Northwest Versailles Mobility Study

Final Report
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City of Versailles, Kentucky

Submitted by:
ENTRAN, PLC

ENTRAN
ENGINEERING INFRASTRUCTURE SOLUTIONS

Acknowledgements

The successful completion of the Northwest Versailles Mobility Study was possible through the collaborative planning, review and participation of many dedicated people. On behalf of the Project Team, ENTRAN wishes to express its sincere appreciation for those who participated in the study.

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This study was funded by the Kentucky Transportation Cabinet and administered by the City of Versailles.

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Mr. Dale Benson	City of Midway
Mr. Dan Brenyo	Woodford County Chamber of Commerce
Mr. Tom Brown	Clifton-McCracken Neighborhood Association
Sen. Julian Carroll	Kentucky General Assembly
Mr. Anthony Conner	City of Versailles Police Department
Ms. Danna Estridge	Woodford County Historical Society
Mr. Scott Hawkins	Woodford County Board of Education
Mr. David Martin	Kentucky Transportation Cabinet
Ms. Ann Miller	Versailles City Council
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Mr. Fred Seitz, Jr.	Brookdale Farm
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Mr. Robert Sparks	Osram Sylvania
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Executive Summary

The Northwest Versailles Mobility Study was conducted for the City of Versailles through funding by the Kentucky Transportation Cabinet. The study was undertaken in response to concerns about peak hour traffic congestion in Versailles, particularly downtown, and its impacts on businesses, residents, the environment, and the overall quality of life for people who live and work in Versailles and Woodford County.

Quality of life is highly valued in this community, where natural beauty, historic structures and a comfortable small-town feeling make this an attractive place to live and work. Growth, however, has created challenges, particularly with respect to transportation, that must be resolved if this high quality of life is to be maintained.

The focus of this study, therefore, was on developing strategies to improve mobility in the northwest part of Versailles, which included the downtown area. By improving mobility, these transportation issues can be resolved or mitigated and this high quality of life preserved.

Key Issues

Several key issues impact mobility in this area and were addressed during the study. These issues involve both causative factors of congestion and the ability to address those factors. Identified key issues were:

- Lack of connectivity in the northwest area of Versailles
- Regional growth that will increase external travel into, out of, and through Woodford County
- Placing a focus on mobility (the ability to move people and goods) and not on solely increasing transportation system capacity
- Creating community-based solutions through consensus-building

Study Goals and Objectives

Study goals and objectives were created for the development and evaluation of candidate mobility solutions. Goals are generalized statements that articulate a community's needs and give direction and focus to the decision-making process. Objectives are specific statements which grow out of general goals. The goals and objectives are:

Goal 1. Improve multimodal mobility within the community

Objective 1.1 Reduce travel times
Objective 1.2 Reduce delays and congestion
Objective 1.3 Reduce truck volumes through downtown Versailles
Objective 1.4 Enhance pedestrian/bicycle travel opportunities

Goal 2. Provide for efficient and equitable allocation of public resources for transportation infrastructure improvements

Objective 2.1 Maximize benefits of projects and strategies in relation to costs
Objective 2.2 Strive for a geographic distribution of projects and strategies

Goal 3. Improve safety of the transportation system

Objective 3.1 Reduce crash frequencies and rates
Objective 3.2 Reduce vehicular (auto and truck), pedestrian and bicycle conflicts

Goal 4. Minimize the impacts of transportation improvements and strategies on the environment

Objective 4.1 Avoid/minimize the impact on cultural historic resources, natural resources, farmland and existing neighborhoods
Objective 4.2 Preserve the small-town character of Versailles and Midway and the rural landscape and character of Woodford County

Goal 5. Recognize the sensitivity both locally and regionally of the transportation/land use relationship

Objective 5.1 Develop projects and strategies consistent with local and regional plans
Objective 5.2 Develop projects and strategies compatible with the regional transportation system

Public Involvement

Public involvement was an integral part of the Northwest Versailles Mobility Study. The objectives of the public involvement process were:

- Provide an opportunity for stakeholders and the general public to be fully engaged in the study process;

- Foster a sense of ownership of the study and the outcome among stakeholders and the public;
- Be transparent; and
- Provide a mechanism for dissemination of information about the study and an avenue for individual feedback.

Elements of the public involvement process were: 1) Steering Committee; 2) public information meetings; and 3) study Web site.

A Steering Committee was established for the study whose purpose was to provide guidance and input to the ENTRAN study team. The intent was to establish through a group of stakeholders a representative cross-section of the community. The Steering Committee provided valuable input into the identification and evaluation of candidate mobility solutions.

Three meetings were held to provide information about the study to the general public, to obtain public input, and to gauge public perception on key issues and candidate mobility solutions. Public meeting turnout was relatively low, in spite of extensive efforts to advertise the meetings.

A Web site was developed for the purpose of conveying information about the study and for receiving public input. The Web site address is www.nwversailles.com.

Existing Conditions

An assessment of existing conditions was performed to provide a "snapshot" of the roadway system as it is today. With the exception of the Blue Grass Parkway, US 60 on either end of Versailles, the Bypass, and Falling Springs Boulevard, all of the streets and roads within and leading into Versailles are two-lane facilities. An analysis of traffic conditions revealed that congestion is a peak hour issue that is confined primarily to the downtown area, particularly Main Street. Significant volumes of trucks and buses contribute to the congestion.

A crash analysis was conducted for streets and roads in the study area. Crash records were obtained from the Kentucky Transportation Cabinet for the five-year period from January 1, 2003 through December 31, 2007. A total of 732 crashes were reported by law enforcement agencies during this period – 7 fatal crashes, 99 injury crashes and 626 property-damage only crashes.

The following roadway sections were identified as high-crash locations based on the analysis of reported crashes:

- US 60 Bypass
- Midway Road (US 62) between US 60 and Chestnut Lane
- High Street between Rose Hill Avenue and Falling Springs Boulevard
- Rose Hill Avenue between Tyrone Pike and Main Street
- South Main Street between Rose Hill Avenue and Falling Springs Boulevard
- McCracken Pike/Elm Street from outside the study area boundary to Kentucky Avenue

Intersections identified as high-crash locations were:

1. US 60 Bypass at US 60 (Lexington Road)
2. Tyrone Pike at Clifton Road
3. Rose Hill Avenue at High Street
4. Main Street at Lexington Street
5. South Main Street at Woodford Village Drive
6. Main Street at Rose Hill Avenue

An Environmental Overview was conducted for the purpose of identifying environmental resources and issues of concern in the Northwest Versailles Mobility Study area, and to establish an environmental footprint for consideration in the development of alternative mobility solutions and avoidance or minimization of impacts. The Environmental Overview Summary in this report is an abstract of the full Environmental Overview document, which can be obtained electronically via the project Web site (see the Maps and Documents section at www.nwversailles.com).

Future Travel Demand

Future demand was estimated through the use of a county-wide travel demand model, which was updated for this study. The model included an updated base year and a future year 2030 scenario. While growth in the counties bordering Woodford is anticipated to be significant (an estimated 44 percent overall population growth between 2000 and 2030), growth in Woodford County is expected to be much more modest. The largest increase in travel within the county is anticipated to occur for through travel as a result of growth in the adjacent counties.

Mobility Solutions

Mobility solutions were developed with the following objectives in mind:

- Solutions were not confined to capital projects, but also included strategies and policies.
- A focus was placed on improving mobility, that is, the ability to move people and goods, and not solely in increasing capacity.
- Alternatives were developed with the intent of being consistent with study Goals and Objectives, which were developed by the Steering Committee. Study goals included improving the safety of the area transportation system
- Efforts were made to confine alternative solutions to the Study Area, but some solutions outside the Study Area were considered if it was determined that primary benefits within the Study Area would be realized.

The development and evaluation of candidate mobility solutions was performed against the backdrop of the study goals: to improve mobility, to provide an efficient and equitable allocation of public resources, to improve safety, to minimize impacts on the environment, and to recognize the sensitivity of the transportation/land use relationship.

The following mobility solutions are recommended for implementation, based on the outcome from the study process.

1. Downtown Traffic System Improvements

This solution consists of a set of strategies, namely:

A. *Optimization of signal timing plans for the five coordinated signals that comprise the downtown system.*

B. *Limited removal of on-street parking spaces to ease choke points.*

C. *Enlarged overhead lane use signs.*

2. Further Analysis of the Northwest Connector

It is recommended that the Northwest Connector concept be advanced to consider alternative alignments, specific environmental issues associated with alignment alternatives, and that a detailed, focused public involvement effort be undertaken that actively engages both property owners in the corridor and downtown businesses (because of the significant decrease in downtown traffic that would result). It is also recommended that the study area be expanded to include the corridor for the Falling Springs Boulevard East Extension, that the environmental overview should be expanded to include this corridor, and that alternative alignments be identified and evaluated. The focused public involvement efforts should include this alternative as well. At the conclusion of this process, one of the following recommendations should be made based on the results of further study and focused public involvement:

1. Recommend the Northwest Connector
2. Recommend the Falling Springs Boulevard East Extension
3. Take no further action

3. Flashing Warning Beacons on US 60 at the Blue Grass Parkway

Flashing yellow warning beacons should be installed on US 60 at the intersection with the exit ramp from the Blue Grass Parkway to westbound US 60. Flashing red beacons should be installed at the end of the ramp from the Parkway to US 60 westbound.

4. Truck Signing at Blue Grass Parkway Exit 59

Install two new guide signs along eastbound Blue Grass Parkway, one at Exit 59 and one in advance of the exit, that include the following message: "Interstate 64 truck traffic use US 127."

5.1 Intersection Improvements: Main Street/ North Main Street/Frankfort Street/ Broadway/Elm Street

It is recommended that a roundabout at this location be given first consideration and that this solution should be vetted through the Transportation Cabinet's Roundabout Review and Approval Process. This process includes preliminary design to determine its feasibility. Should a roundabout be deemed infeasible, then "traditional"-type improvements are recommended.

5.2 Intersection Improvements: Clifton Road/Tyrone Pike/Rose Hill Avenue

It is recommended that a roundabout at this location be given first consideration and that this solution should be vetted through the Transportation Cabinet's Roundabout Review and Approval Process. This process includes preliminary design to determine its feasibility. Should a roundabout be deemed infeasible, then "traditional"-type improvements are recommended.

7. Cedar Ridge Lane Extension

This project involves the extension of Cedar Ridge Lane from its current dead end to Huntertown Road. The project effectively would provide an extension of Falling Springs Boulevard to Huntertown Road. The extension would pass through the Lane property and would require right-of-way acquisition.

8. Neighborhood Connectivity

On a case-by-case basis, stubbed neighborhood streets should be joined to improve connectivity and help spread traffic demand. Connecting streets should be considered in conjunction with control measures and traffic calming devices as a means to temper speeds.

9. US 60 Bypass/Markham Drive Intersection Improvements

It is recommended that modifications to the existing intersection should be provided; specifically:

- The westbound left-turn lane from the US 60 Bypass to Markham Drive should be extended to provide increased storage length and a longer deceleration lane for left-turning vehicles.
- Assuming adequate median width, a median storage pocket should be created for vehicles turning left from Markham Drive onto westbound US 60 Bypass.

Suggestions for implementation of the recommended mobility solutions were provided. Some solutions can be implemented through maintenance or operating funds within the Kentucky Transportation Cabinet's District 7 office. Other solutions possibly could be funded through Federal Transportation Enhancement (TE) or Safety-Hazard Elimination (HES) funds. Major capital projects using State and possibly Federal funds must be programmed through the State Highway Plan. Locally funded mobility solutions would have to be undertaken by the City of Versailles or the Woodford Fiscal Court.

I. Introduction

The Northwest Versailles Mobility Study was conducted for the City of Versailles through funding by the Kentucky Transportation Cabinet. The study was undertaken in response to concerns about peak hour traffic congestion in Versailles, particularly downtown, and its impacts on businesses, residents, the environment, and the overall quality of life for people who live and work in Versailles and Woodford County.

The study has highlighted a dilemma. Quality of life is highly valued in this community, where natural beauty, historic structures and a comfortable small-town feeling make this an attractive place to live and work. Growth, however, has created challenges, particularly with respect to transportation, that must be resolved if this high quality of life is to be maintained.

The focus of this study, therefore, was on developing strategies to improve mobility in the northwest part of Versailles, which included the downtown area. By improving mobility, these transportation issues can be resolved or mitigated and this high quality of life preserved.

Key Issues

Several key issues impact mobility in this area and were addressed during the study. These issues involve both causative factors of congestion and the ability to address those factors.

Connectivity. The northwest area of Versailles suffers from a lack of connectivity. As shown in **Figure I-1**, most of the major roads in the area bring traffic into the same place – downtown Versailles. While the US 60 Bypass provides circumferential connectivity between east and north, and Falling Springs Boulevard (KY 2113) combines with the Blue Grass Parkway to provide connectivity around the south side of Versailles, no such connectivity is provided northwest of downtown. Much of the traffic to Frankfort, Louisville or Midway originates from the south or west and passes through downtown Versailles, creating significant congestion during peak periods. This congestion is exacerbated by heavy trucks destined for Interstate 64.

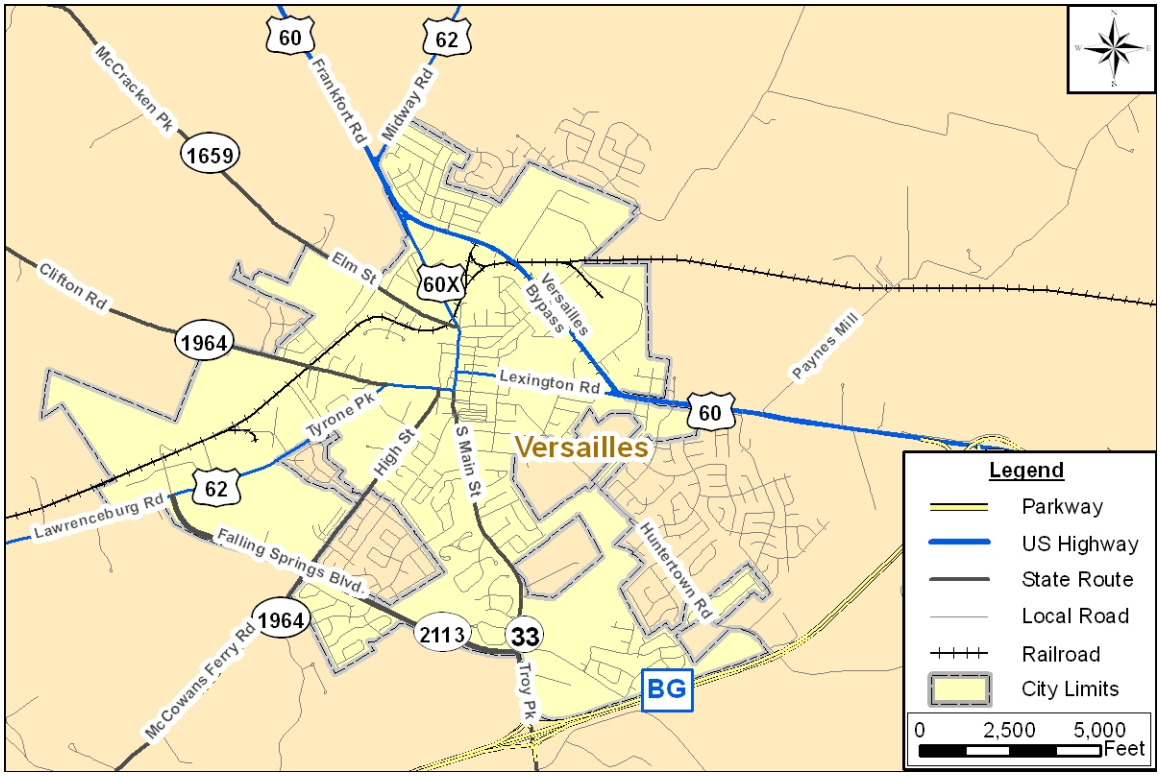

Figure I-1. Area Roadway System

Regional Growth. Growth in the region translates to growth in travel. Regional commuting patterns with employment destinations in Frankfort, Georgetown and Lexington result in trips through Woodford County and downtown Versailles. **Table I-1** summarizes population figures from the 2000 Census plus future projections for those counties surrounding Woodford County. Total population for the region is expected to increase by 44 percent from the 2000 Census estimates by the year 2030. Even with modest population growth in Woodford County, travel demand through the area will increase.

