies

- City Agencies
- Local Interest Groups
- KYTC Division Offices
- Other State Agencies
- Federal Agencies

The following 13 agencies responded by offering these comments or concerns regarding the project.

Comments provided by local agencies included:

- Simpson County Sheriff's Office – The Sheriff expressed support for the bypass, indicating that the project would benefit emergency response times. Other comments included: industrial development will continue on the north side of town and along US 31W; a connection with KY 100 in the west could be pushed west away from town; the new route should provide a feasible location for extension of the route in the future; and the route should avoid historic sites.

State agencies provided the following comments:

- Kentucky Geological Survey – The project would encounter sinkholes and caves. One abandoned gas well is located near the project area. Exposed limestone would be too weathered for use in road construction. There is low potential in the study area for landslides, faults, or earthquakes.
- Kentucky State Police – This project would alleviate part of the traffic congestion along US 31W; improve emergency response times; improve truck traffic; and provide improved access to KY 100 and KY 73. There may be opposition to this project from citizens who live in residential areas on or near Patton Place.
- Kentucky Transportation Cabinet, Division of Environmental Analysis - Although no sites are identified within a 2 km radius, few archaeological investigations have been done in the area. Be aware of possible noise issues, minimize impacts to air quality, and avoid channel changes.

- Kentucky Transportation Cabinet, Division of Environmental Analysis, Archaeology – No archaeological sites have been identified within a 2-km radius of the project; however, very few archaeological studies have been undertaken within this area. A full phase I archaeological survey will be required for the final alternate or alternates since the project will require Federal involvement.
- Kentucky Transportation Cabinet, Division of Materials – The project area is located upon the Formation of the Ste. Genevieve Limestone and St. Louis Limestone. Sinkholes are common in both formations and should be avoided if possible. A more detailed study of the sinkholes, caves, underground streams, etc. may be needed as the project develops. The Branch prefers a line that would be located upon the Ste. Genevieve Limestone to avoid as many sinkholes or caves as possible. Cut and fill slopes in soil should be stable on 2:1 slopes.
- Kentucky Transportation Cabinet, Division of Multimodal Programs – Simpson County will likely be designated non-attainment for air quality in April 2004 (i.e., new projects must demonstrate no adverse impacts to air quality). The project should include coordination and connectivity of existing bicycle and pedestrian projects, including 10-12' paved shoulders along the bypass route and sidewalks along urban sections. Two designated bicycle routes travel through Franklin: Southern Lakes Route travels east-west and Mammoth Cave Route travels north-south. Franklin is a bicycle route crossroad and bicycle travel should be accommodated.
- Kentucky Transportation Cabinet, Permits Branch – This project should provide for a partially or fully controlled access facility, with access control fencing and all possible access points set on the plans in accordance with 603 KAR 5:120. The design speed should be the same as the anticipated posted speed when the project is completed. The Permits Branch should be notified if the proposed route is to be placed on the National Highway System.

Comments provided by federal agencies included:

- Federal Aviation Administration (FAA) – As long as construction activities do not exceed 200 feet in height above ground level, there will be no impacts on FAA programs and no Notice of Proposed Construction will be required.
- U.S. Army Corps of Engineers, Louisville District – A review of the preliminary project area revealed the presence of two unnamed tributary streams that are within the regulatory authority of the Corps of Engineers. Preliminary data suggests that authorization under Section 10 of the Rivers and Harbors Act of 1899 and/or Section 404 of the Clean Water Act may be required. Additional design and construction detail is necessary to determine whether a permit is required for this project.
- U.S. Army Corps of Engineers, Nashville District – This project is within the regulatory jurisdiction of the Louisville District Corps of Engineers office. The request for review received has been forwarded to that office for consideration.
- U.S. Coast Guard, Bridge Branch - A Coast Guard bridge permit is not required for this project, as it does not cross waterways over which the Coast Guard exercises jurisdiction for bridge administration purposes.
- U.S. Fish and Wildlife Service – There is concern that highway projects frequently accelerate erosion and sedimentation in streams, resulting in adverse effects on the aquatic environment. The information provided is insufficient to determine if the proposed project will require U.S. Army Corps of Engineers' permits. The Service would likely have no objection to the issuance of permits if any necessary stream channel work is held to a minimum and Best Management Practices are utilized and

enforced, effectively controlling erosion, sedimentation, and other potential hazards. The federally endangered Indiana bat (Myotis sodalist) and gray bat (Myotis grisescens) are known to occur in the vicinity of the project area. Disturbance to the project area should be done in accordance with the recommendations provided by the United States Fish and Wildlife Service.

IV. ENVIRONMENTAL OVERVIEW

An environmental footprint was developed for the proposed Franklin Northwest Bypass project area. This preliminary environmental analysis identified potential issues and concerns within and surrounding the defined project area.

A local area Geographic Information System (GIS) was assembled for this project using environmental resource information data collected from numerous sources that include: federal, state, and local databases; agency contacts; field investigations; and existing in-house data. Project contacts and web site locations for each source (as available), are included in **Appendix D**. The compiled data was geo-referenced as needed using the GIS developed for the project.

Windshield surveys of the project area included consideration of known and unknown environmental issues within the project area. In some instances, the development of graphics was assisted by the use of a Global Positioning System (GPS) unit for field data collection and application in the GIS database.

Issues Considered

- Natural and Manmade Features
- Biotic Communities
- Social, Economic and Environmental Justice Concerns
- Historic/Archaeological Sites
- Prime and Unique Farmland
- Monitored Sites
- Noise
- Air Quality

This study identifies environmental issues that are likely to require consideration during any environmental assessment for the proposed bypass. **Figure 4** shows environmental features identified within the project area. The same environmental information is overlaid on a digital orthophotograph on **Figure 5**. The environmental issues considered as part of the overview analysis include: Natural and Manmade Features; Biotic Communities; Social, Economic, and Environmental Justice Concerns; Historic and Archaeological Sites; UST/HazMat, Oil and Gas Concerns; and other additional issues.

Where quantities of issues are cited (such as acres of wetlands), the quantities represent the totals accounted for within the identified study area boundary; however, it should be noted that the potential roadway will only utilize a narrow swath through the study area and will have fewer actual impacts. It should also be noted that the features displayed on the map may be deceiving in that one symbol representing a feature can often represent more than one of that particular feature. For instance, a symbol indicating one individual well, may actually represent multiple water wells. The following text addresses such occurrences where possible.

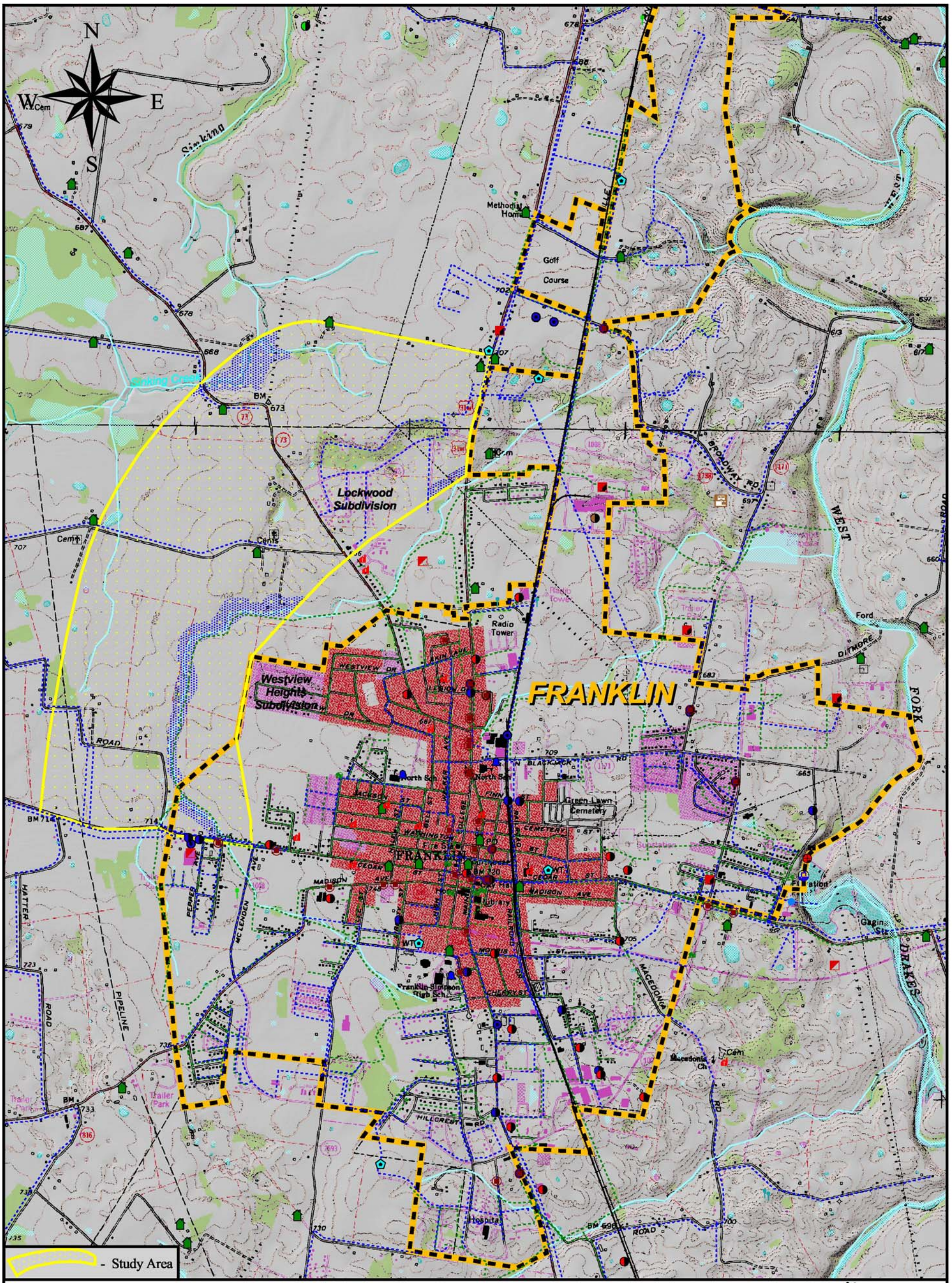
A. Natural and Manmade Water Features

Natural and manmade features considered as part of this analysis are divided into six (6) categories: water resources, karst groundwater basins, surface water, lakes/ponds, wetlands, and floodplains. These items are discussed in the following sections.

1. Water Resources

Several manmade water resources are located within the project area:

- There are 5.9 miles of water lines within the study corridor which are managed by the Simpson County Water District;
- There are 1.9 miles of sewer lines found in the southwestern portion of the study area; and
- There are no water tanks, water wells, or water gauges located within the study corridor. But it should be noted that a 1 million gallon capacity water tank owned by Franklin Water Works is closely adjacent to the most northeastern corner of the study corridor at the J.L. Farmer Road/US31W intersection.