Table I-1. Regional Population Growth

County	2000	2010*	2020*	2030*	Pct. Increase 2000 - 2020
Anderson	19,111	22,127	25,490	28,605	50%
Fayette	260,512	285,921	312,190	341,326	31%
Franklin	47,687	49,203	50,320	51,085	7%
Jessamine	39,041	48,615	60,051	72,347	85%
Mercer	20,817	22,118	23,364	24,395	17%
Scott	33,061	47,249	66,411	92,613	180%
Woodford	23,208	24,790	25,992	26,685	15%
Totals	443,437	500,023	563,818	637,056	44%

* Population projection (source: Kentucky State Data Center)

Mobility. Mobility is defined as the ability to move people and goods. Good mobility is important for sustaining livable communities, but where and how mobility should be provided are important questions that this study has attempted to answer. By placing an emphasis on mobility, this study was not limited to a single mode of travel, a specific corridor, or a specific type of construction project.

Community Involvement. It was recognized from the onset that there are varying, sometimes opposing opinions about how mobility should be improved. By focusing on mobility and by integrating public involvement into the process, the study sought to create community-based solutions through consensus-building. This provided a sense of ownership among the community to the process itself and to the recommended solutions. A detailed discussion of the public involvement process is presented in Section III. Public Involvement.

Study Area

The Northwest Versailles Mobility Study Area is shown in **Figure I-2**. The area is bounded generally by Frankfort Street and Main Street to the east and Falling Springs Boulevard to the south and southwest. The western boundary falls generally outside the city limits from US 62 around to US 60.

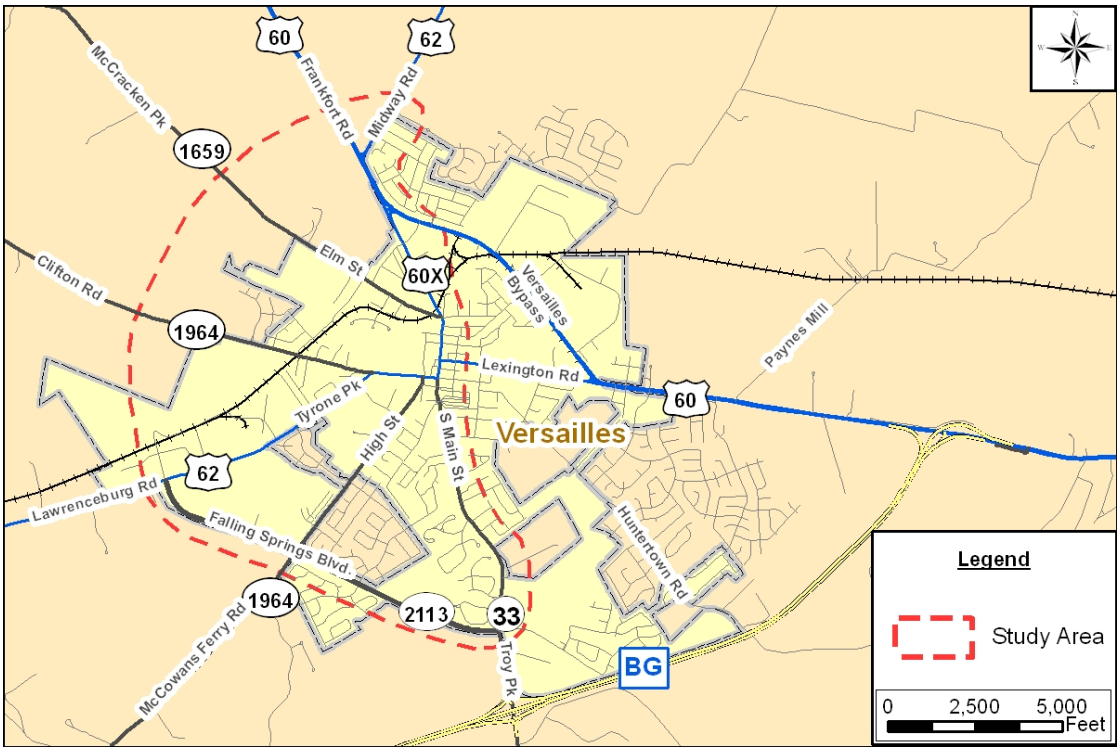

Figure I-2. Study Area

II. Study Concepts, Goals and Objectives

Study concepts, goals and objectives were established for the purpose of identifying what's important to the community at large and for providing guidance in the decision-making process.

Study Concepts

An initial public involvement exercise was conducted through which concepts associated with the study were identified. The concepts:

- Reflected the reason for the study.
- Were based upon fact and supported by data and/or technical analyses where applicable.
- Were developed in conjunction with the project team and Steering Committee.
- Clarified the study purpose and need.

The concepts were discussed at the first public meeting and were rated by the attendees on a scale from 1 to 9 (with '1' being the lowest score and '9' being the highest). The concepts are identified and the results of the scoring are presented in **Figure II-1**. Concepts that scored the highest placed an emphasis on quality of life, preserving green space, implementing a broad range of mobility solutions, and equitably distributing the impacts and benefits of mobility solutions.

For each concept, three measures are represented. The average, or mean, is the statistical average of all scores. The median is the middle value of all scores as they are ranked from low to high. The median differs from the average in that the average can be "pulled" up or down by scores at either the low or high end of the range, while the median is not influenced by these "outliers." The standard deviation reflects the spread of the individual scores; a low standard deviation means that the scores were tightly grouped around the average while a high value means that there was significant disparity among the individual rankings.

Goals and Objectives

The study concepts exercise served as a predecessor to developing goals and objectives for the study. The goals and objectives then were used in the development and evaluation of candidate mobility solutions. Goals are generalized statements that articulate a community's needs and give direction and focus to the decision-making process. Objectives are specific statements which grow out of general goals. Objectives represent elements that can be accomplished and measured.

Goals and objectives for the Northwest Versailles Mobility Study were developed by the Steering Committee. They are:

Goal 1. Improve multimodal mobility within the community

Objective 1.1 *Reduce travel times*
Objective 1.2 *Reduce delays and congestion*
Objective 1.3 *Reduce truck volumes through downtown Versailles*
Objective 1.4 *Enhance pedestrian/bicycle travel opportunities*

No.	Concept
1	High quality of life is important
2	Mobility is important for a livable community
3	Green space is important to maintaining a high quality of life
4	New development is important to maintaining a high quality of life
5	Peak hour traffic congestion is a problem on Main Street
6	Peak hour traffic congestion is a problem in front of Woodford Co. H.S.
7	Noise, emission, vibrations from trucks/buses are a problem downtown
8	Positive/negative impacts should be distributed as fairly as possible
9	Options to improve mobility should include a broad range of solutions
10	"No Action" is a permissible alternative
11	Solutions should be pedestrian/bicycle friendly
12	Solutions should preserve green space/farm land
13	Solutions should maintain character of Versailles/Woodford County

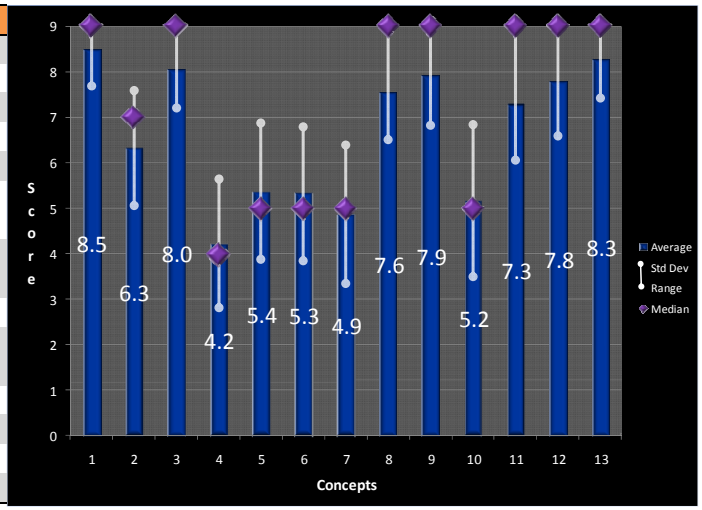

Figure II-1. Summary of Key Concepts and Scoring

Goal 2. Provide for efficient and equitable allocation of public resources for transportation infrastructure improvements

Objective 2.1 Maximize benefits of projects and strategies in relation to costs

Objective 2.2 Strive for a geographic distribution of projects and strategies

Goal 3. Improve safety of the transportation system

Objective 3.1 Reduce crash frequencies and rates

Objective 3.2 Reduce vehicular (auto and truck), pedestrian and bicycle conflicts

Goal 4. Minimize the impacts of transportation improvements and strategies on the environment

Objective 4.1 Avoid/minimize the impact on cultural historic resources, natural resources, farmland and existing neighborhoods

Objective 4.2 Preserve the small-town character of Versailles and Midway and the rural landscape and character of Woodford County

Goal 5. Recognize the sensitivity both locally and regionally of the transportation/land use relationship

Objective 5.1 Develop projects and strategies consistent with local and regional plans

Objective 5.2 Develop projects and strategies compatible with the regional transportation system

The goals were subsequently scored by the Steering Committee according to relative importance. Each goal was scored on a scale of 1 (low) to 9 (high) and the results are shown in **Table II-1**.

When comparing the goals to the study concepts, two important points are made:

1. All of the goals are important; rankings were developed for the purpose of determining relative importance and to provide a weighting factor for the evaluation of alternative mobility solutions.
2. The study concepts were identified and scored by the general public at the first public meeting, prior to the development of the goals and objectives. The goals and objectives were developed subsequently by the Steering Committee and rated thereafter.

Table II-1. Relative Ranking of Study Goals

Goal	Score
Goal 3. Improve safety of the transportation system	8.4
Goal 1. Improve multimodal mobility within the community	7.3
Goal 2. Provide for efficient and equitable allocation of public resources for transportation infrastructure improvements	6.5
Goal 5. Recognize the sensitivity both locally and regionally of the transportation/land use relationship	6.5
Goal 4. Minimize the impacts of transportation improvements and strategies on the environment	6.1

III. Public Involvement

Public involvement was an integral part of the Northwest Versailles Mobility Study. The objectives of the public involvement process were:

- Provide an opportunity for stakeholders and the general public to be fully engaged in the study process;
- Foster a sense of ownership of the study and the outcome among stakeholders and the public;
- Be transparent; and
- Provide a mechanism for dissemination of information about the study and an avenue for individual feedback.

Elements of the public involvement process were: 1) Steering Committee; 2) public information meetings; and 3) study Web site.

Steering Committee

A Steering Committee was established for the study whose purpose was to provide guidance and input to the ENTRAN study team. The intent was to establish through a group of stakeholders a representative cross-section of the community. A list of Steering Committee members and their representative organizations is shown in **Table III-1**.

Over the course of the study, five Steering Committee meetings were held. The meeting dates and topics discussed are shown in **Table III-2**. A copy of the presentation made at each individual meeting, along with other pertinent information that was distributed, was posted on the study Web site at www.nwversailles.com.

Public Information Meetings

A series of meetings was held to provide information about the study to the general public, to obtain public input, and to gauge public perception on key issues and candidate mobility solutions. A list of the public meetings and key topics presented is shown in **Table III-3**. Public meeting turnout was relatively low, in spite of extensive efforts to advertise the meetings. Attendance was heaviest at the first meeting, where there were 84 participants that signed the attendance sheet. Sixty-eight people attended the second meeting and 23 attended the third.

Table III-1. Steering Committee Members

Name	Organization
Mr. Bruce Bailey	Kentucky Community and Technical College System
Mr. Dale Benson	City of Midway
Mr. Dan Brenyo	Woodford County Chamber of Commerce
Mr. Tom Brown	Clifton-McCracken Neighborhood Association
Sen. Julian Carroll	Kentucky General Assembly
Mr. Anthony Conner	City of Versailles Police Department
Ms. Danna Estridge	Woodford County Historical Society
Mr. Scott Hawkins	Woodford County Board of Education
Mr. David Martin	Kentucky Transportation Cabinet
Ms. Ann Miller	Versailles City Council
Mr. Bart Miller	City of Versailles
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Rep. Carl Rollins	Kentucky General Assembly
Mr. Fred Seitz, Jr.	Brookdale Farm
Mr. Frankie Shuck	City of Versailles Fire Department
Mr. Paul Simmons	City of Versailles
Mr. Robert Sparks	Osram Sylvania
Mr. Jarrod Stanley	Kentucky Transportation Cabinet
Mr. Randy Turner	Kentucky Transportation Cabinet
Ms. Tami Vater	Woodford County Chamber of Commerce
Ms. Patricia Wilson	Versailles-Midway-Woodford County Planning and Zoning Commission

Structured Public Involvement™

The community participation element of this study incorporated the Structured Public Involvement™ (SPI™) framework developed by Community Decisions, who served as a subconsultant to ENTRAN. SPI™ is a highly collaborative, iterative protocol used to assist professionals in identifying solutions that respond to community desires. SPI™ is comprised of a series of integrated technical and methodological components, including electronic polling.

Table III-2. Steering Committee Meetings

Meeting No.	Date	Topics
1	September 25, 2008	• Study Purpose • Study Concepts
2	November 20, 2008	• Public Meeting No. 1 Results • Development of Goals and Objectives
3	March 3, 2009	• Adoption of Goals and Objectives • Introduction of Candidate Mobility Solutions
4	July 22, 2009	• Public Meeting No. 2 Results • Evaluation of Candidate Mobility Solutions
5	October 22, 2009	• Public Meeting No. 3 Results • Draft Recommendations • Evaluation of Alternative Solutions

Table III-3. Public Information Meetings

Meeting No.	Date	Topics
1	November 11, 2008	• About the Study • Key Issues • Study Concepts
2	April 16, 2009	• Study Goals • Candidate Mobility Solutions
3	September 17, 2009	• Evaluation of Candidate Mobility Solutions

The automated electronic polling system was used extensively throughout the study, both at the Steering Committee level and at the public meeting level. Electronic polling was used to gauge public perception on various elements of the study, including:

- Key concepts and issues
- Study goals
- Candidate mobility solutions

The electronic polling system included hand-held keypads on which participants rated a particular issue or concept on a satisfaction scale from '1' to '9,' with a '1' representing the lowest level of satisfaction and a '9' representing the highest level of satisfaction. A score of '5' represented neutrality or no opinion.

Scores were compiled in real time and displayed to meeting participants. Reported statistical measures included the mean or average score, the median score (i.e., the middle score when all scores were arranged lowest to highest), and the standard deviation, which described the spread of the scores.

The electronic polling system was used by the Steering Committee in ranking the individual study goals. It was also used at both the Steering Committee level and the public meeting level to evaluate candidate mobility solutions, for which the perceived effectiveness that each solution satisfied the study goals was determined. These results were incorporated into the process for developing the recommended solutions; however, the results served as input to the process and were not the sole determinant in developing those recommendations.

Web Site

A Web site was developed for the purpose of conveying information about the study and for receiving public input. The site – www.nwversailles.com – went live in November 2008. The Web site home page is shown in **Figure III-1**.

Public Comments

Public comments were received in two ways. At each public meeting, comments sheets were made available and written comments were compiled in a summary document that was placed on the Web site. Also, the Web site was designed so that members of the public could submit a comment or question directly through the site. The comments were automatically transmitted as an e-mail to the ENTRAN project manager and the City of Versailles. A reply to each submitted comment was made by the project manager.

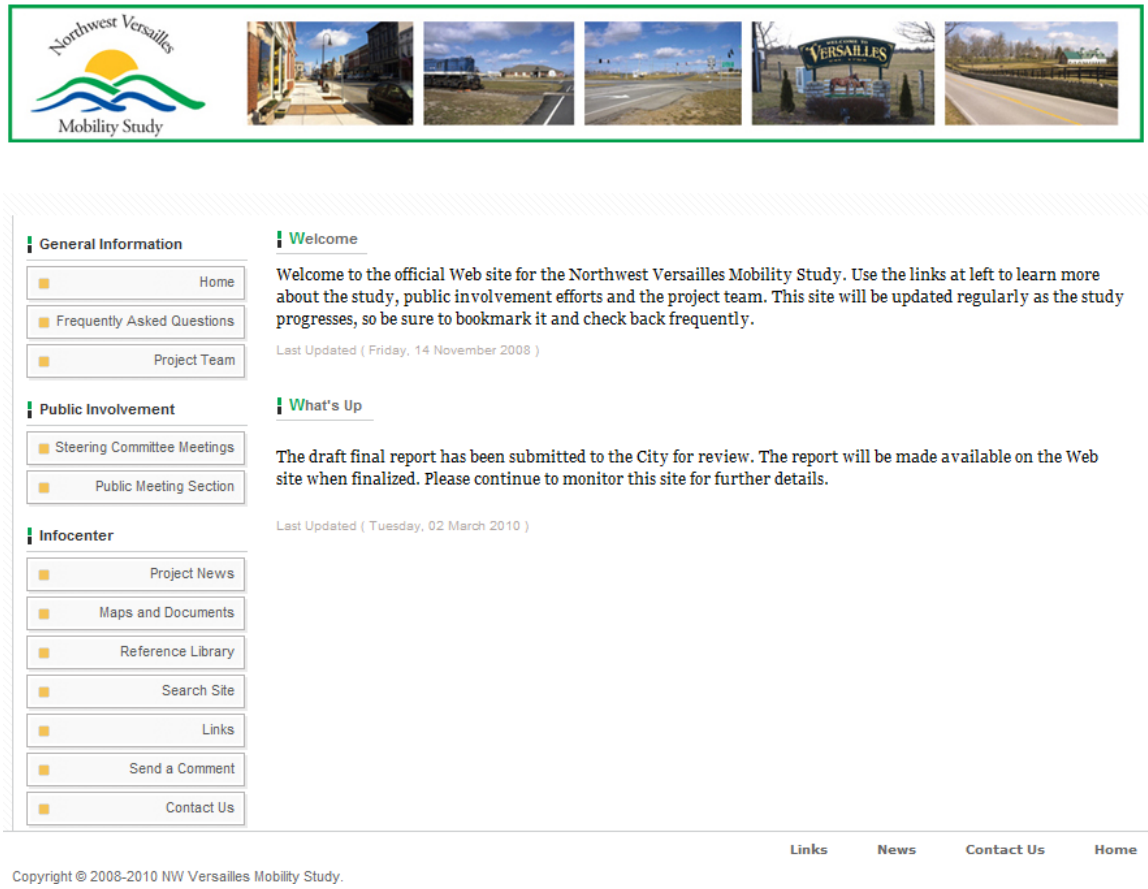

Figure III-1. Study Web Site (www.nwversailles.com)

IV. Existing Conditions

An assessment of existing conditions was performed early in the study to provide a "snapshot" of the roadway system as it is today.

Functional Classification

As defined by the Federal Highway Administration, functional classification is the process by which streets and highways are grouped into classes or systems, according to the character of traffic service they are intended to provide. There are three primary highway functional classifications: Arterials, Collectors and Local Roads. All streets and highways are grouped into one of these three classes, based on the character of the traffic and the degree of access to adjoining land they allow. These classifications are defined in **Table IV-1**.

Table IV-1. Functional Classification System

Functional System	Services Provided
Arterial	Provides the highest level of service at the greatest speed for the longest uninterrupted distance, with some degree of access control.
Collector	Provides a less highly developed level of service at a lower speed for shorter distances by collecting traffic from local roads and connecting them with arterials.
Local	Consists of all roads not defined as arterials or collectors; primarily provides access to land with little or no through movement.
	Source: Federal Highway Administration

Travelers typically use a combination of arterials, collectors and local roads to make trips. Each type of road has a specific purpose. Some provide land access to serve each end of the trip, while others provide mobility at varying levels between trip ends.

Figure IV-1 illustrates the basic relationship between functional classification systems with regard to mobility and land access. Arterials provide a high level of mobility while limiting access. Local streets and roads, on the other hand, provide a high level of access to adjoining land but a low level of mobility. Collector streets and roads provide a balance between access and mobility. It is often an imbalance between travel demand and the mobility/access relationship that creates traffic congestion and/or safety problems.

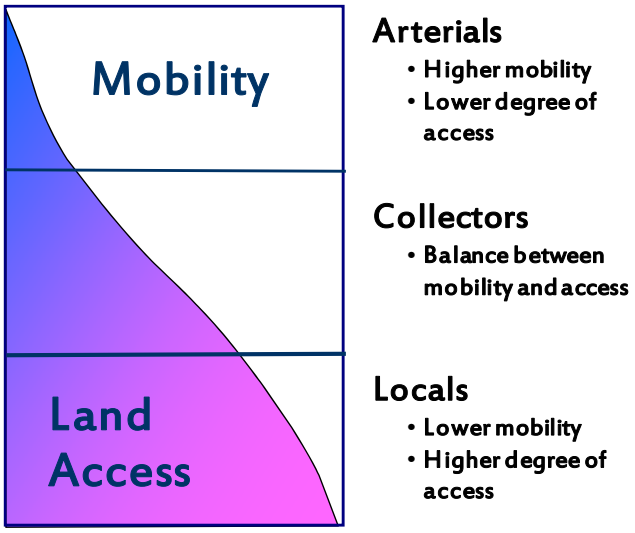

Figure IV-1. Functional Class vs. Mobility and Access

A map of the Versailles area roadway system functional classification is shown in **Figure IV-2**. Functional classifications for these roads were established by the Kentucky Transportation Cabinet (KYTC). Only US 60 and the Blue Grass Parkway are classified as Principal Arterials. Falling Springs Boulevard, though classified as a Minor Arterial, has similar traffic-carrying capacity as US 60, but it does not pass through the area the way that US 60 does. Between US 62 and US 60 on the northwest side of Versailles, the two primary routes – McCracken Pike (KY 1659) and Clifton Road (KY 1964) – are classified as Collectors.

Capacity

Capacity, or the maximum amount of traffic that can be carried, is largely affected by the number of lanes. **Figure IV-3** illustrates the number of lanes for the primary roads in the Versailles area. Only US 60 (including the Bypass), the Blue Grass Parkway, and Falling Springs Boulevard are four-lane divided roads. The section of Lexington Street between the Bypass and downtown is a three-lane section, with one through lane in each direction and a continuous center left-turn lane. Everything else is two-lane undivided.

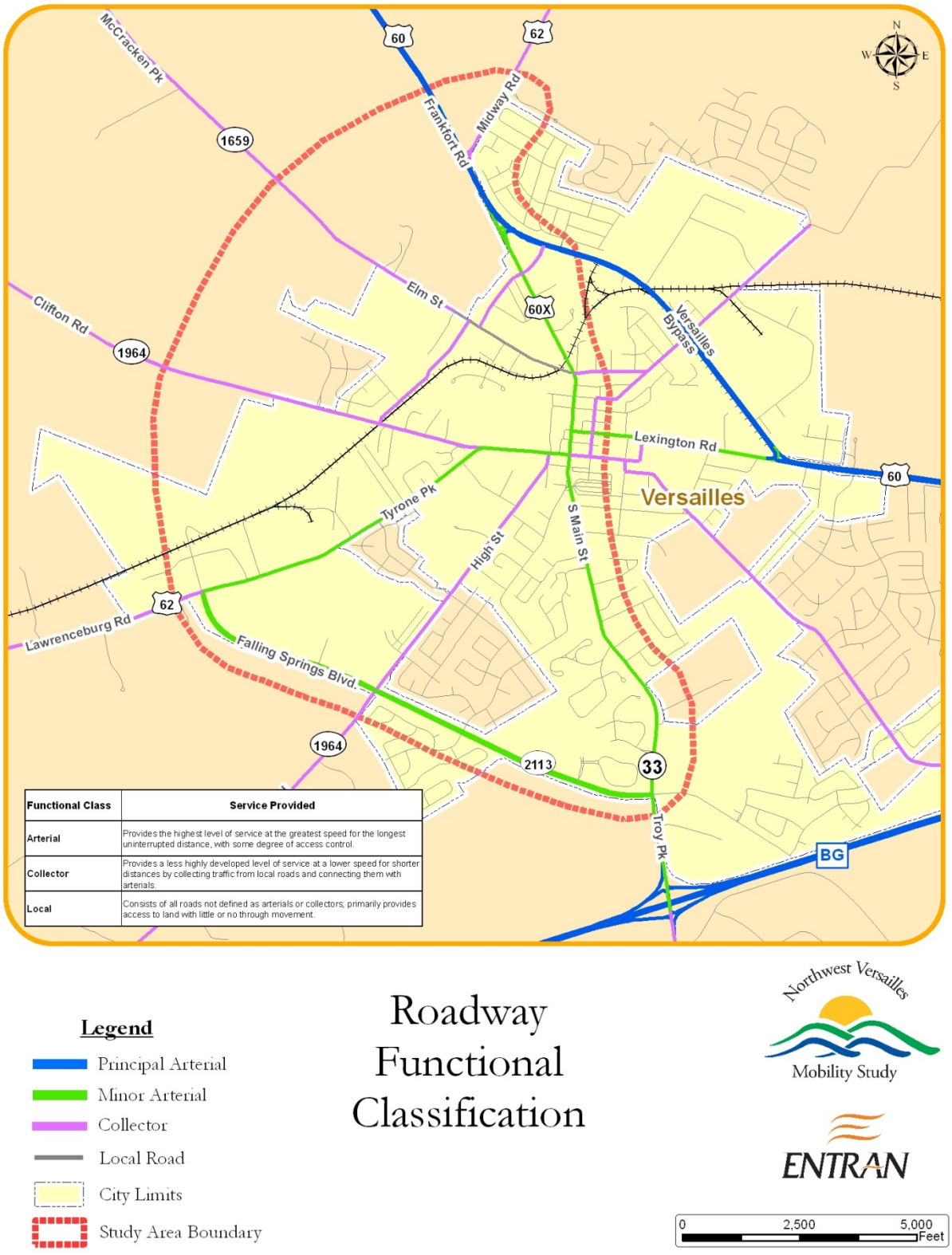

Figure IV-2. Roadway System Functional Classification

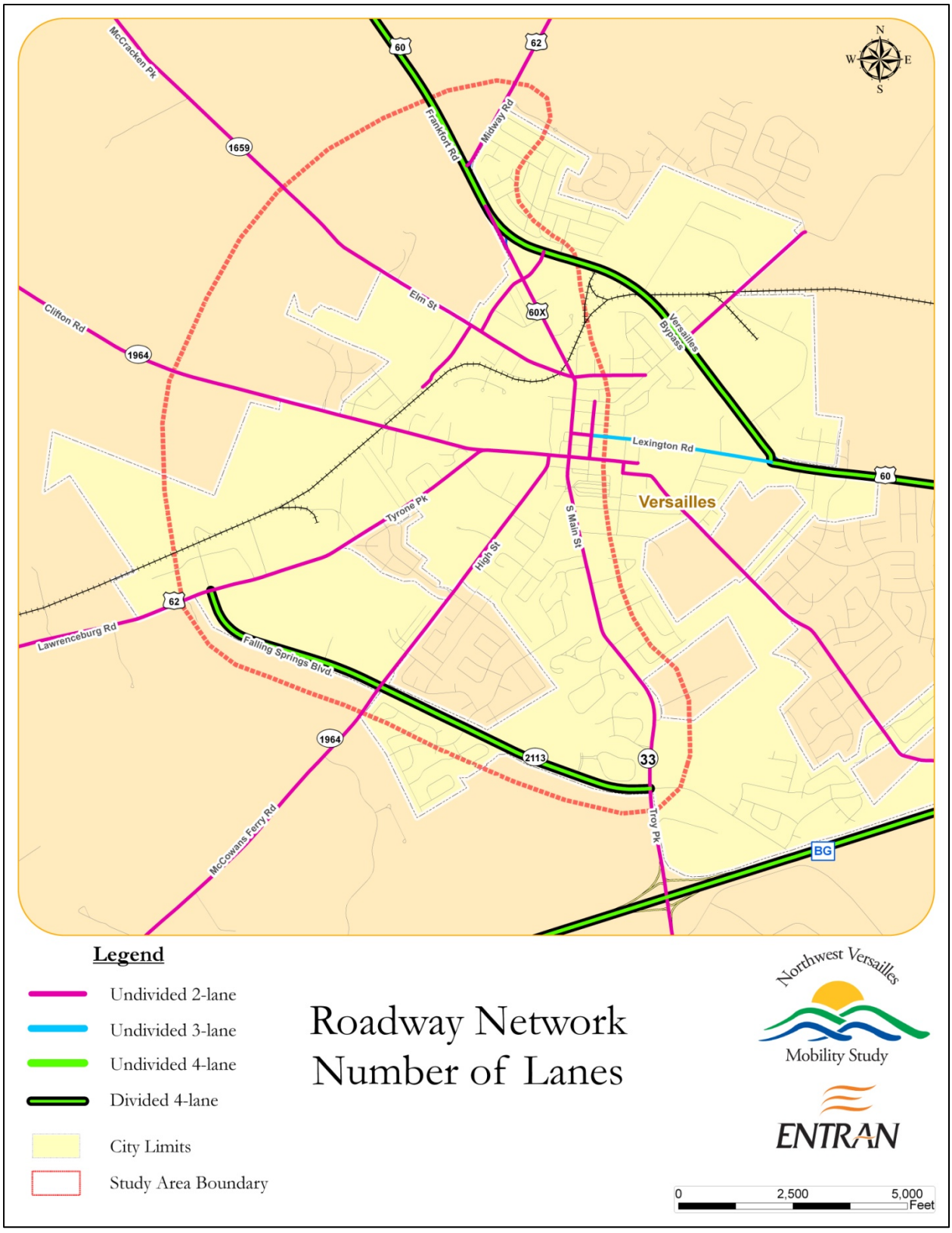

Figure IV-3. Number of Lanes

Average daily traffic (ADT), truck percentages and volume-to-capacity (V/C) ratios are shown in **Figure IV-4**. The V/C reflects the relationship between traffic demand on a road section and the physical capacity of the road to serve that demand. Where demand exceeds capacity (i.e. V/C is 100 percent or greater), peak period congestion can be observed regularly. The map illustrates that the recurring congestion problems are located on Main Street downtown.

Crash Analysis

A crash analysis was conducted for streets and roads in the study area. Crash records were obtained from the Kentucky Transportation Cabinet for the five-year period from January 1, 2003 through December 31, 2007. A total of 732 crashes were reported by law enforcement agencies during this period – 7 fatal crashes, 99 injury crashes and 626 property-damage only crashes.

High-crash locations were identified by roadway segments and by "spots," where spots are defined to be less than 0.3 miles in length. Intersections are included in the definition of spots.

Crash rates were computed for both segments and spots. Crash rates are expressed in terms of annual crashes per 100 million vehicle-miles traveled and are considered to be an equalizing factor that allows for comparison of crash experience of different roadways having varying traffic levels. Crash rates are used in conjunction with frequencies (i.e. number of crashes) to identify locations considered to have safety problems.

Calculated crash rates were compared to Critical Crash Rates, which are statistically determined rates for similar types or groups of roadways throughout the state. The Kentucky Transportation Cabinet uses the Critical Crash Rate as a benchmark for identifying high-crash locations. This is done by computing the Crash Rate Factor, or CRF, as:

$$CRF = \frac{\text{Crash Rate}}{\text{Critical Crash Rate}}$$

Those locations – segments and spots – having a CRF greater than 1.0 (i.e. the Crash Rate is higher than the Critical Crash Rate) are considered to be high-crash locations. High-crash locations in the study area are identified in Figure **IV-5**.