Location Map

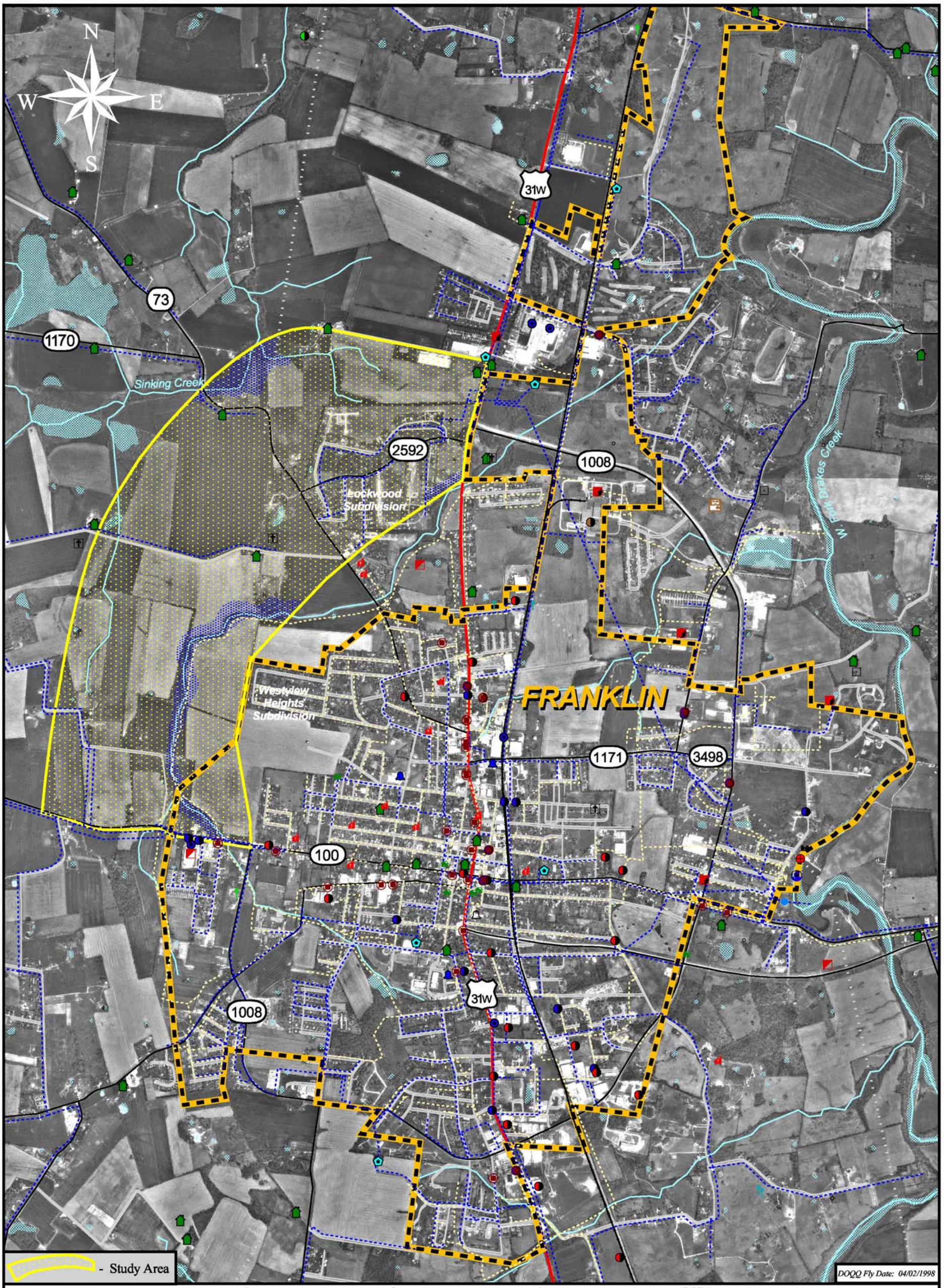
U.S.G.S Topographic Environmental Footprint

Figure 4
Simpson County
Item No. 3-106.00

KY 1008 from
KY 100 to US 31 W

NOTE: Archaeological sites and locations of threatened / endangered species are not shown due to the sensitive nature of the data

Printed: 07/01/03



Digital Orthophotograph Environmental Footprint

Figure 5
Simpson County
Item No. 3-106.00
KY 1008 from
KY 100 to US 31 W

NOTE: Archaeological sites and locations of threatened / endangered species are not shown due to the sensitive nature of the data

Printed: 07/01/03

2. Karst Groundwater Basins

The study area landscape is characterized by karst topography. The term "karst" refers to the type of topography formed on limestone, dolomite, gypsum, and other rocks, primarily by dissolution. Dissolution is described as the process by which underlying soluble rocks are sculpted and eroded by surface or ground water. Characteristics of this phenomenon include sinkholes, caves, and underground drainage systems.

The Kentucky Geologic Survey (KGS) has determined that over 55 percent of the state of Kentucky has landscape characterized by karst. Kentucky is one of the world's most famous karst areas. The KGS notes that about 38 percent of the state has sinkholes that are recognizable on topographic maps and another 25 percent has well-developed karst features. Within the project area, karst development in this area can be recognized by visible pothole pond formations and irregular ground geomorphology.

Example of a Karst Cave (Mammoth Cave) (www.np.gov/maca/index.htm)

Two adjoining karst groundwater basins are present within the project area. Along the western half of the area, a 630 acre segment of the Sinking Creek basin is present. The remaining 835 acres belong to an unnamed groundwater basin. Groundwater flow from these basins has been mapped using 'dye-trace' experiments. These experiments involve placing environmentally safe dye into a spring or sinking stream (a small stream that disappears underground). The dye trail is followed to determine the direction in which the groundwater flows. These experiments can also identify the location, size, and shape of watersheds draining to specific springs. Groundwater flow, or perennial groundwater flow as it is sometimes referenced, has been found to originate on both sides of US 31W within the city of Franklin.

The same karst landscape, while offering economic and recreational opportunities, can pose geologic hazards. As bedrock is affected by dissolution, certain hazardous geologic conditions can occur. The most serious of these conditions which potentially could occur within the Franklin study area include:

- Sudden cover collapse – This sinkhole hazard occurs in soil or other loose material overlying soluble bedrock, where development generally forms in two ways:
  - The first condition involves sinkhole formation in much more common and much less dramatic fashion. The sinkhole begins to form when a fracture in the limestone bedrock is enlarged by water dissolving the limestone (or other soluble bedrock). As the bedrock is dissolved and carried away underground, the soil gently slumps or erodes into the developing sinkhole. Once the underlying conduits become large enough, insoluble soil and rock particles are carried away.
  - The second condition occurs when the bedrock roof of a cave becomes too thin to support the weight of the bedrock and the soil material above it. The cave roof then collapses, forming a bedrock-collapse sinkhole. Although it is commonly assumed to be the way all sinkholes form, bedrock collapse is rare and the least likely way a sinkhole can form.
- Sinkhole flooding – This hazard occurs within a previously created sinkhole. When a sinkhole is formed, water within the hole is drained to the subsurface through soil and cracks inside the bedrock. When these outlets become clogged, the water table rises, causing potential flooding of the surrounding area.

- Damage to Infrastructure – Buildings and transportation, communication and utility networks are vulnerable to damage from a variety of geologic hazards, but karst geohazards are stealthy. Karst geohazards usually will affect a segment of a utility line, or one home, or one short length of highway, but is very costly. Infrastructure damage is so common in karst areas that it is typically dealt with by local authorities as a routine matter. Seldom are collapses reported to any central agency.

According to a local citizen of Franklin, a local cave system exists underneath the study area. This cave system has not been recognized by the Kentucky Geologic Survey (KGS), but has been verified and mapped through numerous expeditions by members of the Boy Scouts of America. The cave system is shown oriented in a north/south manner, stretching for almost 0.25 mile in length. Located underneath and near the KY 73 / KY 1107 intersection, this cave system further indicates the presence of karst in this area.

3. Surface Water

The project area is located in the Barren River watershed basin. It should be noted that one (1) acre at the far southwestern portion of the project area falls within the Cumberland watershed basin, but has no effect upon the study corridor due to its location and runoff tendencies.

Natural and Manmade Water Features

- Water and sewer lines
- Karst groundwater basins
- One major watershed
- Tributaries of West Fork Drakes Creek and Sinking Creek
- Eleven wetland areas
- "Zone A" floodplains

Stream tributaries within the project area flow in a north/northeast direction collectively emptying into the Barren River in Warren County.

A total of five (5) individual streams compose a total of 3.8 miles of streams in the project area. Of the 3.8 miles, 1.7 miles are tributaries of West Fork Drakes Creek. The remaining 2.1 miles are tributaries of Sinking Creek.

Streams are classified by a hierarchy system called *stream order*. In this system, streams are classified by the number of stream tributaries merging into that particular stream. When a stream has just one (1) merging tributary it is designated an Order 1, while the largest stream with eight (8) or more merging tributaries is designated an Order 8. The Ohio River is an example of an Order 8 stream. As stream segments continue to merge, the Order number increases. Order designations in the study area include:

- There is one Order 3 stream within the project area corridor. This particular segment is a tributary of Sinking Creek and is 0.4 miles in length;
- There are 1.5 miles of Order 2 streams; and
- There are 1.9 miles of Order 1 streams.

Correspondence with the Water Quality Branch of the Natural Resources and Environmental Protection Cabinet (NREPC) indicates there are no Outstanding Resource Waters or Wild Rivers within the proposed corridor.

4. Lakes/Ponds

A field review within the study corridor produced no physical sightings of lakes or ponds within the study corridor. Aerial photography and Kentucky topographic maps confirm that a limited number of ponds are present within and surrounding the project area. Since this area is prone to karst topography, "pothole" ponds would be expected in the project area. Pothole ponds are small, circular bodies of water that are formed when a

sinkhole develops from the underlying bedrock. When the water table rises or drainage outlets are clogged, water fills the depression.

5. Wetlands

According to the National Wetlands Inventory (NWI) mapping for Franklin, small wetlands exist within the study area. Eleven (11) wetlands were found within the study area totaling 4.5 acres. Because of their small size, it may be difficult to locate these wetlands within the provided mapping. NWI database information lists all eleven (11) wetland areas as *Palustrine* wetland systems. These wetland systems commonly include all non-tidal wetlands dominated by trees, shrubs, emergents, mosses and lichens while possessing salinity values of less than 0.5 parts per thousand (ppt). Such wetland areas are generally less than 20 acres in size, exhibit a shoreline that is not wave-formed or bedrock laden, and a low water depth of less than 2 meters (6.6 feet) at its deepest point.

Within the eleven (11) wetlands areas, five (5) wetlands have different attributes associated with them. These attributes include the following wetland information:

- North of the KY 73/KY 2592 intersection, a wetland area 0.2 acre in size has a wetland coding of PUBF. This describes the wetland as Palustrine (P) with an unconsolidated bottom (UB) and is semi-permanently flooded (F);
- Northwest of KY 73 and found between the northern study area boundary and Sinking Creek, two more wetland areas 0.1 and 0.2 acres in size are located with a NWI classification of PUBHx. This coding describes the wetland as Palustrine (P) with an unconsolidated bottom (UB) that is seasonally flooded (H) and excavated (x) by man;
- Directly southwest of the KY 73/KY 2592 intersection another wetland area 1.2 acres in size has a wetland coding PEM1C. This particular classification describes the wetland as Palustrine (P) with emergent vegetation (EM) that is persistent year round, and is seasonally flooded (C);
- A wetland area 0.1 acres in size located 0.5 miles north of the KY 73/Allen Road intersection has been given a PUBFx designation. This coding describes the wetland as Palustrine (P) with an unconsolidated bottom (UB) that is semi-permanently flooded (F) and excavated (x) by man;
- Located directly west of the previous wetland area, two separate wetlands are located at the eastern extent of the study area. Both wetland areas are classified as PEM1C and are 0.2 and .1 acres in size;
- The largest wetland area within the study area is located just north of Robey-Bethel Grove Road. This wetland is 1.7 acres in size, with a PUBHx classification and located along the middle eastern boundary of the study area;
- Directly south of the previous wetland, two wetland areas of the same size (0.2 acres) have PUBHx classifications and are located along the eastern boundary of the study area; and
- The last wetland area in this study is located directly adjacent to Allen Road and 0.25 miles from the KY 73/Allen Road intersection. This wetland is 0.1 acres in size and has been given a PUBHx classification.