The following roadway sections were identified as high-crash locations based on the analysis of reported crashes:

- US 60 Bypass
- Midway Road (US 62) between US 60 and Chestnut Lane
- High Street between Rose Hill Avenue and Falling Springs Boulevard
- Rose Hill Avenue between Tyrone Pike and Main Street
- South Main Street between Rose Hill Avenue and Falling Springs Boulevard
- McCracken Pike/Elm Street from outside the study area boundary to Kentucky Avenue

Intersections identified as high-crash locations were:

1. US 60 Bypass at US 60 (Lexington Road)
2. Tyrone Pike at Clifton Road
3. Rose Hill Avenue at High Street
4. Main Street at Lexington Street
5. South Main Street at Woodford Village Drive
6. Main Street at Rose Hill Avenue

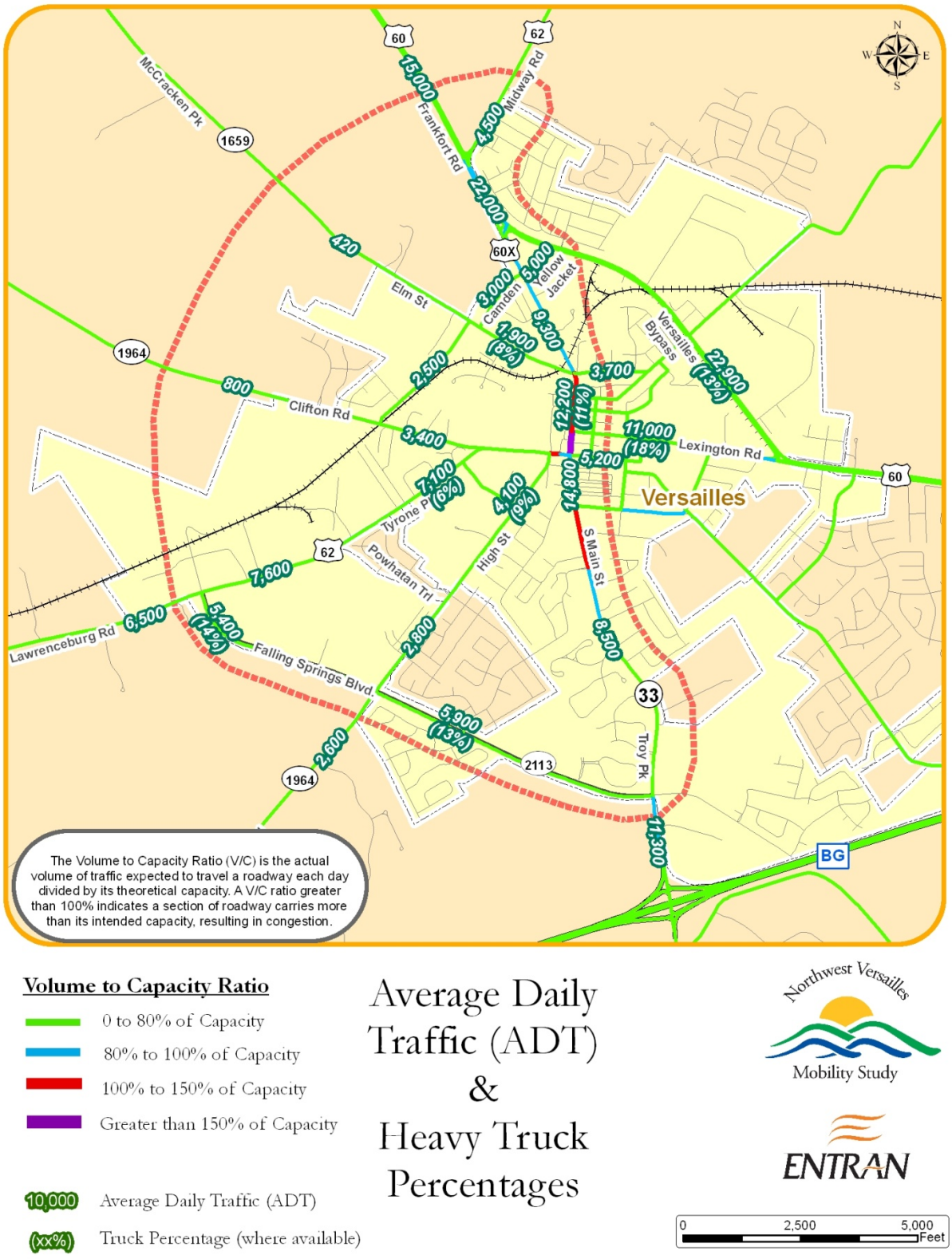

Figure IV-4. Average Daily Traffic, Truck Percentages and Volume-to-Capacity (V/C) Ratios

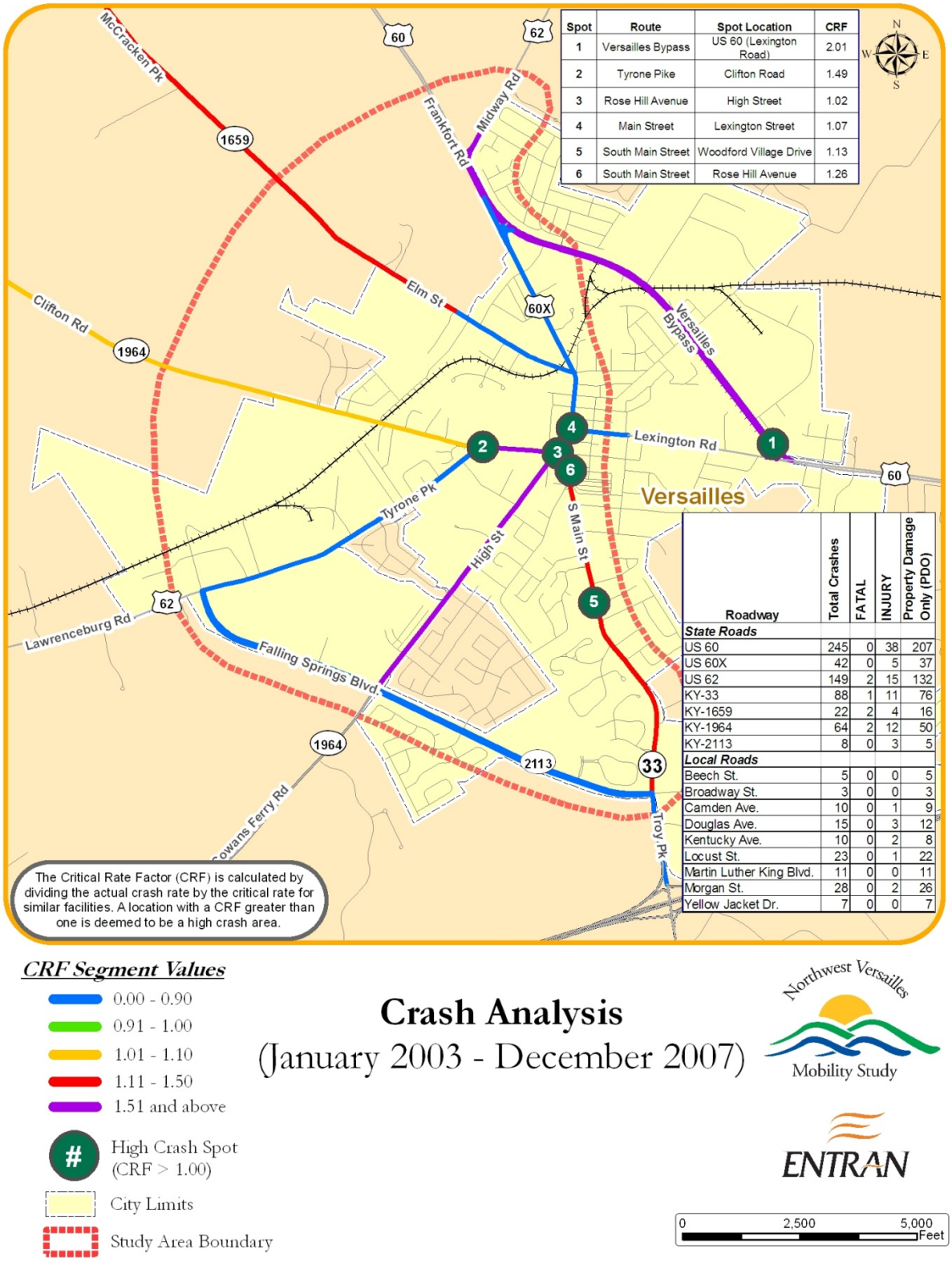

Figure IV-5. High-Crash Locations

V. Environmental Overview Summary

An Environmental Overview was conducted for the purpose of identifying environmental resources and issues of concern in the Northwest Versailles Mobility Study area, and to establish an environmental footprint for consideration in the development of alternative mobility solutions and avoidance or minimization of impacts.

Information for this overview was obtained from literature review, resource agency coordination, and a reconnaissance survey of the study area that was conducted in 2008. Individual literature sources are cited in the References section of the full Environmental Overview document. Information obtained from secondary sources and the reconnaissance survey was mapped using a geographic information system (GIS) and has been displayed on aerial photographs and base maps.

Resources and issues of concern identified in the area include those related to both the natural and human environments. Natural environment resources include streams, floodplains, wetlands, ponds, water supplies, threatened, endangered and special concern species and habitat, and woodland habitat. Human environment resources include historic and archaeological resources, hazardous materials concerns, and items of additional concern.

This chapter is an abstract of the full Environmental Overview document, which can be obtained electronically via the project Web site (see the Maps and Documents section at www.nwversailles.com) or in hard copy from the City of Versailles (contact: Mr. Bart Miller, Risk Manager, City of Versailles, 196 South Main Street, Versailles, Kentucky, 40383, 859-873-5436).

Natural Environment

Regarding the natural environment, some 100-year floodplains were identified through site reconnaissance and review of literature and data sources. It is possible that avoidance and minimization of floodplain encroachment would be necessary in the consideration of some mobility solutions. Similarly, four wetlands were identified as occurring in the study area and must be addressed in the consideration of mobility solutions.

No wellhead protection areas or public water supplies were identified within the study area limits.

Information concerning the occurrence of federal and state threatened, endangered and special concern species and unique habitats in the study area is contained within the full version of the Environmental Overview. No unique habitats were identified by resource agencies; however, a total of 32 listed insects, birds, amphibians, plants, mammals, and freshwater mussels were reported to occur or have suitable habitat in the general study vicinity.

Human Environment

Information concerning the occurrence of historic architectural and archaeological resources in the study area was obtained through correspondence with the Kentucky Heritage Council and the Kentucky Office of State Archaeology. A total of four National Register of Historic Places (NRHP) -listed Historic Districts were identified by the Kentucky Heritage Council as occurring in the study area:

- Downtown Versailles Historic District
- Rose Hill Historic District
- Morgan Street Historic District
- South Main Street Historic District

A total of 35 individual properties, most identified as historic district contributing elements in the city of Versailles, were identified by the Kentucky Heritage Council as occurring in the study area. These are documented individually in the full Environmental Overview. A total of 16 additional historic survey resources, most in the city of Versailles, were identified by the Kentucky Heritage Council as occurring in the study area. These also are identified individually in the full Environmental Overview.

The occurrence of Underground Storage Tanks (UST's) in the project study area was determined through a combination of review of regulatory database search information and reconnaissance survey. Review of available data indicated that a total of 57 UST's occur in the vicinity, 29 of which were identified as occurring in the study area In general, the types of facilities with UST's include: gas stations, manufactured home parks, transportation, manufacturing, wholesale, service, government, information services, agriculture, and

construction facilities. Through review of available data, a total of 11 records from facilities in the study area were identified as hazardous materials concerns.

Regarding park and pedestrian/bicycle facilities, a number of public parks and an existing bike/hike trail occur in the study area, including the following:

- Woodford County Park/Falling Springs Arts and Recreation Center – located along the north side of US 62 (Tyrone Pike) at KY 2113; multi-use facility containing ball fields, pavilions, a cross country course, community stadium, and the Falling Springs Arts and Recreation Center.
- Big Spring Park – located along Park Street north of Rose Hill Avenue; multi-use facility containing pavilions, playground equipment, a walk/jog trail, and open space area.
- Apollo Park – located along Kentucky Avenue on the north side of Clifton Heights; contains open space and a paved walking/bike trail.
- Multi-use path along Falling Springs Boulevard (KY 2113) – 8-foot wide pedestrian/bike facility paralleling Falling Springs Boulevard along the north side.
- Multi-use path connecting Woodford County Park/Falling Springs Arts and Recreation Center to Apollo Park to Big Spring Park; 8-foot wide pedestrian/bike facility and delineated neighborhood sidewalks.

The study area includes a number of sensitive noise receptors, including parks, schools, churches, golf courses and residential neighborhoods. Depending on the scope of the project, some of the mobility solutions may require traffic noise analyses to identify and mitigate traffic noise impacts.

An existing pipeline and other utility corridors, as well as the Lexington and Ohio Company and R. J. Corman railroads, occur in the project study area. These facilities may require consideration and coordination for some of the mobility solutions.

A summary map of the Environmental Overview is presented in **Figure V-1**. Detailed maps can be found in the full Environmental Overview document.

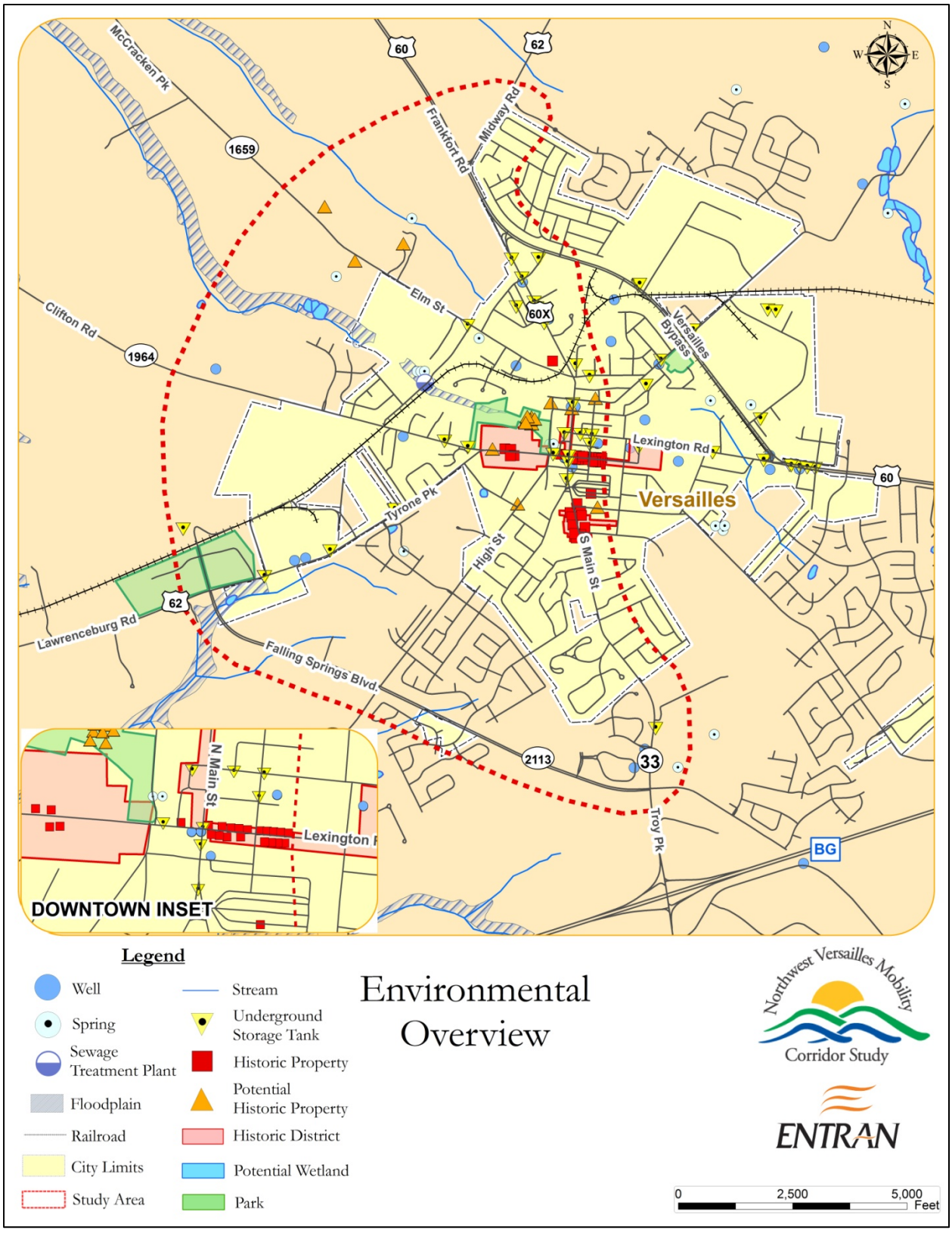

Figure V-1. Environmental Overview Summary Map

VI. Future Travel Demand

In the evaluation of mobility solutions, the study considered both current traffic on the roadway system and projected future travel demand. Future demand was estimated through the use of a county-wide travel demand model, which was updated for this study. An original model, which consisted of a 2005 base year only, had been developed by the Kentucky Transportation Center at the University of Kentucky.

For this study, the model was updated by the Corradino Group under a subcontract to ENTRAN. The model included an updated base year and a future year 2030 scenario. The model also was automated to run under the standard interface used by the Kentucky Transportation Cabinet. A copy of the model report can be found on the project Web site at www.nwversailles.com in the Maps and Documents section.

While growth in the counties bordering Woodford is anticipated to be significant (an estimated 44 percent overall population growth between 2000 and 2030 as illustrated in Table I-1), growth in Woodford County is expected to be much more modest. In developing the year 2030 model, county-wide projections for population and employment (the two primary predictors used by the model) were made. The estimates were based on several sources, namely: the Kentucky State Data Center, the U. S. Bureau for Labor Statistics, the Versailles-Midway-Woodford County Comprehensive Plan, and the previous version of the Woodford County travel demand model. On average, a 13 percent growth in both population and employment from 2008 to 2030 is estimated for the entire county. Year 2008 and 2030 population and employment figures are shown in **Figure VI-1.**

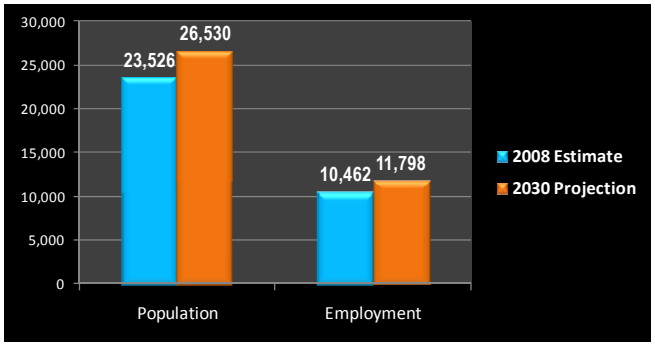

Figure VI-1. Population and Employment Comparisons

A map of current year and projected year 2030 daily traffic volumes is shown in **Figure VI-2**. The largest increase in travel within the county is anticipated to occur for through travel as a result of growth in the adjacent counties.

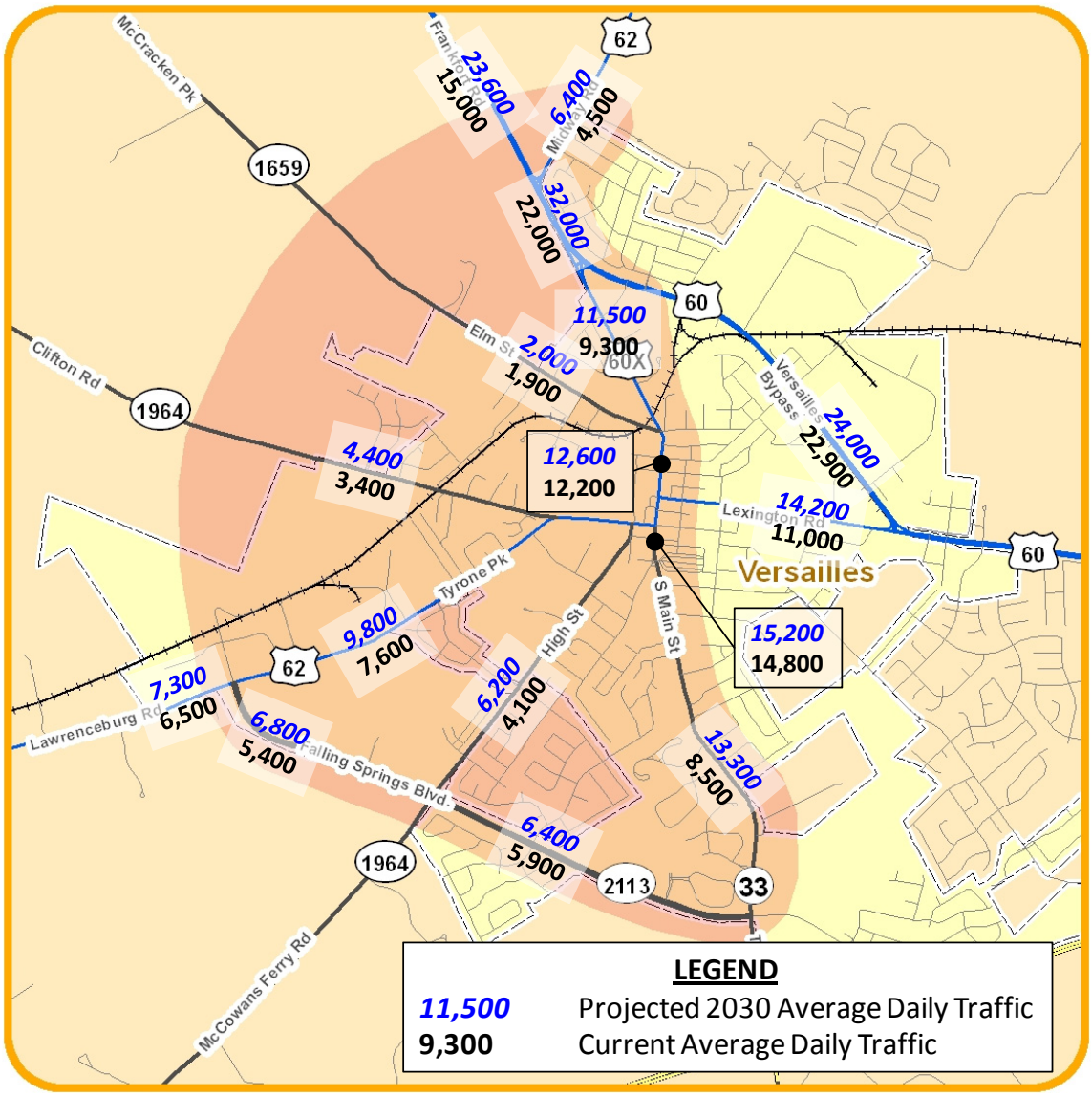

Figure VI-2. Current and Future Daily Traffic Volumes

VII. Mobility Solutions

This section documents the development of alternative mobility solutions and the evaluation of those alternatives. Where possible, cost estimates were included in the development of alternative solutions.

Traffic Simulation Model

A microscopic traffic simulation model of the downtown Versailles area was developed for the purpose of evaluating mobility solutions. The model was developed using the TransModeler® simulation software by Caliper Corporation. The model was calibrated based on observed intersection turning movement counts and travel times. Performance measures such as delay, average travel speed and queue lengths were used to evaluate and compare alternative mobility solutions. A screen capture of the simulation model is shown in **Figure VII-1**.

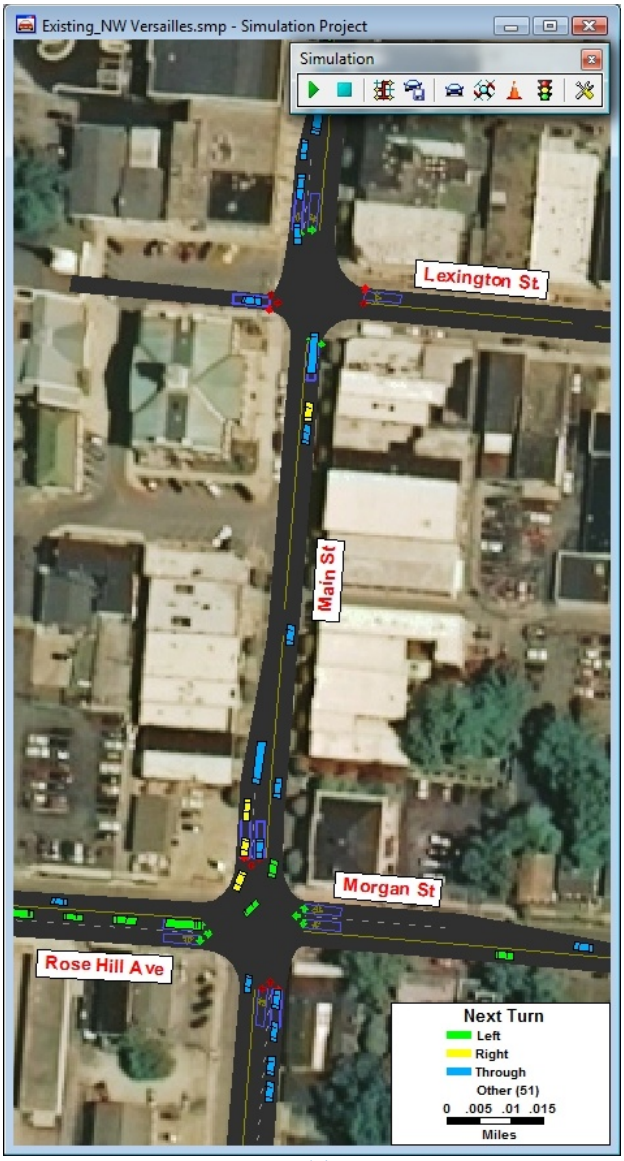

Figure VII-1. Downtown Traffic Simulation Model

Development of Alternatives

Alternative solutions were developed with the following objectives in mind:

- Solutions were not confined to capital projects, but also included strategies and policies.
- A focus was placed on improving mobility, that is, the ability to move people and goods, and not solely in increasing capacity.
- Alternatives were developed with the intent of being consistent with study Goals and Objectives, which were developed by the Steering Committee. Study goals included improving the safety of the area transportation system
- Efforts were made to confine alternative solutions to the Study Area, but some solutions outside the Study Area were considered if it was determined that primary benefits within the Study Area would be realized.

Candidate Mobility Solutions

A map showing locations of the candidate mobility solutions considered is shown in **Figure VII-2**. A description of the alternatives, along with anticipated benefits, impacts and costs, is presented in the following section.

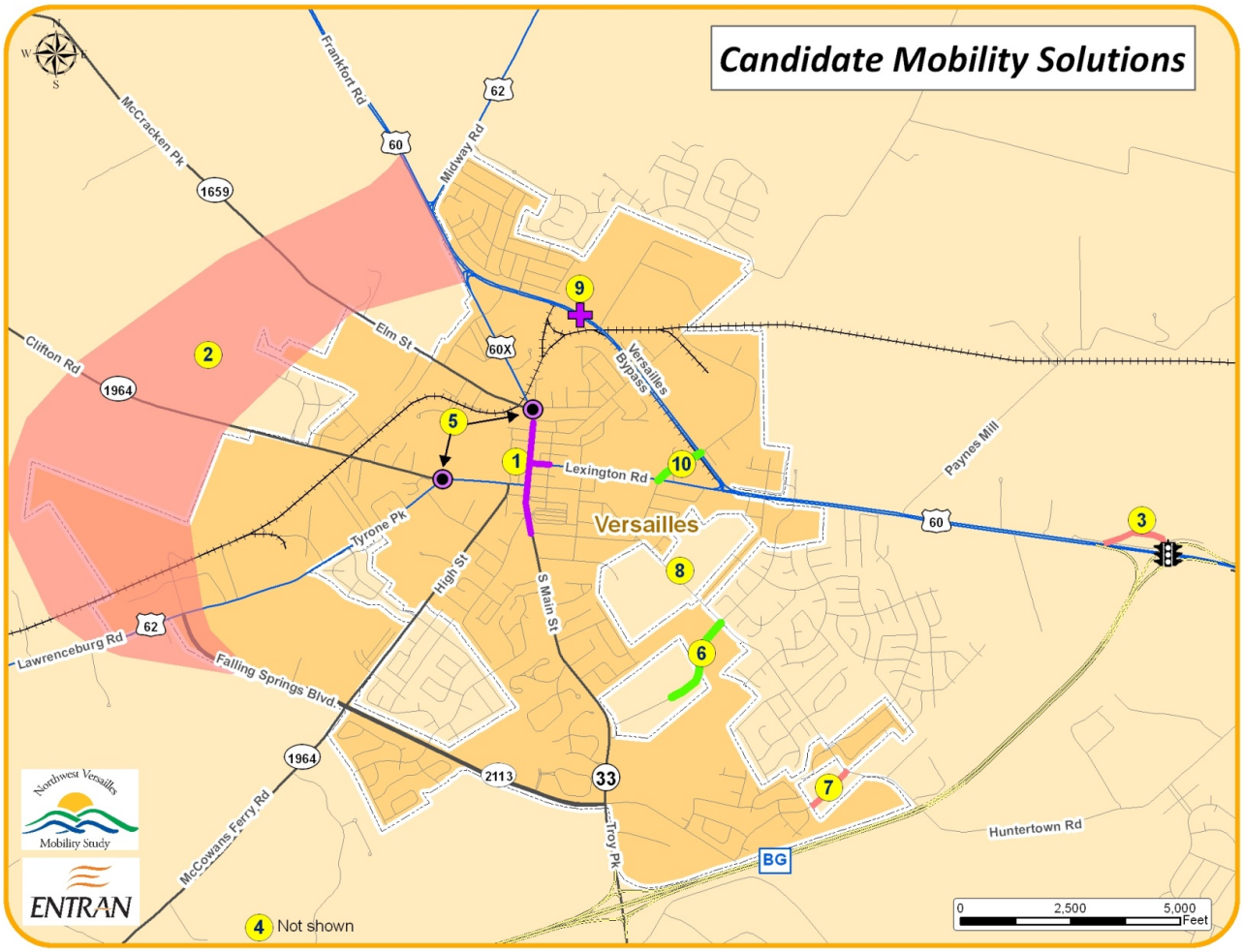

Figure VII-2. Candidate Mobility Solutions Location Map

1. Downtown Traffic System Improvements

In the downtown area of Versailles, there are five signalized intersections that serve to control traffic flow into, through and out of downtown. These five locations are:

1. Main Street/North Main Street/Frankfort Street/Broadway/Elm Street (a five-legged intersection)
2. Main Street/Lexington Street
3. Main Street/Rose Hill Avenue/Morgan Street
4. South Main Street/Montgomery Street
5. Lexington Street/Locust Street

These locations are shown on the map in Figure **VII-3**.

Three types of improvements to the downtown system were evaluated:

- Optimization of signal timing parameters such as cycle length, phase intervals and phase sequences
- Easing of "choke points" by removal of selected on-street parking spaces
- Installation of overhead lane use signs to aid motorists (particularly visitors) with lane assignment as they travel through downtown

Optimization of peak period traffic signal timing plans involves making adjustments to timing parameters so that the revised plans provide a better "fit" to the traffic volumes and intersection turning movements. Existing plans were evaluated and optimized using the TRANSYT-7F traffic simulation and signal timing program.

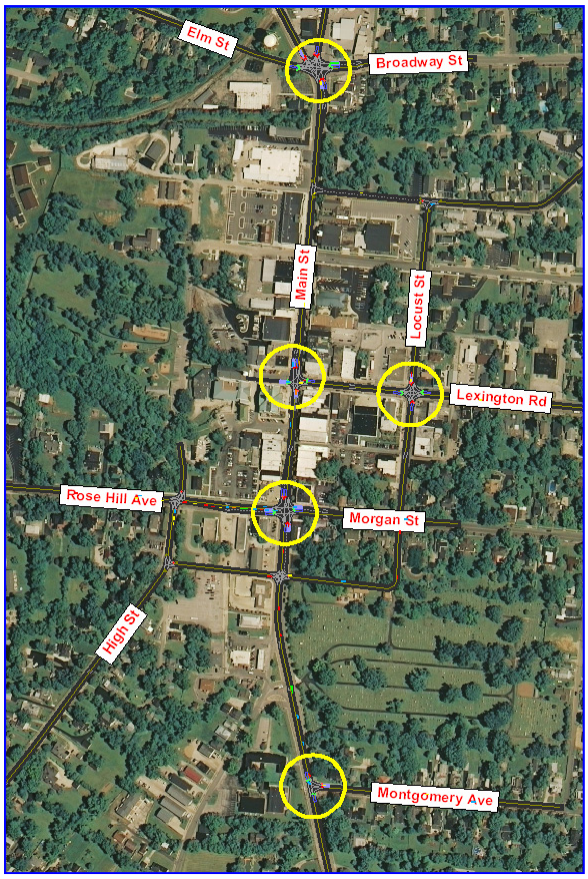

Figure VII-3. Downtown Signalized Intersections

Optimized timing parameters then were input into TransModeler and traffic demand using the revised plans was compared to the simulated existing conditions. It was determined that, through traffic signal timing optimization, the following benefits to peak hour downtown traffic conditions could be realized:

- Average delay during weekday peak traffic periods at the five signalized intersections could be reduced between 17 and 44 percent, depending on the location and time of day (weekday a.m. peak, mid-day peak, and p.m. peak);
- Average travel time through downtown could be reduced between 6 and 28 percent; and
- Average travel speeds through downtown could be increased from 7 to 39 percent.

The signal at Main Street and Lexington Street currently operates under a two-phase plan – one phase serves northbound and southbound Main Street movements and the other phase serves eastbound and westbound movements. There is no exclusive phase for southbound left turns, although there is a separate left-turn lane. It was determined through simulation that adding a separate left-turn phase here would add to the delay of through traffic on Main Street, particularly northbound traffic.

Like most small towns in Kentucky, downtown Versailles streets include on-street parallel parking, which serves businesses and other establishments. For some locations this on-street parking is the only available public parking.

There are three intersections downtown where turning traffic backs up into the through lane and through vehicles are not able to bypass the turning vehicles because of occupied on-street parking spaces, as shown in **Figure VII-4**. It is understood that on-street parking in downtown Versailles is an important commodity, but this study demonstrated that limited removal of on-street parking spaces at selected locations would reduce or eliminate peak hour bottlenecks that occur today by providing better separation between turning movements and through movements (or by separating left- and right-turning movements).


Figure VII-4. Parked Vehicles Create Choke Points

Locations where these improvements can be made are shown on the map in **Figure VII-5**. For each of these locations, the subject approach and number of spaces that could be removed are listed in **Table VII-1**.