A field inspection of each of these areas will be necessary to determine their jurisdictional status (i.e., they may or may not require a nationwide or individual permit from the US Army Corps of Engineers). Furthermore, a more in depth inspection would be beneficial for mitigation assessment purposes, if needed.

6. Floodplains

The available Q-3 digital Federal Emergency Management Agency (FEMA) data for floodplains are digital datasets that are available on a county-by-county basis. The Simpson County coverage that FEMA has available shows that there are floodplains within the project area. Floodplains are defined by a "Zone" letter which identifies the extremity of flooding events.

It should be noted that "Zone A" flood areas have been graphically represented on **Figures 4 and 5** due to their potential to flood more frequently.

- The majority of the study area is designated "Zone X." "Zone X" indicates flood areas that are outside the 100 and 500 year floodplains;
- One hundred forty-four (144) acres of "Zone X" floodplain is located along the southeastern edge of the study area and the western edge of Franklin's corporate boundary;
- An additional 853 acres have been designated "Zone X" by FEMA which includes areas ranging from north of KY 100 to the edge of the study area located near US 31W;
- There are two (2) individual "Zone A" floodplain areas found within the study corridor. "Zone A" indicates that this is an area inundated by 100-year flooding in which Base Flood Elevations (BFEs) have not been determined. They include:
  - A 60 acre section located at the confluence of two tributaries belonging to Sinking Creek, just west of KY 73 in the northern part of the study area; and
  - Two separate floodplain sections totaling 58 acres and with the same NWI classification (Zone A) are located in close proximity to an "unnamed" stream corridor as it meanders northeast through the study corridor.

B. Biotic Communities

Biotic communities considered as part of this analysis are divided into floral and faunal categories as discussed in the following sections. The Kentucky State Nature Preserves Commission (KSNPC) monitors a number of endangered, threatened, or special concern plants or animals within the KY 1008 project area. The KSNPC data is updated on a regular basis and may be verified as needed in future phases of this project. Data from the Kentucky Department of Fish and Wildlife Resources was also analyzed and determined to contain only federal listed species from the United States Fish and Wildlife Services (USFWS), which is also documented by the KSNPC. Due to the sensitive nature of the data, potential habitat locations are not shown in **Figures 4** and **5**.

Gray Mytosis (Bat)
(www.enature.com/fieldguide/showSpeciesRECNUM.asp)

1. Floral Communities

The KSNPC determined that no occurrences of monitored vascular plants are found within the project area.

2. Faunal Communities

Based upon the KSNPC's most current information, four (4) occurrences of monitored species are found within the study area including: one (1) mammal, one (1) bird, one (1) bi-valve, and one (1) fish.

- One (1) species has been determined to be endangered: the Gray Mytosis, a mammal (bat). This species is associated with sensitive cave ecosystems in which water quality is vital. A thorough survey for this species should be conducted before any potential construction within this habitat is performed. Special steps should be taken to avoid water contaminants within these areas;
- Two (2) species have been given a threatened status: Kentucky Creekshell (bi-valve) and the Spotted Darter (fish); and
- One (1) species is considered to be special concern fauna: the Sedge Wren (bird).

C. Social, Economic and Environmental Justice Concerns

Socioeconomic concerns considered as part of this analysis include social and economic locations, and environmental justice. These items are discussed in the following sections.

1. Social and Economic Locations

One (1) cemetery was identified in the study area and is located 0.25 miles west of the KY 73/Robey-Bethel Grove Road intersection.

Two (2) churches were also located just outside the study corridor. These include:

- The Seventh-Day Adventist Church located adjacent to KY 73 (Morgantown Road) and south of the study corridor; and
- The Kingdom Hall of Jehovah's Church located adjacent to The Seventh-Day Adventist Church.

Cemetery marker northwest of Franklin

Two (2) separate residential areas are located within or along the edge of the study corridor, including:

- The Lockwood Subdivision, located in the northwestern portion of the study area between KY 73 and US 31W; and
- The Westview Heights Subdivision, located inside Franklin's corporate limits along the southeastern edge of the study corridor, adjacent to Bloomfield Avenue.

2. Environmental Justice

An important consideration for highway reconstruction or new development is environmental justice. For this study, an Environmental Justice and Community Impact Report was completed by the Barren River Area Development District (BRADD), included in **Appendix E**.

Based on the report prepared by BRADD, environmental justice issues related to minority and low-income populations should be closely monitored throughout further phases of this project due to higher percentages of these populations in parts of the project area than those for Simpson County and/or Kentucky.

Community impacts of the proposed project cited in the *Environmental Justice and Community Impact Report* include:

- Relieve congestion along KY 2592 and US 31W;
- Improve safety of US 31W between KY 73 and KY 100; and
- Improve emergency response time to the northwest portion of Simpson County.

D. Historic and Archaeological Sites

A review of historic and archaeological sites was conducted within the study corridor.

1. Historic Sites

There are four (4) historic structures found within the project area. They include the following:

Historic/Archaeological Features

- Four (4) historic structures
- No sites listed on the National Register of Historic Places
- Potential for unrecorded historic or prehistoric archaeology sites

- A 20th century house is located adjacent to Robey-Bethel Grove Road, northwest of Franklin. This structure is a 1½ story home that was constructed in the 1900-1924 era. This is a listed "Inventory Site" and has not qualified for National Register status to date. An inventory site is the basic entry classification given to newly found historical structures. National Registered structures are sites that have fulfilled the requirements set by the National Register of Historic Places (NHRP);
- An historic structure found north of the study corridor and adjacent to KY 73 (Morgantown Road) has been listed as an "Inventory Site." This house has no site name but is described as a 2-story dwelling built within the 1875-1899 era. This structure is not on the NRHP;
- The Neely House is adjacent to the US 31W/J. L. Farmer Road intersection, located just outside the northeastern corner of the study area. This site is listed as a "Survey Site," which has been examined to determine its potential for historic status. The site is a two-story dwelling built within the 1850-1874 era. This structure is not on the NRHP; and
- Directly across US 31W, another historic site (house) is listed. Listed as an "Inventory Site," this two-story dwelling was constructed within the 1900-1924 era. Currently, this site is not on the NRHP.

The data acquired from the *Kentucky Heritage Council (KHC)* related to these four (4) structures does not include property boundary information. Property boundaries are typically identified when sites are added to the NRHP or when sites are of special interest. If any of these structures are determined to be eligible for the NRHP in the future, property boundaries should be identified. According to the KHC regulations, survey forms for previously recorded historic sites should be updated if they are five (5) years or older.

Several structures in the project area have the potential to be added to the State Historic Preservation Office's list of historic structures. A field inspection of each of these structures will be necessary to determine their historical status. As part of future phases of this project, a survey of historic structures should be undertaken to determine if there are any structures in the project area that are eligible for listing on the *National Register of Historic Places*.

2. Archaeological Sites

There are no archaeology sites officially recorded within the project area, according to the Office of State Archaeology (OSA). According to the OSA, the project area has a high potential for containing unrecorded prehistoric or historic archaeological sites.

E. Prime and Unique Farmland Concerns

According to the most recently updated Soil Survey Geographic (SSURGO) database, Simpson County digital soil data sets are not completed at this time. The soil data obtained from SSURGO is the most detailed and accurate soil information available. The SSURGO database is updated and maintained by the United States Department of Agriculture (USDA) and is expected to be released by June of this calendar year (2003). Without this data, it is not possible to classify the farmland within the project area as either "prime" or "unique."

Farmland adjacent to KY 73 (Morgantown Road)

However, The Kentucky Department of Agriculture has estimated that 76% of the study corridor is covered in harvested cropland. Soybeans are the top planted agricultural crop, with over 32,000 acres sown. Corn is a close second and actually yields almost 3 times more bushels per acre than soybeans, while wheat for grain is the third leading agriculture crop in this area. The state's leading cash crop, tobacco, is also planted on over 1100 acres of land in Simpson County.

Agriculture is a very important facet in Simpson County and within the study corridor. New construction within these agricultural areas could potentially impact cropland. As discussed earlier in this report, much of Kentucky's prime farmland is underlain by karst. One main concern regarding future construction involves potential runoff of pesticides or herbicides into underground karst basins. Since this area is prone to karst development, the potential for contamination should be recognized and addressed appropriately.

F. Monitored Sites and Wells

A review of the databases and data source information covering the project area, and areas closely adjacent, revealed the existence of the following:

- One (1) oil and gas well is located within the study area. This well is listed as a "dry and abandoned" site and is located northwest of the US 31W/KY 2592 intersection.
- There are no Underground Storage Tanks (UST's) in the study area. However, there are fourteen (14) that have been located south of KY 100 and west of the KY 1008 intersection. They include the following sites:
  - Thirteen (13) separate UST sites are collectively located at the A. L. Johnson Gulf Oil Products. It should be noted that only one digital graphic is used for all thirteen locations.
  - One (1) UST is located at the I-65 BP Service (Gulf) station located next to the above mentioned A. L. Johnson Gulf Oil Products site.
- One (1) Facility Identification Initiative System (FINDS) site was found at Global Business Furniture on 1013 W Cedar Street, just south of KY 1008. The FINDS system uses an extensive database relative to all monitored environmental sites by the EPA, which are subject to environmental regulations or of environmental interest.
- One (1) Toxics Release Inventory System (TRIS) site was also located at Global Business Furniture on 1013 W Cedar Street. TRIS site information lists facilities which have released chemicals directly into the air, water, land, or that are transported off-site.

It should be noted that no other facilities exist within or were observed in the field which might represent an environmental concern inside the study area.

G. Additional Concerns

Other items identified within the project area include:

- An estimated 196 total structures are located in the project area which is based upon a review of the aerial photography used for this project (dated 04/02/1998);
- Over 70 acres of forested deciduous trees are located within the project area (per digitized 1998 digital orthophotograph data);
- Additional UST/HazMat concerns are likely to be associated with farming operations in the project area;
- Noise issues were not identified as an existing concern within the study area; however, noise impacts should be considered if the Franklin Northwest Bypass is constructed; and
- Simpson County recently was determined to be in compliance with the Environmental Protection Agency's Air Quality standards.

H. Summary of Environmental Issues

A number of potential environmental concerns for the project area have been identified through this preliminary analysis. Environmental issues that are likely to require consideration during future phases of this project include:

- Public and private water sources, such as water and sewer lines locations within the study corridor;
- Potential water quality issues related to the Barren River watershed and its tributaries, wetland areas, and karst groundwater basins/development, all within the study corridor;
- Potential endangered, threatened or special concern species, including the Gray Mytosis, Kentucky Creekshell, Spotted Darter and Sedge Wren.
- Sensitive community resources including one (1) cemetery inside of the project area and two (2) churches just outside the project area;
- Potential environmental justice issues related to high percentages of low-income and minority populations in the project area census tract;
- Four (4) historic structures, but none listed on the National Register of Historic Places;
- Extensive cropland and farming operations throughout the study corridor;
- Geologic, water quality, and drainage considerations related to the karst landscape; and
- One (1) FINDS and one (1) TRIS site location inside the project area and fourteen (14) underground storage tanks (UST's) just outside of the project area.

V. FUTURE TRAFFIC CONSIDERATIONS

This chapter provides an analysis of future traffic growth scenarios for the KY 1008 project area in Simpson County. Historic travel data for a region typically provides a baseline forecast for future traffic growth. In addition, potential improvements such as the completion of the Franklin Northwest Bypass can also influence traffic growth. The following sections provide an analysis of these future scenarios:

- Year 2025 traffic forecasts without any transportation improvements based on historic traffic growth rates for Simpson County; and
- Year 2025 traffic forecasts with and without the Franklin Northwest Bypass, based on the Simpson County Travel Demand Model.