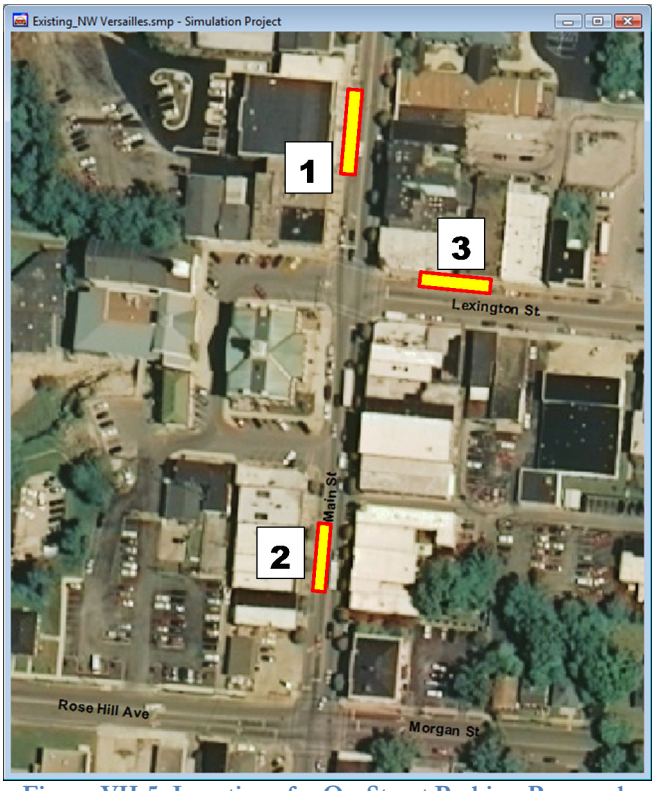

Figure VII-5. Locations for On-Street Parking Removal

Table VII-1. Limited On-Street Parking Removal

Location	Action
1. Southbound Main Street at Lexington Street	Remove 3 spaces in front of Woodford County Library
2. Southbound Main Street at Rose Hill Avenue/ Morgan Street	Remove 2 spaces in front of Bryant Podiatry and Pizza Hut
3. Westbound Lexington Street at Main Street	Remove 3 spaces adjacent to Ben Franklin Building

For Locations 1 and 2, removal of on-street spaces would increase the effective storage length of the southbound left-turn lane by allowing through vehicles more opportunity to pass on the right. For Location 3, removal of on-street spaces would allow for the creation of separate left-turn and right-turn lanes; currently this is a single lane that serves left and right turns (there is no through movement on this approach). One of the current parking spaces on the westbound Lexington Street approach is an accessible space; requirements contained within the Americans with Disabilities Act (ADA) would have to be met in the relocation of this space.

The importance of preserving on-street parking is recognized and the number of spaces considered for removal was kept to a minimum. The bottleneck issue has been recognized for a long time and there have been previous discussions between the Kentucky Transportation Cabinet (Main Street is designated as US 60X) and the City of Versailles, but no action has been taken to date.

Finally, larger overhead lane use signs at intersection approaches would be beneficial in assisting drivers with lane change maneuvers in advance of intersections. Currently there are lane use signs adjacent to traffic signals but they are small and difficult to see in advance of the intersections. Larger signs would be especially beneficial in the southbound direction on Main Street, as the through lane is the right-most lane at Lexington Street but it is the left-most lane at the downstream Rose Hill Avenue/Morgan Street intersection.

Without the addition of a separate southbound left-turn signal phase at Main Street/Lexington Street, the estimated cost for the signs, striping removal and signal retiming is $30,000.

2. Northwest Connector

The concept of a Northwest Connector was evaluated as a way to improve mobility by providing circumferential connectivity around the northwest side of Versailles. The concept of a four-lane, median-divided arterial similar to Falling Springs Boulevard would connect US 62 (Lawrenceburg Road) in the vicinity the Woodford County Park with US 60 at or near US 62 (Midway Road). A map of the general corridor that was considered is shown in **Figure VII-6**.

This alternative was evaluated with respect to traffic forecasts, anticipated diversion of traffic from downtown and effect on traffic operations, and potential environmental impacts, both downtown and in the project corridor.

The Versailles-Woodford County Travel Demand Model was used to develop year 2030 traffic forecasts both with and without the Northwest Connector. Those forecasts are summarized in **Table VII-2**.

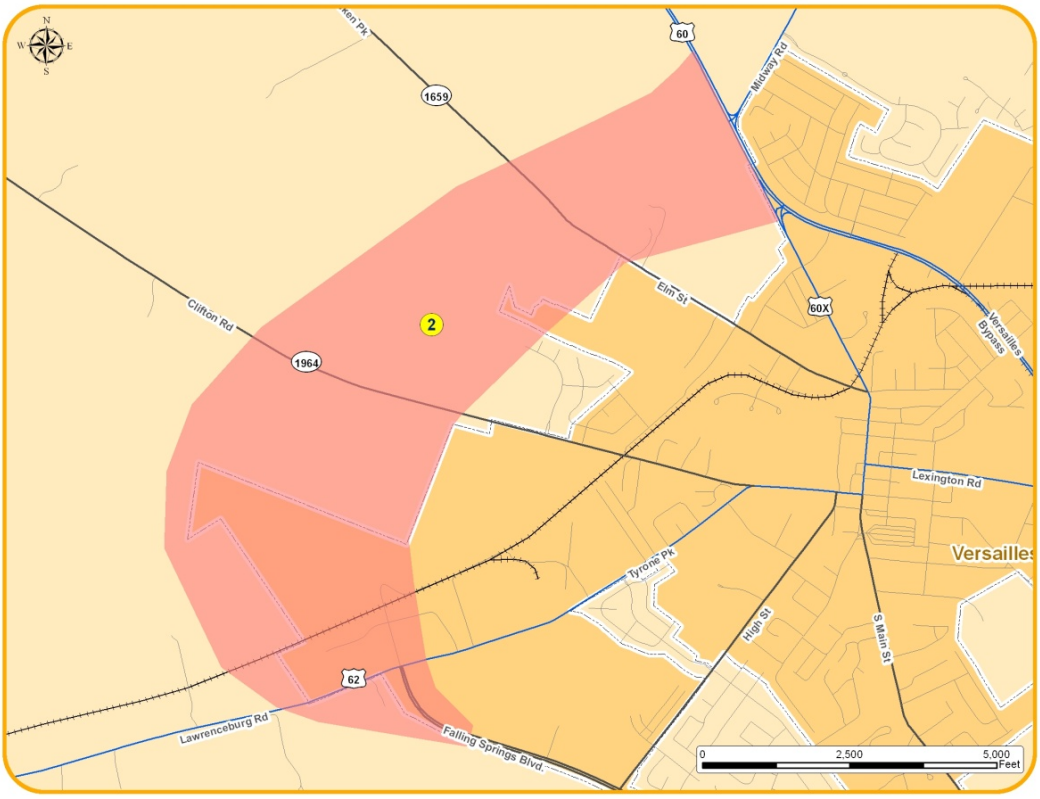

Figure VII-6. Northwest Connector - General Corridor

Table VII-2. Comparison of Daily Traffic Forecasts

Route	Section	Year 2030 Average Daily Traffic Forecasts	
		Without Northwest Connector	With Northwest Connector
Northwest Connector	Tyrone Pike (US 62) to Clifton Road	N/A	7,900
	Clifton Road to US 60	N/A	5,800
Main Street (US 60X)	Rose Hill Avenue to Lexington Street	10,600	4,600
	Lexinton Street to Broadway/Elm	12,600	6,600
Falling Springs Boulevard (KY 2113)	Tyrone Pike (US 62) to McCowans Ferry Road (KY 1964)	3,500	8,000
	McCowans Ferry Road (KY 1964) to Troy Pike (KY 33)	5,000	5,800
Midway Road (US 62)	Frankfort Road (US 60) to Old Frankfort Pike (KY 1681)	6,400	6,600

If built, the Northwest Connector definitely would reduce the amount of traffic in downtown Versailles. Year 2030 traffic forecasts indicate that traffic on Main Street would be reduced by about half. Correspondingly, average peak period intersection delays would be reduced significantly and average travel speeds along Main Street would be increased. Reduction in downtown traffic volumes also would lead to reduced traffic noise, vibrations and vehicle emissions.

Within the Northwest Connector corridor, there would be a loss of green space due to construction. Also there would be traffic-related impacts on air quality and noise. The Environmental Overview identified a number of natural and human environmental resources that could be affected, depending on the alignment if a road were built. Those resources include potential wetlands, water sources (wells), and the Woodford County Park. Existing view sheds could be affected, depending on the alignment.

Members of the Steering Committee and the general public expressed concern over secondary development if a Northwest Connector were built. As considerable residential development has occurred south of Versailles since the construction of Falling Springs Boulevard, there is concern that both residential and commercial development would expand westward into the Northwest Connector corridor.

This study addressed the concept of a Northwest Connector within a general corridor. A general alignment or alignment alternatives would have to be identified before these impacts could be quantified. In the Northwest Versailles Mobility Study, the Connector was considered at the conceptual level only.

The estimated total cost for a Northwest Connector (in present day dollars) is between $25 million and $30 million, based on the alignment and the number and size of structures that would be required.

3. Blue Grass Parkway/US 60 Interchange

The Blue Grass Parkway interchange is located outside the Study Area, yet is has a direct effect on travel patterns and traffic volumes through downtown. Specifically, the eastbound Parkway exit ramp splits and the right turn becomes a YIELD-controlled merge with US 60 in the eastbound direction toward Lexington. The left-turn split of the exit ramp intersects US 60 on a STOP-controlled, at-grade approach. There are no STOP signs, traffic signals or warning flashers on the US 60 approaches through this 3-legged intersection, so drivers making the left-turn onto US 60 westbound must do so through available gaps in the traffic stream. As this is a high-speed approach with sometimes heavy traffic volumes (especially during peak periods), many drivers headed for Frankfort or Louisville choose to take the previous exit and travel through downtown instead of making a risky left turn.

Two potential solutions were considered. The first and simplest would involve installation of a traffic signal at the ramp intersection with US 60 so that left turns could be made under "protection" of the signal. It was concluded that while this signal would reduce some crashes, it would also lead to others, primarily rear-end crashes for through vehicles traveling along US 60. And while peak hour delays on the ramp approach would be reduced by more than half, delays on the US 60 approaches would be introduced where there currently are none. Finally, traffic volumes on the ramp – both current and projected future volumes – are relatively low and do not meet the minimum volume criteria for signal warrants. The Kentucky Transportation Cabinet has not installed a signal at this location, in spite of previous inquiries from the public, for this reason.

A second option was considered, one that would involve a flyover ramp from the Blue Grass Parkway eastbound to US 60 westbound. A conceptual diagram of this option is shown in **Figure VII-7**. It was determined that this solution would be infeasible due to construction costs and right-of-way acquisition that would be needed to achieve the desirable design criteria, especially given the relatively low utilization that would occur. This option was dismissed.

It was concluded that installing flashing warning lights (red for the Blue Grass Parkway approach, yellow for the US 60 approaches) would be the most feasible option. The estimated cost is $25,000.

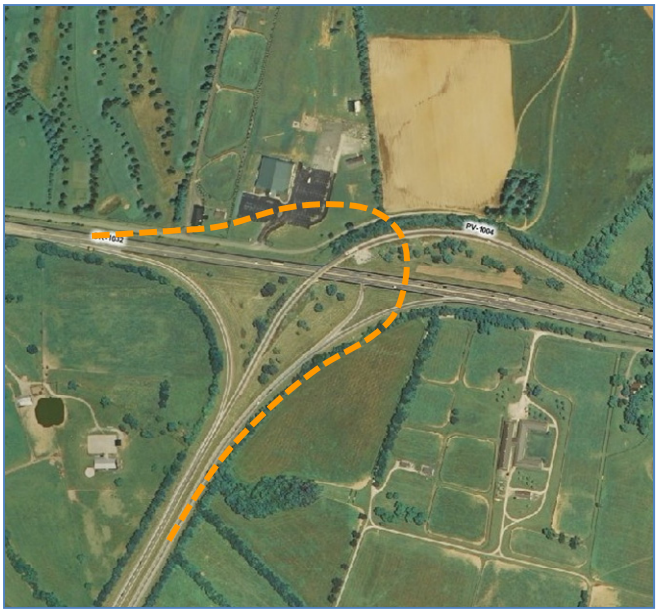

Figure VII-7. Conceptual Flyover - Blue Grass Parkway at US 60

4. Truck Signing at Blue Grass Parkway Exit 59

Based on information obtained from the Kentucky Transportation Cabinet, it is estimated that 1,200 trucks and buses pass through downtown Versailles on a daily basis. It is possible that some of these trucks could be diverted away from downtown Versailles, particularly those destined for Interstate 64. At Exit 59, traffic destined for I-64 can travel along US 127, a four-lane divided highway to Frankfort. While the guide signs at this exit do include "To 64," there is no guidance given to trucks for exiting here in order to avoid downtown Versailles.

To reduce the amount of I-64 traffic through Versailles, it was determined that more positive guidance on the informational signs would be needed. Specifically, adding the words "Interstate 64 truck traffic use US 127 north" would reduce trucks passing through Versailles. With such a change, it is estimated that 15 to 25 trucks per hour could be eliminated from downtown during peak traffic periods.

As trucks cannot be prohibited from Main Street (US 60X), this would have to be an advisory function (as opposed to regulatory) by the Kentucky Transportation Cabinet. However, communications by the Cabinet with Toyota Motor Manufacturing (to whom many suppliers ship parts by truck), Osram Sylvania and other area manufacturers would be beneficial to achieving this goal.

The estimated cost for two new signs along the Parkway that would include this guidance is $20,000.

5. Intersection Improvements

Within the downtown area, two intersections were identified as being problematic with respect to crash incidence and/or traffic congestion:

1. Main Street/North Main Street/Frankfort Street/Broadway/Elm Street (a five-legged intersection)
2. Clifton Road/Tyrone Pike/Rose Hill Avenue

Both of these locations have two things in common: 1) skewed (i.e. not 90 degrees) approach angles on one or more legs, and 2) relatively high peak period traffic volumes.

An aerial view of the Main Street intersection is shown in **Figure VII-8** and an aerial of the Clifton/Tyrone Rose Hill intersection is shown in **Figure VII-9**.

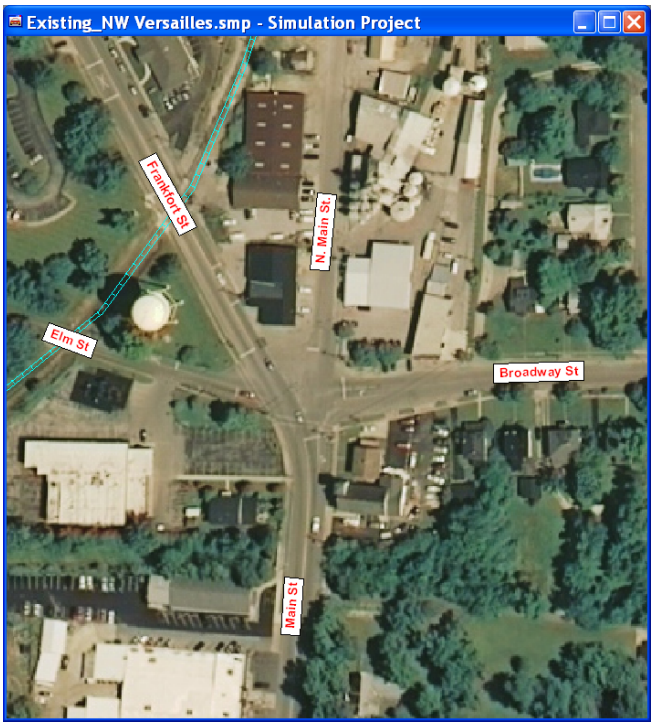

Figure VII-8. Five-Legged Intersection at Main Street

Figure VII-9. Clifton Road/Tyrone Pike/Rose Hill Avenue Intersection

In considering improvements for these locations, two basic improvement types were identified:

a. "Traditional" intersection improvements such as the addition or modification of traffic signals, re-alignment of approach legs to intersect at 90 degrees, improved delineation of curbs or edges of pavement, sight distance improvements, and access control
b. Modern roundabouts

At the Main Street/North Main Street/Frankfort Street/Broadway/Elm Street intersection, this five-legged intersection results in less efficient operations than a four-legged intersection where all legs intersect at right angles. As the Markham Drive connection to US 60 Bypass becomes more frequently used, traffic on the North Main Street leg of this intersection will increase. Types of actions that could be implemented here to improve the operational efficiency and safety of this location include:

- Optimization of current traffic signal timing plans to better "fit" peak hour traffic flows (particularly on the Elm Street and Broadway approaches)
- Construction of curbs and/or improved delineation of existing curbs that clearly identify the edge of roadway
- Restriping and adding lane use arrows to clearly identify turn lanes and through lanes

Through the use of the traffic simulation model and signal timing software, it is anticipated that peak hour delays could be reduced by 50 percent or more at this location through optimization of current signal timing plans. Through improved delineation, it is estimated that traffic crashes could be reduced by 20 to 30 percent, with the biggest proportion of those being nighttime and/or wet weather crashes.

The estimated cost for the traditional intersection improvements described previously is $50,000.

Alternatively, a roundabout intersection at this location would accomplish the same overall objectives of reduced delay and improved safety, but with the added benefit of reduced crash severity. A conceptual graphic of a roundabout is shown in **Figure VII-10**.

Figure VI-10. Conceptual Roundabout: Main Street/ Frankfort Street/North Main Street/Elm Street/Broadway

Due to the nature of the design, right-angle (i.e. "T-bone") and head-on crashes are eliminated at roundabout sites. A roundabout also could be used as a feature here by serving as a gateway to downtown Versailles. A comparison of peak hour intersection delays under signal control and roundabout operation is shown in **Figure VII-11**. The southbound North Main Street approach does not appear in either graph as the delays under either scenario are quite small.