A. Future Traffic without Franklin Northwest Bypass (Historic Growth)

This section provides a discussion of the expected Year 2025 traffic conditions without any transportation improvements in the study area. The future traffic volumes, based on historical growth rates, are shown in **Figure 6** and **Table 9**. Year 2002 traffic volumes and levels of service are also shown in the table for comparison purposes.

Future Traffic without Bypass (based on Historic Growth)

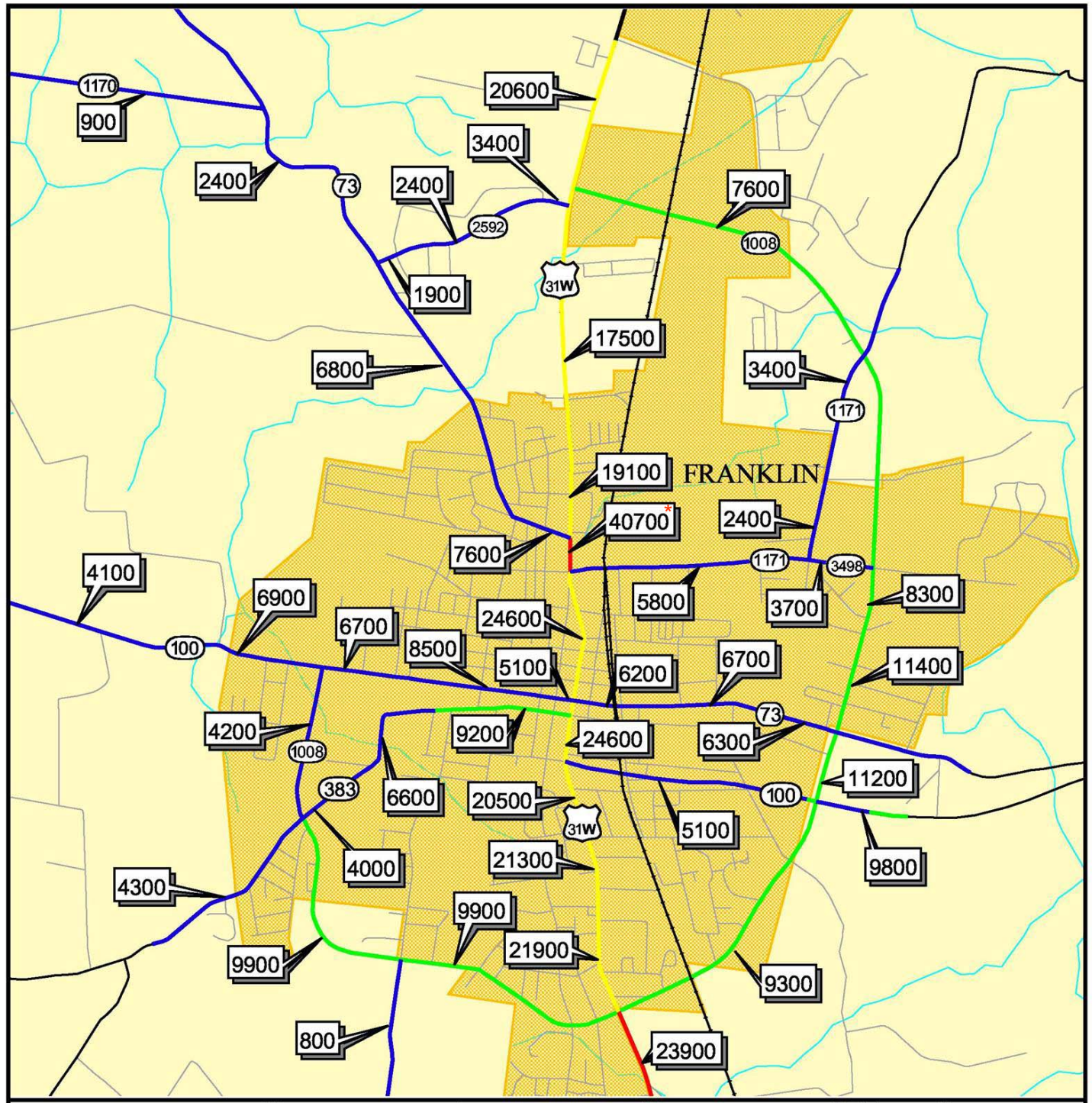
- Existing KY 1008 operates at LOS D, with peak volumes of 11,400 vpd in southeast Franklin.
- US 31W operates at LOS E and LOS F in the study area, with peak volumes constrained to about 30,000 vpd.
- KY 100 is expected to operate at LOS D or better, with average traffic volumes of about 7,000 vpd.

The historical traffic growth rate for the KY 1008 project area was based on 17 years of travel data for Simpson County which was verified by the Kentucky Transportation Cabinet's forecasts of statewide Vehicle Miles of Travel (VMT). Based on these factors, a compounded annual growth rate of 2.2 percent was assumed through Year 2025, resulting in a cumulative increase in vehicle travel of 65 percent from 2002 to 2025.

In calculating levels of service, it was assumed that the existing truck percentage values would remain constant through Year 2025. However, it is possible that some truck percentages could increase or decrease as highway improvements are completed in the project area.

As shown in **Figure 6**, future traffic volumes along KY 1008 are expected to range between 4,200 vehicles per day (vpd) in southwest Franklin (MP 0.000 to MP 0.590) and 11,400 vpd in southeast Franklin (MP 3.770 to MP 3.968). With respect to Level of Service (LOS), the majority of KY 1008 will operate at LOS D. The exception is expected to occur along the section closest to KY 100 where it will operate at LOS C.

Along US 31W north of Franklin, traffic volumes are expected to reach 17,500 vehicles per day (vpd) in Year 2025. In Franklin, volumes increase to between 19,100 vpd and 24,600 vpd. Between KY 1171 and KY 73, historical growth rates indicate that traffic demand along US 31W may reach about 40,000 vpd. Due to the capacity constraints of a three-lane cross section, future volumes are more likely to peak around 30,000 vpd. Above this point, congestion in this section may encourage drivers to seek other routes. Traffic volumes along KY 100 in Franklin are expected to range from 6,700 vpd to 8,500 vpd.



Year 2025 Traffic and Level of Service

Figure 6
Simpson County
Item No. 3-106.00

KY 1008 from
KY 100 to US 31 W

*Traffic demand is expected to reach about 40,000 vehicles per day (vpd); however, capacity constraints on this 3-lane section may limit future traffic volumes to about 30,000 vpd.

Printed: 07/01/03

Table 9. Future Traffic Characteristics

Simpson County, Item No. 03-106.00
Pre-Design Scoping Study, KY 1008 from KY 100 to US 31W

Begin MP	End MP	Length (miles)	2002 ADT	Annual Growth Rate[1]	2025 ADT	2025 LOS
KY 1008 MP 0.000 - MP 6.526						
0.000	0.590	0.590	2,520	2.2%	4,200	C
0.590	2.280	1.690	6,030	2.2%	9,900	D
2.280	3.176	0.896	5,630	2.2%	9,300	D
3.176	3.500	0.324	6,800	2.2%	11,200	D
3.500	3.770	0.270	6,800	2.2%	11,200	D
3.770	3.968	0.198	6,920	2.2%	11,400	D
3.968	4.350	0.382	5,010	2.2%	8,300	D
4.350	4.550	0.200	4,620	2.2%	7,600	D
4.550	6.526	1.976	4,620	2.2%	7,600	D
US 31W MP 4.500 - MP 9.053						
4.500	5.178	0.678	14,500	2.2%	23,900	F
5.178	5.273	0.095	14,500	2.2%	23,900	F
5.273	5.424	0.151	13,300	2.2%	21,900	E
5.424	5.720	0.296	13,300	2.2%	21,900	E
5.720	6.070	0.350	12,900	2.2%	21,300	E
6.070	6.170	0.100	12,400	2.2%	20,500	E
6.170	6.396	0.226	14,900	2.2%	24,600	E
6.396	6.670	0.274	14,900	2.2%	24,600	E
6.670	6.995	0.325	14,900	2.2%	24,600	E
6.995	7.120	0.125	24,700	2.2%	40,700*	F
7.120	7.400	0.280	11,600	2.2%	19,100	E
7.400	7.550	0.150	10,600	2.2%	17,500	E
7.550	7.950	0.400	10,600	2.2%	17,500	E
7.950	8.069	0.119	12,500	2.2%	20,600	E
8.069	9.053	0.984	12,500	2.2%	20,600	E
KY 73 MP 7.690 - MP 16.310						
7.690	8.417	0.727	3,820	2.2%	6,300	C
8.417	8.490	0.073	3,820	2.2%	6,300	C
8.490	8.870	0.380	4,070	2.2%	6,700	C
8.870	9.040	0.170	3,740	2.2%	6,200	C
9.040	9.234	0.194	3,740	2.2%	6,200	C
9.234	9.390	0.156	4,620	2.2%	7,600	C
9.390	9.660	0.270	4,120	2.2%	6,800	C
9.660	10.228	0.568	4,120	2.2%	6,800	C
10.228	10.250	0.022	1,440	2.2%	2,400	B
10.250	16.310	6.060	1,440	2.2%	2,400	B
KY 100 MP 6.302 - MP 11.000						
6.302	6.508	0.206	2,510	2.2%	4,100	C
6.508	8.284	1.776	2,510	2.2%	4,100	B
8.284	8.308	0.024	4,190	2.2%	6,900	C
8.308	8.364	0.056	4,190	2.2%	6,900	C
8.364	8.534	0.170	4,190	2.2%	6,900	C
8.534	8.551	0.017	4,190	2.2%	6,900	C
8.551	9.111	0.560	4,090	2.2%	6,700	C
9.111	9.536	0.425	5,150	2.2%	8,500	C
9.536	9.647	0.111	5,150	2.2%	8,500	A
9.647	9.654	0.007	3,080	2.2%	5,100	A
9.654	9.750	0.096	3,080	2.2%	5,100	A
9.750	9.954	0.204	3,080	2.2%	5,100	C
9.954	10.137	0.183	3,080	2.2%	5,100	C
10.137	10.315	0.178	3,080	2.2%	5,100	C
10.315	10.524	0.209	3,110	2.2%	5,100	C
10.524	10.613	0.089	3,110	2.2%	5,100	C
10.613	10.648	0.035	5,930	2.2%	9,800	D
10.648	10.854	0.206	5,930	2.2%	9,800	C
10.854	11.000	0.146	5,930	2.2%	9,800	D

1) Based on historical growth rates as derived from the KYTC Counts Program

*Traffic demand is expected to reach about 40,000 vehicles per day (vpd); however, capacity constraints of this 3-lane section may limit future traffic volumes to about 30,000 vpd

Table 9. Future Traffic Characteristics (continued)

Simpson County, Item No. 03-106.00
Pre-Design Scoping Study, KY 1008 from KY 100 to US 31W

Begin MP	End MP	Length (miles)	2002 ADT	Annual Growth Rate[1]	2025 ADT	2025 LOS
KY 383 MP 7.500 - MP 9.513						
7.500	7.650	0.150	2,580	2.2%	4,300	C
7.650	8.279	0.629	2,580	2.2%	4,300	C
8.279	8.560	0.281	2,420	2.2%	4,000	C
8.560	8.58	0.020	4,020	2.2%	6,600	C
8.580	9.001	0.421	4,020	2.2%	6,600	C
9.001	9.513	0.512	5,580	2.2%	9,200	D
KY 1170 MP 4.656 - MP 7.156						
4.656	7.156	2.500	545	2.2%	900	A
KY 1171 MP 0.000 - MP 2.090						
0.000	0.907	0.907	3490	2.2%	5,800	C
0.907	1.110	0.203	1820	2.2%	3,000	C
1.110	2.090	0.980	1790	2.2%	3,000	C
KY 2592 MP 0.000 - MP 0.774						
0.000	0.078	0.078	1,170	2.2%	1,900	B
0.078	0.685	0.607	1,480	2.2%	2,400	B
0.685	0.774	0.089	2,090	2.2%	3,400	C
KY 2593 MP 4.000 - MP 4.874						
4.000	4.874	0.874	476	2.2%	800	A
KY 3498 MP 0.000 - 0.246						
0.000	0.246	0.246	2,250	2.2%	3,700	C

With respect to LOS, US 31W will operate at LOS E and LOS F which are considered unacceptable. On the other hand, KY 100 will operate at LOS D or higher, which is acceptable for an urban area.

B. Future Traffic Based on Traffic Model Results

This section provides a discussion of the expected Year 2025 traffic conditions using the Simpson County Travel Demand Model. The goal of a travel demand model is to simulate existing travel characteristics, forecast future traffic volumes, and allow for system-wide analysis of alternative transportation improvements. In addition, travel demand models can provide decision-makers with a tool whereby alternative transportation concepts can be tested and evaluated against a predetermined set of criteria (goals and objectives). Relative to this project, the development of a travel demand model would assist in the analysis of the proposed Franklin Northwest Bypass. More importantly, the model would be used to predict the volume of traffic expected to use the bypass if built.

The Simpson County Travel Demand Model was developed using the TransCAD software package for a base year (2002) and a future year (2025). Specific technical information related to this model can be found in the *Simpson County Travel Demand Model Technical Memorandum*[2] submitted to the KYTC Division of Multimodal Programs.

As part of a future year model, committed highway improvements are coded into the model network. These improvements include projects listed in the KYTC Six Year Highway Plan. As discussed earlier in this report, three committed projects are listed for Simpson County, including:

- US 31W widening from the Tennessee state line to KY 1008 (south of Franklin);
- Bridge replacement along KY 73 northwest of Franklin; and
- KY 1008 – Franklin Northwest Bypass.

Since the purpose of using the model in this project was to determine the impact of the proposed Northwest Bypass on the future roadway network, the following five (5) future model scenarios were developed:

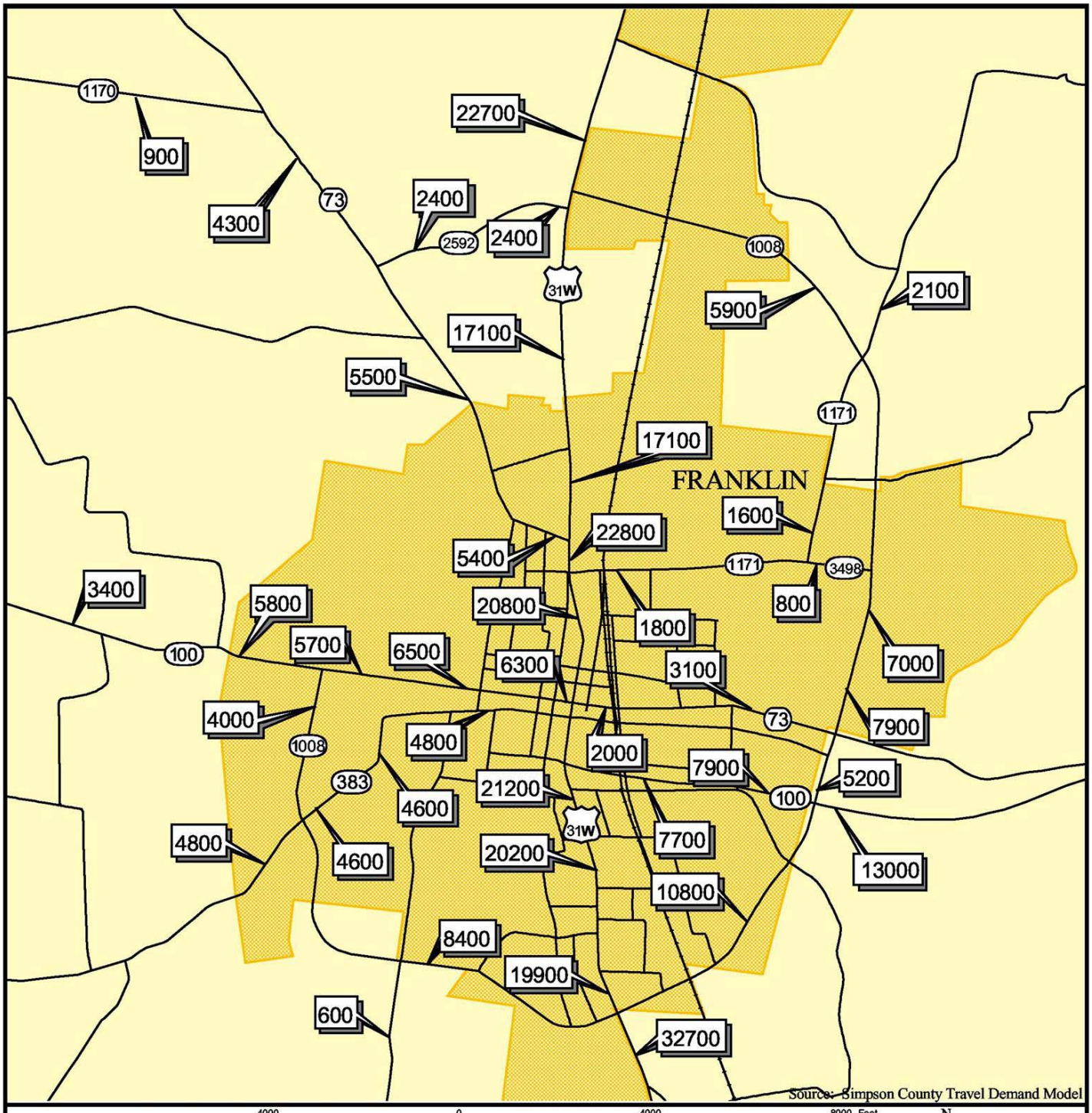
- Future traffic excluding KY 1008 Northwest Bypass;
- Future traffic including KY 1008 Northwest Bypass (no disjunctions);
- Future traffic including KY 1008 Northwest Bypass (northern disjunction);
- Future traffic including KY 1008 Northwest Bypass (western disjunction); and
- Future traffic including KY 1008 Northwest Bypass (northern and western disjunctions).

The five (5) model scenarios were then tested in the model. The following discussion summarizes the results of these tests.

1. Scenario 1: Future Traffic Excluding KY 1008 Northwest Bypass

This scenario is similar to Section A of this chapter and is presented for the purposes of comparison with the other scenarios. The traffic volumes for this analysis have been generalized into three segments in the study area (US 31W north of Franklin, US 31W in Franklin, and KY 100 in Franklin) to allow for comparison with the other alternative scenarios.

[2] *Simpson County Travel Demand Model Technical Memorandum*; Wilbur Smith Associates; September 2003



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LEGEND

9300 Estimated Model 2025 ADT

Model Route

Location Map

EDUCATION PAYS

KENTUCKY TRANSPORTATION CABINET

ENGINEERS PLANNERS ECONOMISTS
Wilbur Smith Associates

Year 2025 Traffic without Northwest Bypass

Figure 7
Simpson County
Item No. 3-106.00

KY 1008 from
KY 100 to US 31 W

Printed: 10/28/03

As shown in **Figure 7**, Year 2025 traffic volumes without the Franklin Northwest Bypass are expected as follows:

- Approximately 17,000 vpd along US 31W north of Franklin;
- Approximately 22,800 vpd along US 31W in Franklin; and
- Approximately 6,300 vpd along KY 100 in Franklin.

Future Traffic with Bypass (based on Traffic Model)

- Volumes along US 31W are expected to decrease by 15-20% with the bypass.
- Volumes along KY 100 are expected to decrease by 20% with the bypass.
- The new bypass route is expected to attract about 6,700 vpd.
- Disjunction of the bypass route at either end of the existing KY 1008 is expected to reduce use of the bypass between 10% and 30%.
- Disjunction of the bypass route at both ends of the existing KY 1008 is expected to reduce use of the bypass between 19% and 32%

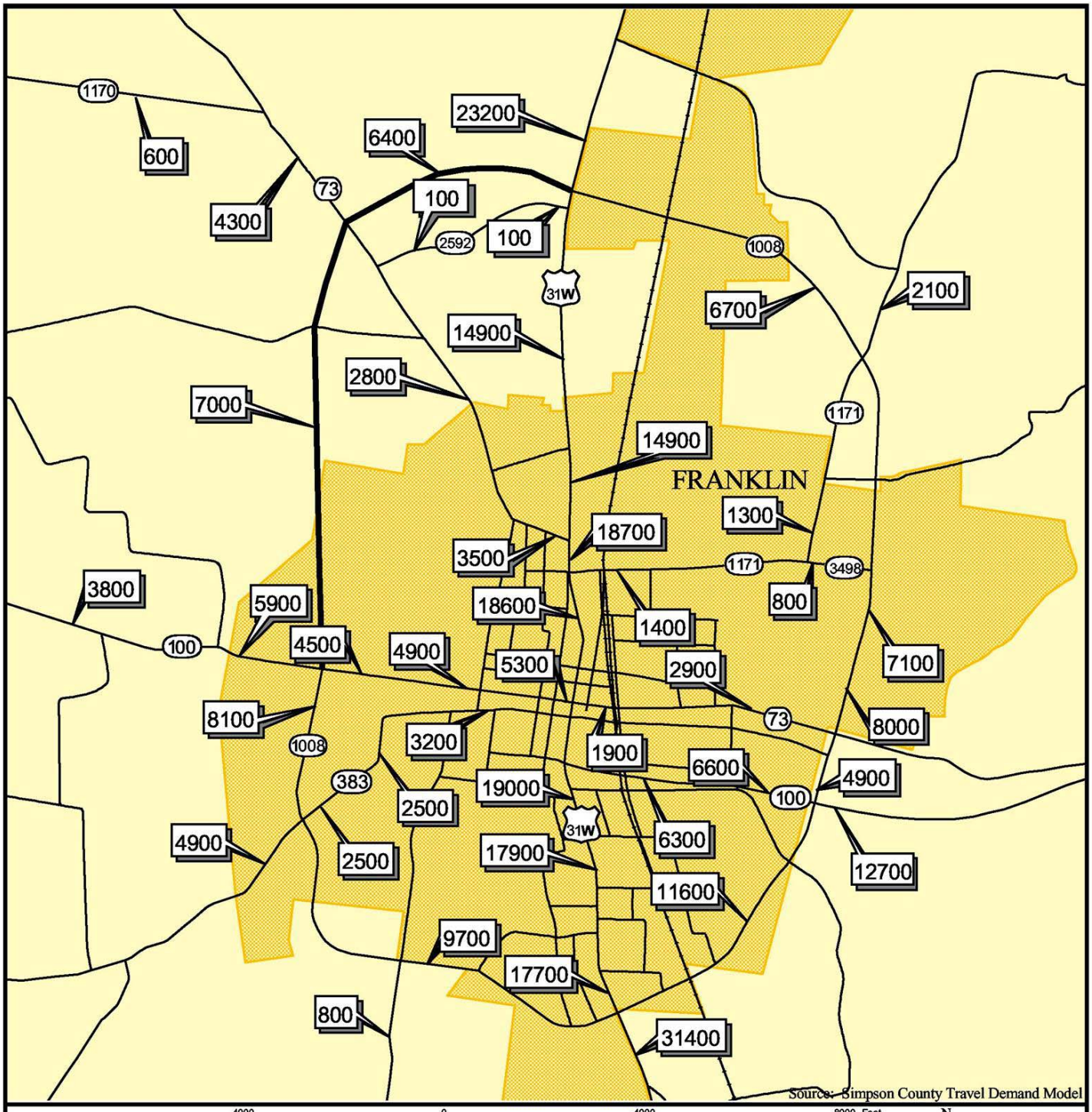
2. **Scenario 2: Future Traffic Including KY 1008 Northwest Bypass (No Disjunctions)**

This scenario considers the effect of adding the Franklin Northwest Bypass to the study area. As shown in **Figure 8**, Year 2025 traffic volumes for this scenario are expected to be as follows:

- An average of 6,700 vpd along the bypass;
- Approximately 14,900 vpd along US 31W north of Franklin;
- Approximately 18,700 vpd along US 31W in Franklin; and
- Approximately 5,300 vpd along KY 100 in Franklin.