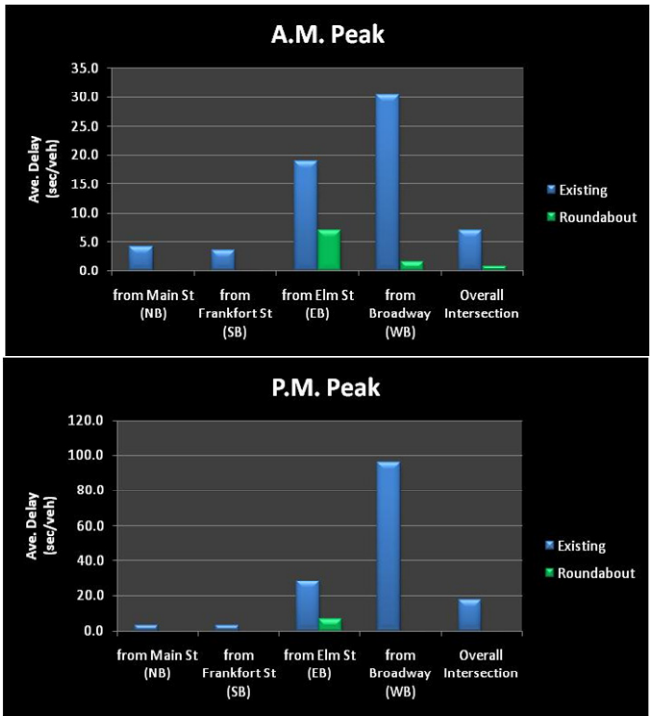

Figure VII-11. Delay Comparison of Signal Control vs. Roundabout – Main Street Intersection

Construction cost for a roundabout at this location is approximately $350,000.

The intersection at Clifton Road/Tyrone Pike/Rose Hill Avenue is a T-intersection with the Tyrone Pike leg intersecting at a severe skew. The skewness affects not only operational efficiency but safety. Furthermore, there is a slight vertical rise or "hump" on the Tyrone Pike approach that obstructs the line of sight to the intersection. Complicating matters, the Clifton Road approach is STOP-controlled and the movements between Tyrone Pike and Rose Hill Avenue are uncontrolled or free-flowing. All of these factors contribute to this site being a high-crash location.

Types of actions that could be implemented here to improve the operational efficiency and safety of this location include:

- Lowering the hump on the Tyrone Pike approach to improve sight distance and re-aligning this approach to intersect at an angle closer to 90 degrees
- Consider signalization at this location (if signal warrants are met)

It is estimated that crashes could be reduced by as much as 50 percent with these improvements at this site. Approximate cost for these improvements is $200,000. If a signal at this location is warranted, the additional cost would be $75,000 to $100,000.

Alternatively, a roundabout intersection at this location would reduce delay and improve safety, again with the added benefit of reduced crash severity. A conceptual graphic of a roundabout is shown in **Figure VII-12**.

Figure VII-12. Conceptual Roundabout: Tyrone Pike/ Clifton Road/Rose Hill Avenue

Similar to the Main Street location, a roundabout here could be considered as a feature, providing a gateway to downtown. A comparison of delay at this intersection for the current STOP-control on the Clifton Road approach to roundabout control is provided in Figure **VII-13**. As shown in the graphic, average delay for those approaches with no control does increase, but the Clifton Road approach delay and the overall delay during peak periods would decrease.

Construction cost for a roundabout at this location is approximately $350,000.

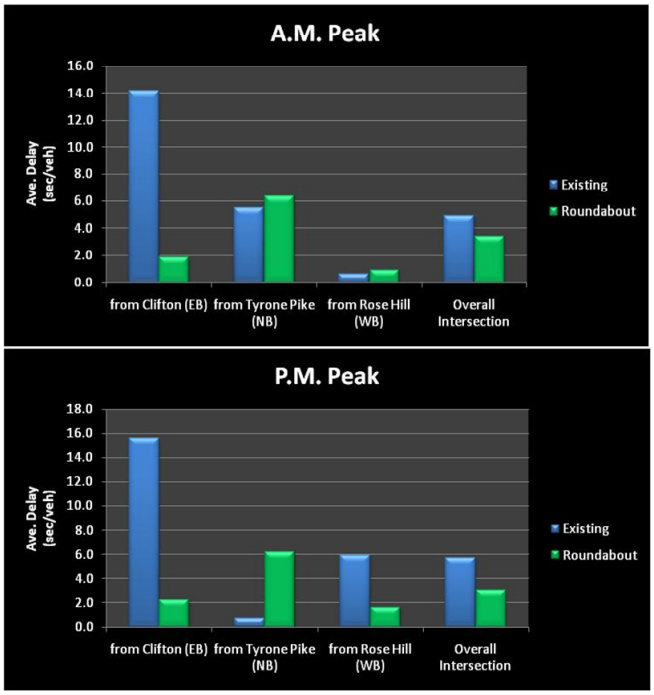

Figure VII-13. Delay Comparison of Signal Control vs. Roundabout – Tyron Pike/Clifton Road/Rose Hill Avenue

6, 7, 10. Extension of Existing Streets

This represents a general group of potential improvements characterized by the extension of existing streets to further complete the street network. Three projects were addressed:

6. Extension of Marsailles Drive from Huntertown Road to Troy Pike, through the planned Edmonds Cross development. This project will be constructed by the developer with the timetable to be determined by construction of subsequent phases of the subdivision. A short piece through the first phase of the development has been constructed already.
7. Extension of Cedar Ridge Lane from its present terminus to Huntertown Road. This extension would pass through the Lane property. The estimated cost for this project is $1.3 million.
10. Extension of Crossfield Drive from the U S60 Bypass to Lexington Road (US 60X) near Laval Heights. This project currently is in the State's Highway Plan. When completed, it is estimated that this extension will carry 4,000 to 4,500 vehicles per day and will reduce peak hour traffic at the US 60/US 60 Bypass intersection by about 10 percent.

8. Neighborhood Connectivity

There are several neighborhoods in Versailles where streets are arranged in a clustered fashion and all local neighborhood streets feed into an external arterial or collector street. All trips to and from the neighborhood therefore involve the external street. When clustered neighborhoods are adjacent to each other, or are adjacent to other developments, the accumulation of trips along the external street can be a source of congestion.

When adjoining neighborhoods and developments are connected through local streets, then local trips between the two can be served by the neighborhood network itself and trips to and from the adjoining collector or arterial street are fewer. This concept is illustrated in **Figure VII-14**, where the paths between hypothetical points A and B are highlighted for separated, clustered neighborhoods and for interconnected neighborhoods.

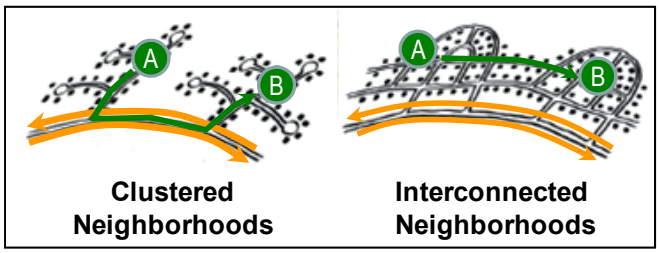

Figure VII-14. Neighborhood Connectivity

In some Versailles neighborhoods, there are actually stubbed or terminated streets that could be connected to similar streets in adjoining neighborhoods. The infrastructure is in place already and the connection would require a minor physical improvement. Making the connection would improve connectivity between the two developments and would reduce the amount of traffic and congestion along the external street(s).

Some residents oppose the connection of streets due to fears of increased traffic and speeds. Connecting streets should be considered in conjunction with control measures such as STOP signs and traffic calming devices.

Improving neighborhood connectivity represents a policy-level strategy that should be applied on a case-by-case basis. At this broad level, the benefits are mainly subjective, although it is generally accepted that the reduction of trips on external streets improves both capacity and safety.

9. US 60 Bypass/Markham Drive Intersection Improvements

This is another location outside the study area where improvements will be beneficial within the study area. Since its extension to the Kentucky Community and Technical College System (KCTCS) campus in Versailles, Markham Drive has provided an alternative connection between the US 60 Bypass and downtown. As KCTCS has become a heavily used facility for conferences, meetings, and education, traffic to and from this facility has increased considerably. This includes traffic going to and from the site via the US 60 Bypass and Markham Drive. An aerial photograph containing the Bypass, Markham Drive and the KCTCS facility is shown in **Figure VII-15**.

Figure VII-15. US 60 Bypass at Markham Drive

The US 60 Bypass/Markham Drive intersection is unsignalized and presently does not meet warrants for a traffic signal. However, the recent trend has been the occurrence of one to two crashes per year. As the Bypass is a heavily traveled, high-speed facility, turn lane modifications that would provide a better separation of through and turning traffic would improve safety at this location. Specifically:

- The westbound left-turn lane from the US 60 Bypass to Markham Drive should be extended to provide increased storage length and a longer deceleration lane for left-turning vehicles.
- A median storage pocket should be created for vehicles turning left from Markham Drive onto westbound US 60 Bypass. This pocket, which would be in the median of the Bypass, would allow drivers to make a left-turn onto the Bypass in two stages and would provide an acceleration lane onto the Bypass.

The estimated cost for improvements at this intersection is $150,000 for the turn lane and storage pocket. A signal would add about $100,000 to the cost.

Other Alternatives Considered

In addition to the candidate mobility solutions that were discussed in the previous section, four additional mobility solutions (three alternative routes and a new signal) were considered late in the study at the request of a Steering Committee member. These options were evaluated in a similar fashion as the initial candidate solutions, but were not presented in a public forum as they were suggested and evaluated after the third and final public meeting had taken place. Their descriptions and anticipated impacts are presented in this section. Three options were considered as alternatives to the Northwest Connector candidate solution. Traffic impacts were measured in their relative abilities to reduce traffic through downtown Versailles.

Thomas Lane Extension

The objective of this solution is to provide an "inner" (that is, closer to downtown) alternative to the Northwest Connector by extending Thomas Lane to connect with Clifton Road and making improvements and re-alignments to local streets that presently serve as cut-through routes – Beech Street, Kentucky Avenue and Camden Avenue – so that a direct connection to Frankfort Street (US 60X) across from Woodford County High School is formed. The extension of Thomas Lane would pass through property owned by Osram Sylvania in the vicinity of the distribution center. An aerial photograph depicting the general alignment is shown in **Figure VII-16**.

Re-alignment of Kentucky Avenue and/or Camden Avenue so that they would align at their intersections with McCracken Pike would involve re-alignment and right-of-way acquisition of either Kentucky Avenue, Camden Avenue or both. Right-of-way acquisition would be considerable as these are currently relatively narrow streets. Final determination of alignment and right-of-way acquisition needed would be determined with further study if this project were to advance beyond the conceptual stage.

The Woodford County Travel Demand Model was used to develop year 2030 traffic forecasts for the hypothetical scenario where this option would be built. A summary of the average daily traffic forecasts for this route and comparative forecasts for Main Street through downtown are shown in **Figure VII-17**.

Figure VII-16. Thomas Lane Extension General Alignment

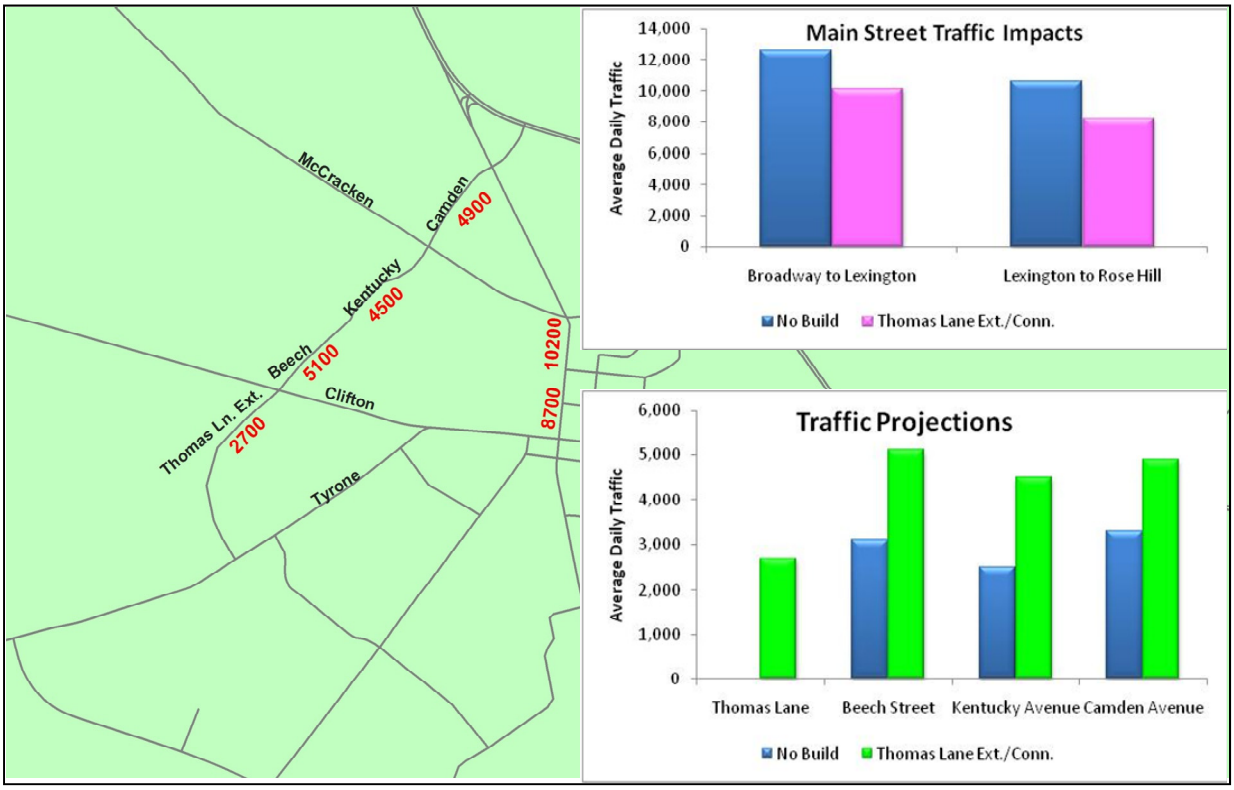

Figure VII-17. Thomas Lane Extension Traffic Projections

As shown in Figure VI-17, average daily traffic forecasts for the Thomas Lane Extension, Beech Street, Kentucky Avenue and Camden Avenue would range from 2,700 to 5,100 by the year 2030. However, these are narrow residential streets not designed to carry heavy traffic, which would result in congestion and safety problems. Traffic on Main Street through downtown would be about 25 percent less than it would be without this project.

Where reduced traffic through downtown would be considered as a benefit to this option, traffic-related impacts along what are primarily residential streets could be expected. In addition to higher traffic volumes than those that currently exist, increased traffic noise and speeds through these areas could be expected as well. Also, this project would require right-of-way acquisition from Osram Sylvania as well as from private residences. It is possible that residential relocations would be required, particularly where Kentucky Street and Camden Avenue intersect with McCracken Pike. Finally, the extension of Thomas Lane may result in impacts to the adjacent Steele Cemetery. Again, further study would be required to determine specific alignments, impacts and right-of-way acquisitions, should this project be advanced beyond the conceptual stage. The estimated cost for this solution is $10 million.

Park Street Extension

The Park Street Extension would involve extending Park Street northward from its present terminus to connect with Elm Street near Main Street. This possibly would involve reconstruction of the Main Street/Frankfort Street/N. Main Street/Elm Street/Broadway intersection, depending on further analysis. It also would include re-alignment of its current southern terminus to intersect with Rose Hill Avenue at High Street. This option would provide a bypass alternative to Main Street immediately to the west. An aerial photograph depicting the general alignment of this option is shown in **Figure VII-18**.