As shown through this analysis, there is a 15% - 20% reduction in Year 2025 traffic along US 31W in the study area with the addition of a northwest bypass link. Year 2025 Level of Service (LOS) improves from LOS F to LOS E and LOS E to LOS D along some segments of US 31W with the northwest bypass. In addition, there is a 20% reduction in Year 2025 traffic along KY 100 and an improvement from LOS C to LOS B along some sections.

In order to identify which vehicles would be attracted to the proposed bypass, a select link analysis was conducted. A select link analysis is a travel demand modeling procedure that analyzes one specific section of roadway during the modeling process. By 'selecting' one link, the origins and destinations of the vehicles using that specific roadway section can be determined. Also, the number of vehicles that use adjacent routes to get to the selected roadway section are determined. For this project, a one-mile link of the Franklin Northwest Bypass just north of KY 100 was selected for further analysis. **Figure 9** displays the results from the select link analysis. Each volume in this figure represents the total volume on other routes that is going to or coming from the selected section of the bypass. As shown, much of the traffic that utilizes the Franklin Northwest Bypass accesses the route from US 31W, KY 73, and KY 100.



LEGEND

9300 — Estimated Model 2025 ADT

Model Route

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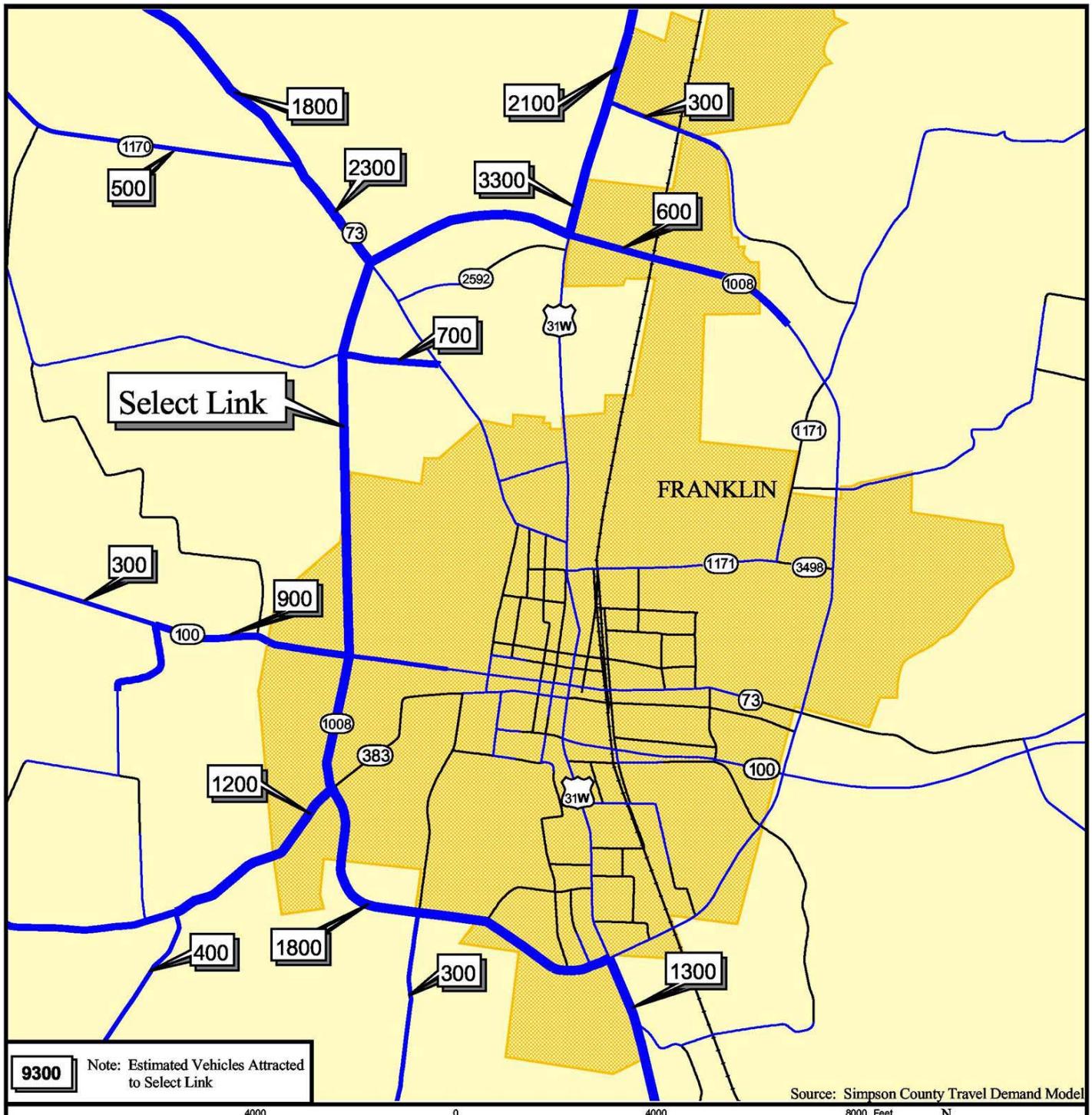
Year 2025 Traffic with Northwest Bypass

Figure 8
Simpson County
Item No. 3-106.00

KY 1008 from
KY 100 to US 31 W

Printed: 07/01/03



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LEGEND

- 1 - 250
- 250 - 500
- 500 - 1000
- 1000 - 6645

Location Map

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Year 2025 Select Link Analysis

Figure 9
Simpson County
Item No. 3-106.00

KY 1008 from
KY 100 to US 31 W

Printed: 10/28/03

3. **Scenario 3: Future Traffic Including KY 1008 Northwest Bypass (Northern Disjunction)**

   Another key test using the Simpson County Travel Demand Model included an analysis of the location where the proposed bypass should intersect with US 31W. Scenario 3 provides for construction of the Franklin Northwest Bypass with a disjunction north of the existing US 31W/KY 1008 intersection approximately ¼ miles. This can be seen in **Figure 10**.

   Year 2025 traffic volumes for this scenario are expected to be as follows:

   - An average of 6,200 vpd along the bypass;
   - Approximately 14,900 vpd along US 31W north of Franklin;
   - Approximately 19,200 vpd along US 31W in Franklin; and
   - Approximately 5,300 vpd along KY 100 in Franklin.

   As shown, approximately 10% fewer vehicles utilize the new section of the bypass as a result of the disjunction. In addition, fewer vehicles are removed from US 31W in Franklin.

4. **Scenario 4: Future Traffic Including KY 1008 Northwest Bypass (Western Disjunction)**

   Scenario 4 is similar to Scenario 3 except that the disjunction is along KY 100. **Figure 11** displays the results.

   Year 2025 traffic volumes for this scenario are forecast as follows:

   - An average of 5,400 vpd along the bypass;
   - Approximately 15,100 vpd along US 31W north of Franklin;
   - Approximately 20,100 vpd along US 31W in Franklin; and
   - Approximately 5,200 vpd along KY 100 in Franklin.

   As shown, approximately 30% less traffic uses the bypass than described in Scenario 2. In addition, traffic volumes along US 31W are higher with the western disjunction.

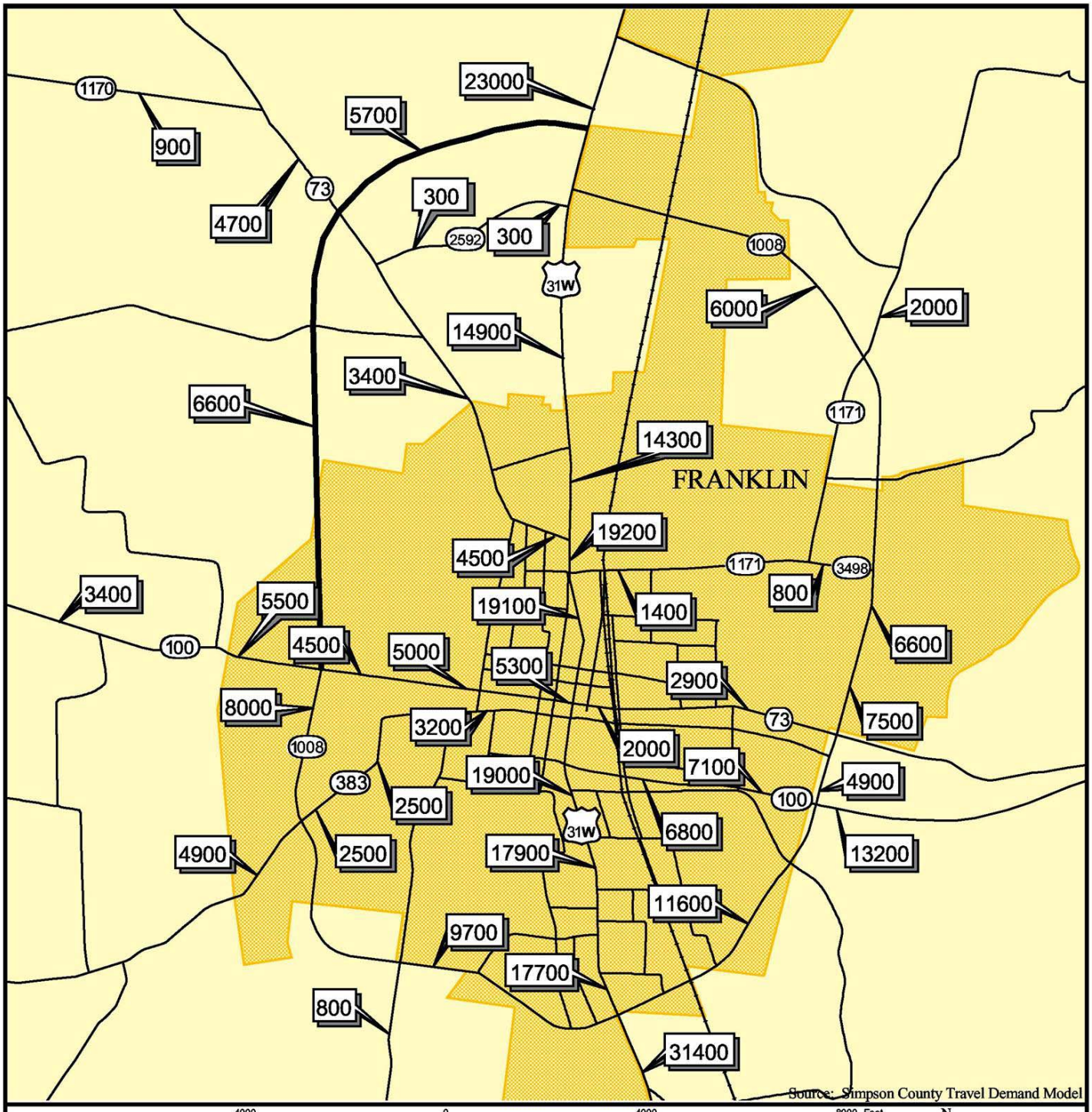
5. **Scenario 5: Future Traffic Including KY 1008 Northwest Bypass (Northern and Western Disjunction)**

   Scenario 5 is a combination of Scenario 3 and Scenario 4, having disjunctions both north of the existing US 31W/KY 1008 intersection and west of the existing KY 100/KY 1008 intersection. **Figure 12** displays the results.

   Year 2025 traffic volumes for this scenario are forecast as follows:

   - An average of 5,000 vpd along the bypass;
   - Approximately 15,100 vpd along US 31W north of Franklin;
   - Approximately 20,600 vpd along US 31W in Franklin; and
   - Approximately 5,300 vpd along KY 100 in Franklin.

   As shown, approximately 35% less traffic uses the bypass than described in Scenario 2.



LEGEND

9300 — Estimated Model 2025 ADT

Model Route

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KENTUCKY TRANSPORTATION CABINET

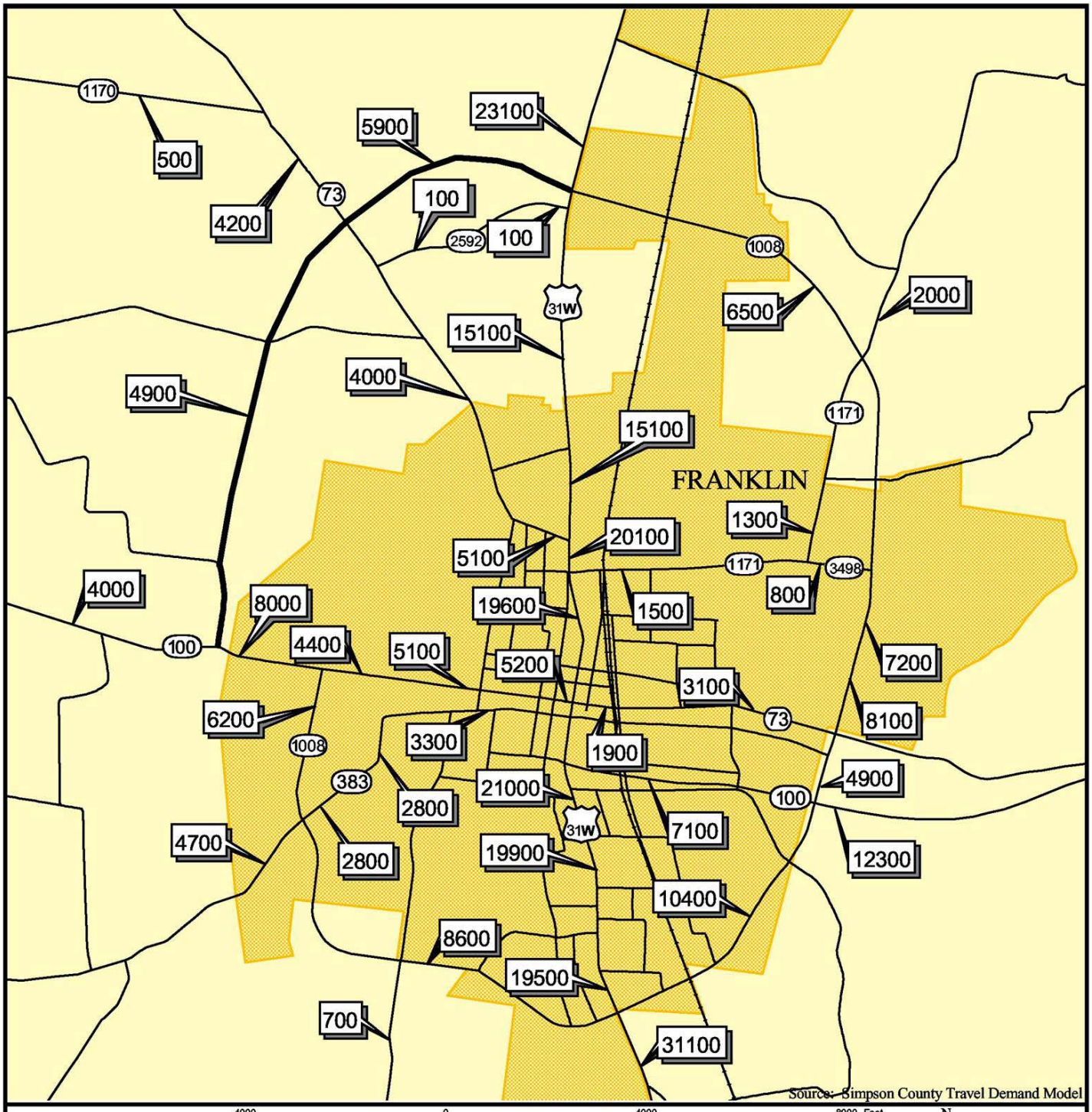
ENGINEERS PLANNERS ECONOMISTS
Wilbur Smith Associates

Year 2025 Traffic With Northern Disjunction

Figure 10
Simpson County
Item No. 3-106.00

KY 1008 from
KY 100 to US 31 W

Printed: 10/28/03



LEGEND

9300 Estimated Model 2025 ADT

Model Route

Location Map

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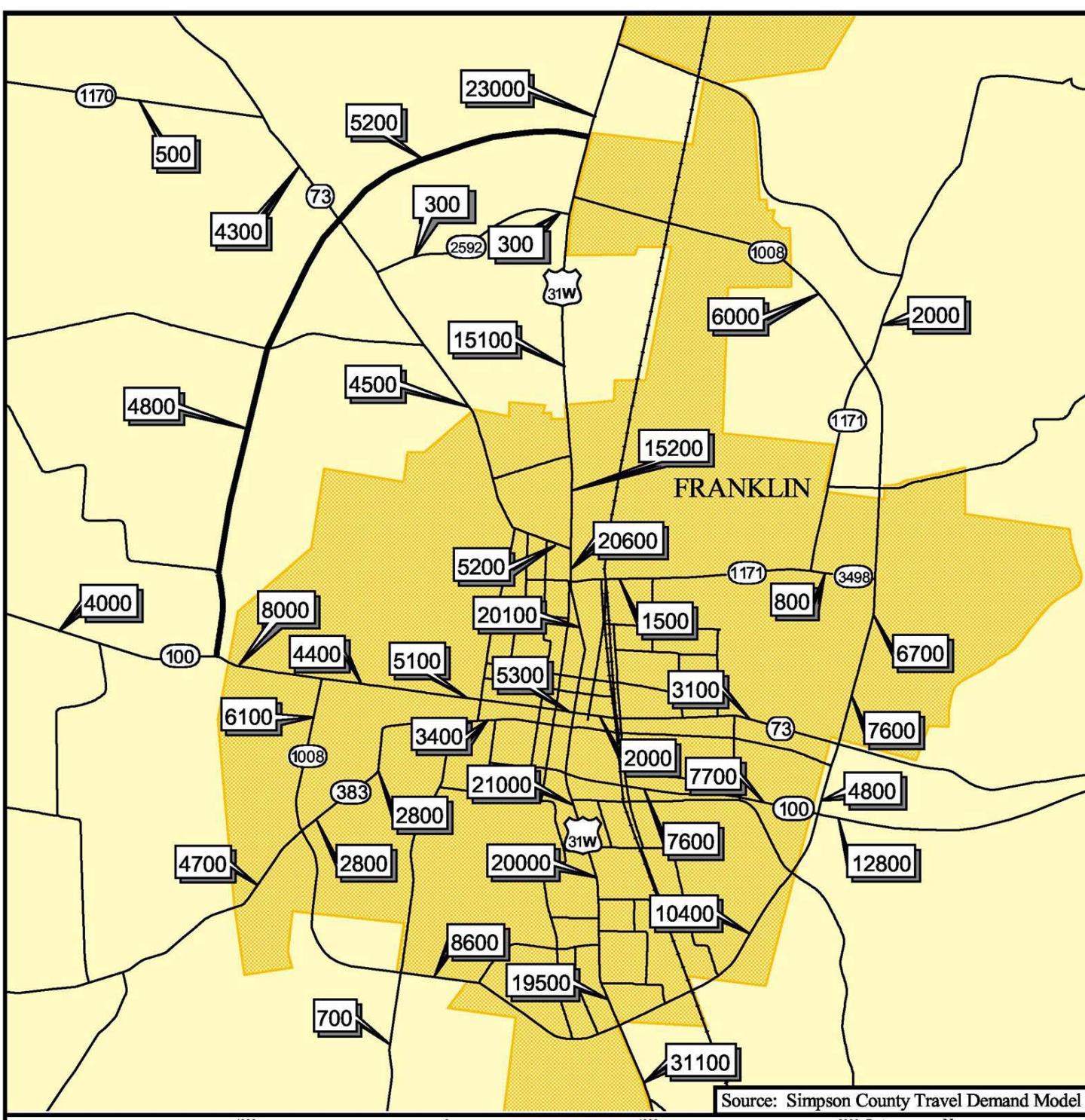
Wilbur Smith Associates

Year 2025 Traffic With Western Disjunction

Figure 11
Simpson County
Item No. 3-106.00

KY 1008 from
KY 100 to US 31 W

Printed: 10/28/03



LEGEND

9300 — Estimated Model 2025 ADT

Model Route

Location Map

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Wilbur Smith Associates — Engineers, Planners, Economists

Year 2025 Traffic Northern and Western Disjunction

Figure 12
Simpson County
Item No. 3-106.00

KY 1008 from
KY 100 to US 31 W

Printed: 12/23/0

C. Summary of Future Traffic Considerations

Consideration of future traffic in the study area included historical growth rate forecasts and testing of various scenarios in the Simpson County Travel Demand Model. The results of these future traffic studies indicate the following:

- Without any future transportation improvements in the study area, US 31W is expected to operate at unacceptable conditions by the Year 2025.
- Construction of a Franklin Northwest Bypass is expected to reduce traffic along existing routes through Franklin: 1) Volumes along US 31W will decrease by 15-20% and 2) Volumes along KY 100 will decrease by 20%.
- Connection of the Franklin Northwest Bypass to the existing sections of KY 1008 is expected to attract the most users of the new route, about 6,700 vpd. Disjunction of the bypass route at either end of the existing KY 1008 is expected to reduce use of the bypass between 10% and 30%, while disjunction at both ends is expected to reduce use by 35%.

VI. DRAFT PROJECT GOALS

Draft project goals have been identified for the Franklin Northwest Bypass (KY 1008 extension) project. These project goals were identified through the study process and are expected to continue to evolve throughout future phases of this project.

Project Goals

- Reduce Traffic Congestion in Franklin
- Reduce Truck Traffic in Franklin
- Improve Safety for Existing Roadways

These goals aim to address the operational, safety, and environmental issues identified by the KYTC; Federal, State and local government agencies; interest groups; and the general public. As the Franklin Northwest Bypass project continues to move through the project development process, these goals may be used as a baseline for development of the project and for preparation of the purpose and need statement for the project.

For the Franklin Northwest Bypass project, the following draft project goals have been identified:

- **Reduce traffic congestion along major roads such as US 31W and KY 100 in downtown Franklin.**

  In the study area, US 31W currently operates at LOS D and E and is expected to worsen in the future. The current congestion and expected future growth along this corridor have become primary concerns of local officials and the public. The Franklin Northwest Bypass will serve to relieve current traffic along US 31W and accommodate increased future traffic levels. Traffic model results indicate that with construction of the Franklin Northwest Bypass, traffic along US 31W will be reduced by 15-20%. Similarly, volumes along KY 100, which also runs through downtown Franklin, will be decreased by about 20% with the proposed bypass.

- **Provide a corridor that would reduce truck traffic in downtown Franklin and along residential streets.**

  Local officials and members of the public have expressed their concern about the large number of trucks in downtown Franklin. The proposed bypass is expected to relieve the number of trucks in downtown, by providing an alternate path through Franklin. There is also concern about the many large trucks using Patton Road as a cut-through. The proposed bypass will eliminate the need for this cut-through, removing trucks and other vehicles from this residential neighborhood.

- **Improve safety for study area routes.**

  Four (4) high accident segments are located along US 31W between the southern urban limits and Patton Road. One (1) high accident segment is located along KY 100 between KY 1008 and US 31W. The proposed bypass is expected to improve the safety along these routes by reducing the number of vehicles per day in this area.

  State police officers and local officials have indicated that the proposed bypass will improve emergency response times throughout Franklin.

  The trucks and other vehicles using Patton Road as a cut-through are perceived as a threat to pedestrians and animals residing near Patton Place. Safety concerns relating to this road have been raised by officials, the public, and project team members.

VII. RECOMMENDATIONS

This chapter includes conclusions to the Franklin Northwest Bypass Pre-Design Scoping Study and recommendations for future project activities. The following sections discuss the findings of the final project team meeting, project development costs, anticipated design criteria, and special considerations for future project phases and public involvement.

A. Final Project Team Meeting

A final project team meeting was held on June 3, 2003, to identify issues and develop a set of recommendations for the Franklin Northwest Bypass project. Attendees at this meeting included representatives of the Barren River Area Development District, the Kentucky Transportation Cabinet, and Wilbur Smith Associates. The project team extensively reviewed input heard from the public, the results of the travel demand model, the environmental justice report, and input from resource agencies. Minutes from this meeting are included in **Appendix B**.

Key Findings

- Move project to future phases of development as future finances allow.
- Seek funding for completion of future project phases.
- Consider future design corridors within the identified study area.
- Connect the proposed route to existing sections of KY 1008.
- Consider landscaping and buffering options in residential areas.

A consensus was made to extend the Franklin Northwest Bypass study area to the north, without changing the anticipated terminus points at the existing KY 1008 intersections. The project team decided to make this adjustment to the study area to provide options for the bypass corridors to go as far north as possible, minimizing disturbance to residential areas.

One key issue that was discussed was the potential of considering disjunctions (i.e., not tying into the existing KY 1008 intersections). It was noted that common disjunction problems included spacing of intersections, weaving, additional traffic signals and additional conflict points.

Two (2) model runs were coded into the modeling software during the meeting in order to demonstrate the impact of disjunctions. Results indicated that fewer vehicles would use a bypass with disjunctions. As discussed in **Chapter V**, the addition of a northwest bypass with no disjunctions would result in reductions of 15% to 20% in Year 2025 traffic along US 31W and KY 100. In addition, it is estimated that between 10% and 30% fewer vehicles would utilize the northwest bypass as a result of a disjunction either north of the existing US 31W/KY 1008 intersection or west of the existing KY 100/KY 1008 intersection. Disjunction of the bypass route at both ends of the existing KY 1008 is expected to reduce use by 35%.

Based on the model output, usage of the Franklin Northwest Bypass would decrease if disjunctions were included as part of the design of the route. In addition, safety concerns associated with disjunctions support the proposed terminus points at the existing KY 1008 intersections. For these reasons, the disjunction scenarios (Scenarios 3, 4, and 5) are not recommended for future consideration.

After discussion of all the issues identified and input received, a list of final recommendations was developed. These recommendations include:

- The Franklin Northwest Bypass project should be moved forward to future phases of development. The proposed route is expected to reduce traffic along existing routes through Franklin, such as US 31W and KY 100.
- Additional funding will be required for the completion of construction activities for this project.
- Design corridors considered during future phase of this project should fall within the identified study area.
- Connection of the proposed route to the existing sections of KY 1008 is expected to attract the most users of the new route. A disjunction at either end of the proposed bypass would 1) reduce the number of vehicles expected to use the new bypass route and 2) introduce intersection difficulties that would result in potential safety problems such as an increase in the number of crashes.
- Landscaping and buffering options should be considered along the proposed route to reduce impacts to residential areas. The future reality of such options would be contingent upon available funding and maintenance considerations.

In addition to these recommendations that resulted from the project team meeting, the following recommendations have been identified:

- The Franklin Northwest Bypass should minimize environmental impacts in the study area. A number of potential environmental concerns for the project area have been identified through this scoping study and should be considered throughout future phases of this project. Environmental issues that are likely to require consideration include: public and private water sources; potential water quality issues; wetland areas; karst groundwater basins/development; potential endangered, threatened or special concern species; sensitive community resources; potential environmental justice issues related to high percentages of low-income and minority populations; historic structures; cropland and farming operations; and sites monitored by the Environmental Protection Agency (EPA).
- Local officials, interest groups, and the general public should be involved as much as possible throughout any future project phases. Public involvement and coordination is critical for a project such as this, particularly in a strong community such as Franklin. This project has received mixed support, making public involvement and coordination even more important in building community consensus. It is community consensus that greatly assists in getting projects funded. As such, community involvement should be facilitated for on-going participation of the general public throughout all phases of this project.

B. Project Corridor Development Costs

A review of project phases and costs identified for the Franklin Northwest Bypass project in the *Six Year Highway Plan (FY 2003-FY 2008)* was conducted. It was assumed for estimating purposes that the project consists of a two-lane rural roadway, approximately 2.7 miles in length. Cost estimates were calculated using past costs for similar highway projects in the project area and an evaluation of the terrain and other characteristics in the corridor. Cost components for design, right-of-way, utilities and construction were calculated based on these factors.

As shown in the following table, the 2.7-mile corridor is expected to cost approximately $12.1 million. A total of $4.0 million is currently scheduled in the *Six Year Highway Plan*

(FY 2003-FY 2008) for all future phases except construction of this project. Additional funding will be required for the completion of construction activities for this project.

Phase	Current Project Estimate
Design	$400,000
Right-of-Way	$2,600,000
Utility Relocation	$1,000,000
Construction	$8,100,000
Total	$12,100,000

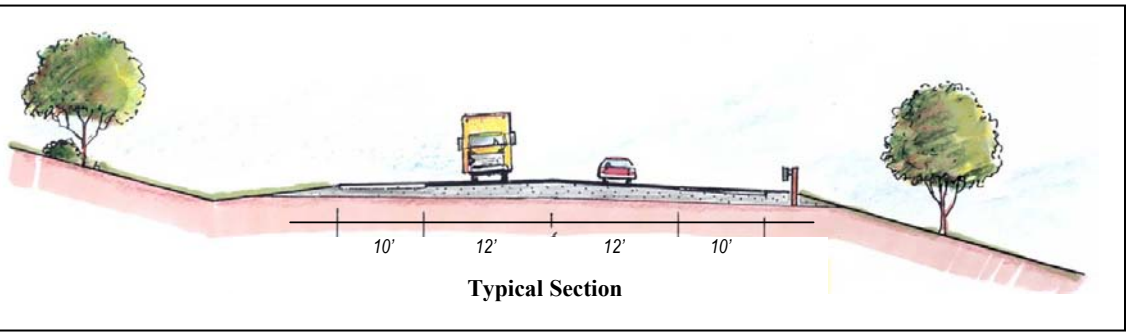
According to the *Six Year Highway Plan (FY 2003-FY 2008)*, the design phase of this project is scheduled to begin in FY 2004, followed by right-of-way acquisition (FY 2006), and utility relocation (FY 2006). It is recommended that the scheduled project phases, with the addition of construction activities, remain as the schedule for the Franklin Northwest Bypass (KY 1008 extension).

C. Geometric Design Criteria

The geometric design criteria recommended for the proposed Franklin Northwest Bypass (KY 1008 extension) should provide consistency with the newest section of the KY 1008 Bypass near US 31W which has two (2) 12-foot travel lanes with 10-foot shoulders. Based on this, the cross section for the proposed route should include:

- Two (2) 12-foot travel lanes;
- 10-foot paved shoulders;
- Partial control of access;
- Intersections at KY 100, KY 73, and US 31W;
- Turn lanes at major intersections; and
- Consideration of bicycle facilities or designation of shoulder area for bicycle travel.

The following illustration represents the typical section recommended for the new bypass section:



Typical Section

D. Special Considerations

Below are some key corridor findings and other special items of interest that should be considered as part of future project development activities.

- Environmental justice issues related to minority and low-income populations should be closely monitored throughout further phases of this project due to higher percentages of these populations within close proximity of the project area compared with the percentages for Simpson County and/or Kentucky.
- Threatened and endangered species should also be carefully monitored. The Gray Mytosis, Kentucky Creekshell, Spotted Darter, and Sedge Wren are known to exist within Simpson County. Given that the environment of the project area is similar to that for the rest of Simpson County, it is possible that these species may occur within the project area.
- Consideration should be given to potential water quality issues related to the Barren River watershed and its tributaries, wetland areas, and karst groundwater basins/development, all within the study corridor;
- The project area is located upon the Formation of the Ste. Genevieve Limestone and St. Louis Limestone. A more detailed study of karst topography within the study area should be considered as the project develops.
- The presence of farms within and near the project area could present issues related to agricultural impacts.
- Upcoming project development activities should consist of environmental base studies and initial design activities for alternative alignments within the vicinity of the recommended corridor area.
- Based upon anticipated cost estimates, the programming of additional funds will be required in order to complete the project development activities.
- Landscaping and buffering would be contingent upon available funding and a maintenance agreement. The agreement would include an assurance of long-term maintenance.
- Consideration should be given to long-term improvements such as completing a full western bypass which would utilize portions of the Franklin Northwest Bypass.

E. Suggested Public Involvement Activities

Public involvement efforts will continue to be important aspects of future project development activities. Based upon comments at the public information meeting and the responses from the public survey, it appears that there is mixed public support for this project. It is important to continue the public involvement effort throughout subsequent phases of this project. Activities that are recommended include:

- Create a Public Involvement Plan to ensure that the public is kept informed of any decisions that are made. Special interest groups could include residents of neighborhoods within the project area.
- Hold public information meetings to provide information to the public as well as seek input from the public regarding further engineering or environmental issues. These meetings should be held at the major milestones of the project.
- Continue coordination efforts with local media regarding project information, public involvement opportunities, and decisions that are made relating to the project.

- As the project continues to develop, the database of contacts developed by the KYTC Division of Planning can be expanded to include other identified stakeholders and interested parties.

IX. ACKNOWLEDGEMENTS AND CONTACTS

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If additional information is needed regarding the KY 1008 Pre-Design Scoping Study or the Franklin Northwest Bypass project, the following individuals may be contacted:

- Annette Coffey, P.E. — Director, Division of Planning
- Daryl Greer, P.E. — Branch Manager, Division of Planning
- Jeff Moore, AICP — Branch Manager, District 3 Planning

The following address and phone numbers can be used to reach these individuals.

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FAX: (502) 564-2865

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Additional information for this project can also be found on the Division of Planning's website: http://www.transportation.ky.gov/planning/index2.asp.