One of the greatest physical challenges to this project is the difference in elevations and resulting steep grades along the route. In fact, the current grades are too steep for trucks and buses. In order to make this a viable

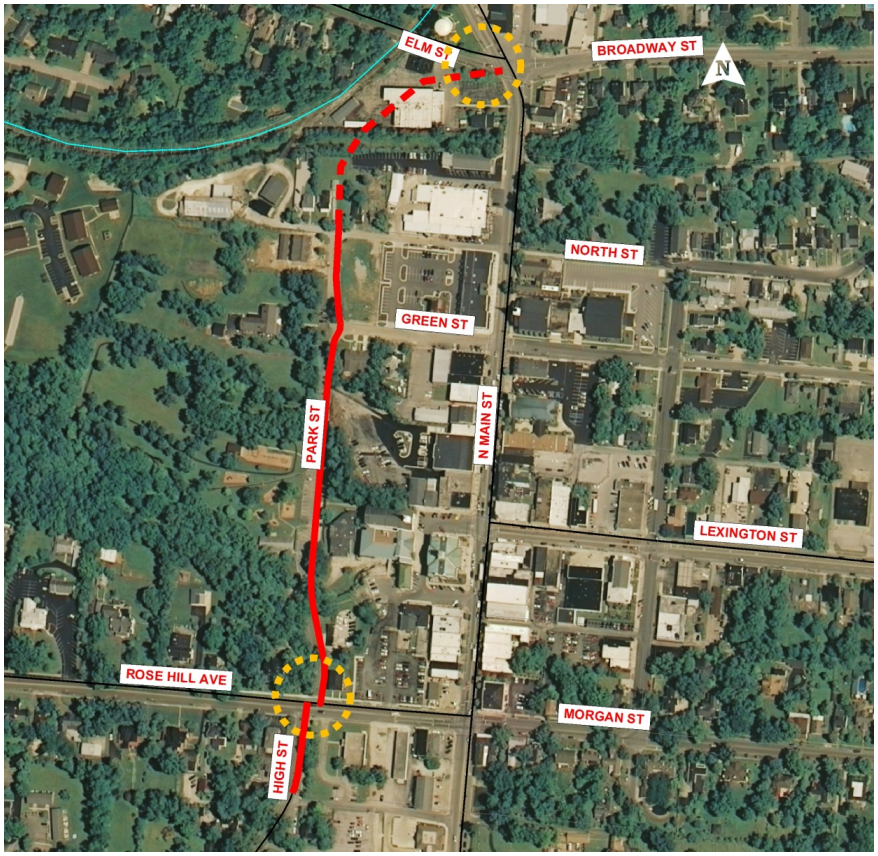

Figure VII-18. Park Street Extension Conceptual Alignment

alternative to Main Street, it is likely that two bridge structures would be needed, which would add significantly to the costs. This street also is narrow and would require widening.

Potential environmental impacts are highlighted in **Figure VII-19**. Specifically, the project would pass along the eastern edge of both Big Spring Park and the Rose Hill Historic District. It also lies just west of the Downtown Versailles Historic District and the Morgan Street Historic District. Projects that would potentially use Federal funds have to demonstrate either no environmental impact or have to provide satisfactory mitigation of environmental impacts.

The Woodford County Travel Demand Model was used to develop year 2030 traffic forecasts for the hypothetical scenario where this option would be built. A summary of the average daily traffic forecasts for this route and comparative forecasts for Main Street through downtown are shown in **Figure VII-20**. As shown in the figure, the biggest impact with respect to traffic diversion from Main Street would be along the section of Main Street from Elm Street/Broadway to Lexington Street, where about 40 percent of the traffic would be diverted to Park Street. South of Lexington Street, little or no diversion would be expected; in fact, a light increase in traffic along this section is possible.

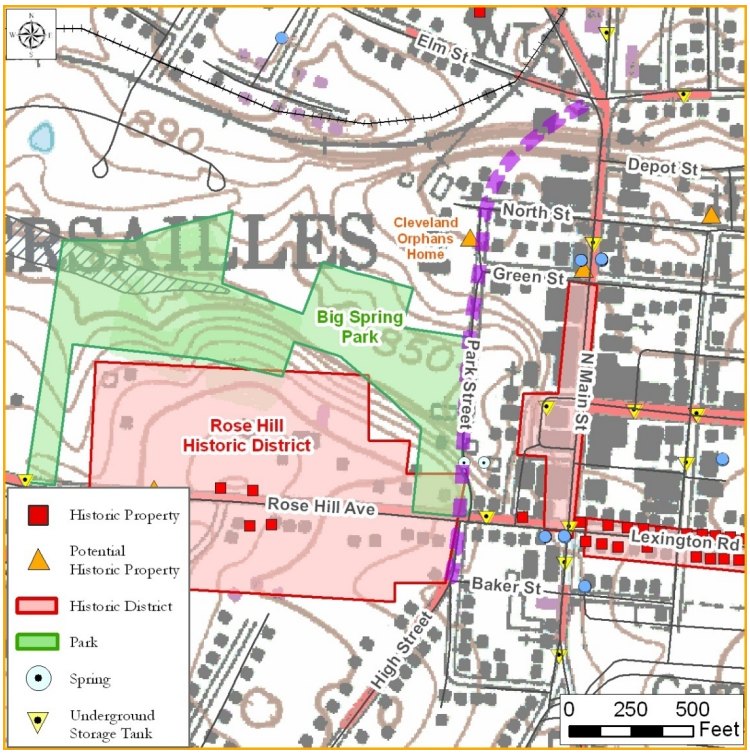

Figure VII-19. Park Street Extension Environmental Impacts

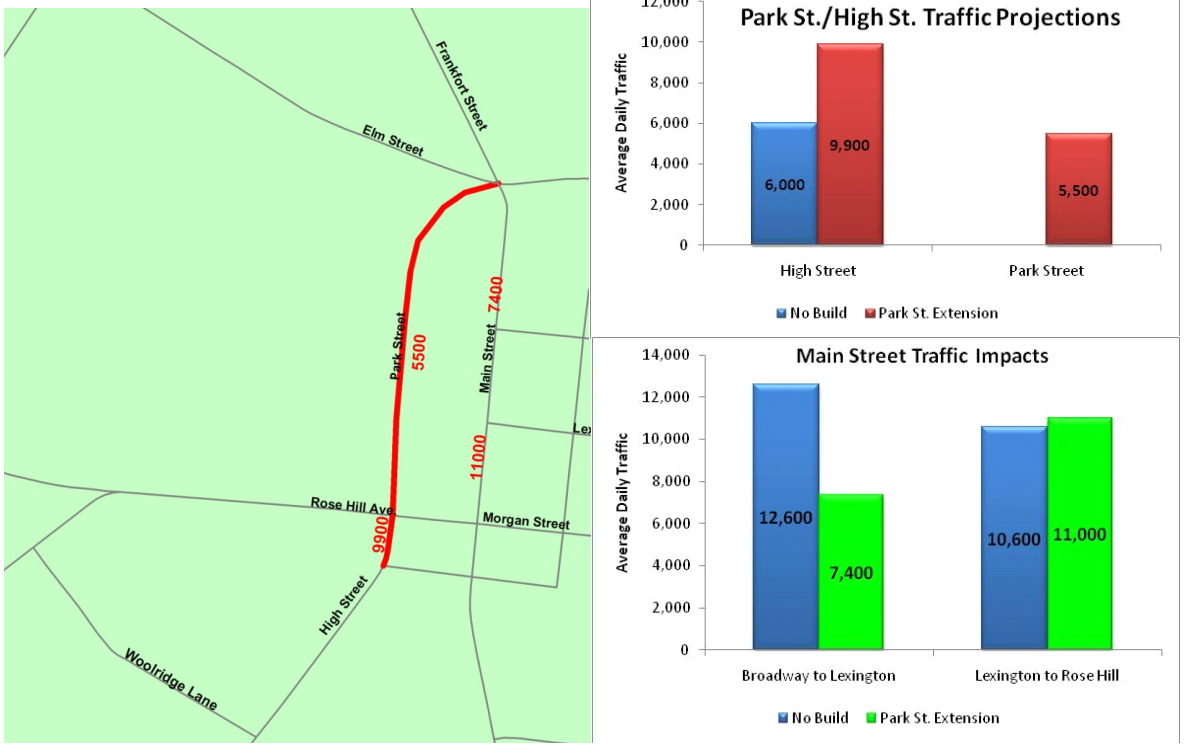

Figure VII-20. Park Street Extension Traffic Projections

Average daily traffic along Park Street would increase to about 5,500 if this project were built. No current traffic count data exist but it is estimated that present traffic volumes are a few hundred. Also, with re-alignment to intersect across from Park Street, it is estimated that daily traffic on the northern section of High Street would be about 50 percent higher by the year 2030 if this project were built (9,900 vs. 6,000).

The estimated cost for this project is $16 million. This includes costs for two bridge structures.

Falling Springs Boulevard East Extension

A third and final alternative to the Northwest Connector potential solution involved the extension of Falling Springs Boulevard eastward from its current terminus at Troy Pike to intersection with US 60 at the US 60 Bypass. This would be similar in cross-section to Falling Springs Boulevard – a four-lane, median-divided arterial. An aerial photograph showing a conceptual alignment where this project might go is shown in **Figure VII-21**.

Like some of the other solutions, this one would lie outside the study area but the impacts would extend inside the study area. Ultimately the traffic impacts would result in a diversion of traffic from Main Street in downtown Versailles by about 25 percent, as shown in **Figure VII-22**.

Year 2030 traffic projections for this facility ranged from 8,100 to 11,600. Traffic volumes on Main Street downtown would be roughly 25 percent less with construction of this route and traffic volumes over the existing section of Falling Springs Boulevard would increase slightly.

The route likely would pass through the unconstructed phases of the Edmonds Cross development and would require modification of development plans. It also would impact three area schools – Southside Elementary, Huntertown Elementary and St. Leo's School. It is important to point out that the Environmental Overview conducted for the Northwest Versailles Mobility Study did not include this area, so further potential environmental impacts could not be identified at the time of this study. It can be concluded, however, that impacts on green space and view sheds would occur to some extent. The estimated cost for this project is $10 million to $12 million.

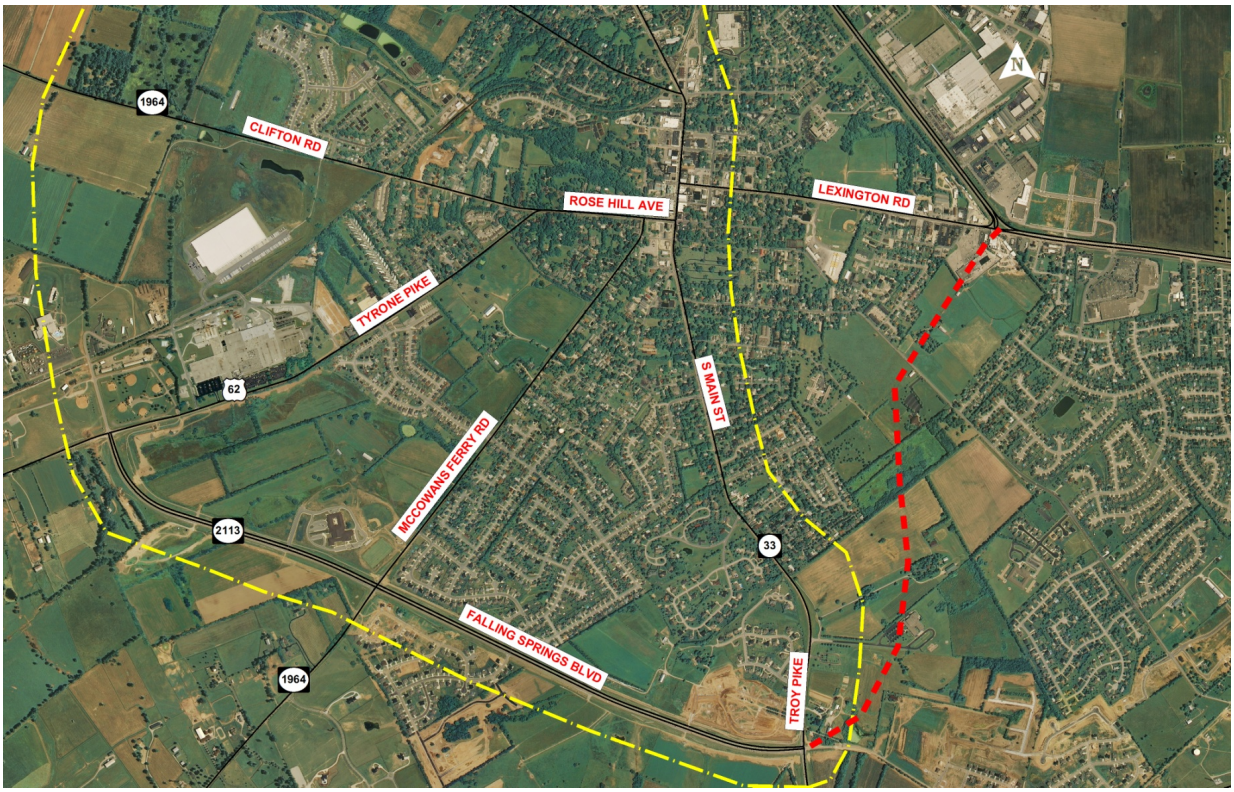

Figure VII-21. Falling Springs Boulevard East Extension Conceptual Alignment

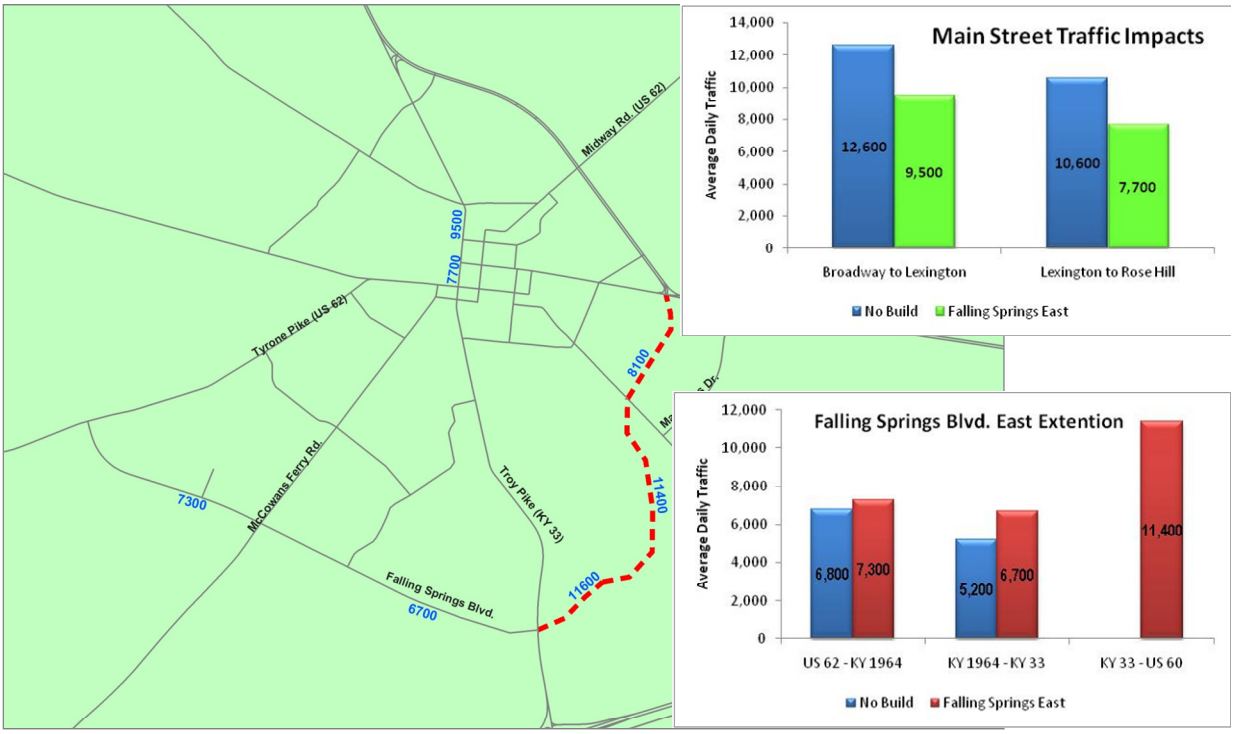

Figure VII-22. Falling Springs Boulevard East Extension

Traffic Signal at Frankfort Street/US 60 Bypass

The fourth additional alternative requested to be considered involved installation of a traffic signal at the intersection of Frankfort Street (US 60X) with the US 60 Bypass. The location is shown in **Figure VII-23**.

Figure VII-23. Candidate Traffic Signal Location

The request was made because it was believed that lack of a traffic signal at this location resulted in significant delays for those drivers turning left from Frankfort Street and heading westbound on US 60. There also was concern that this was a high-crash location and that a traffic signal would provide a safety benefit.

Analysis of existing crash data did not indicate this to be a problem area. Furthermore, the Kentucky Transportation Cabinet District 7 office in Lexington has received no previous public requests for a signal at this location.

An analysis of traffic counts at this location revealed that volume criteria for the major or most conclusive traffic signal warrants would not be met; only the minor, peak hour volume warrant would be satisfied. It is also unlikely that the Kentucky Transportation Cabinet would be willing to introduce an interruption of continuous traffic flow along a major arterial, the Bypass, unless major warrants were satisfied. Finally, it was determined that adjacent traffic signals at Midway Road (US 62) and Merewood Drive create sufficient gaps in the traffic stream. The estimated cost for a signal is $100,000.

Evaluation of Candidate Mobility Solutions

The initial 10 candidate mobility solutions were evaluated by the Steering Committee and were presented for public input. At the second public meeting, the candidate solutions were presented and discussed. Attendees were asked to rate each of the solutions on a scale of 1 to 9 in response to the following question: *"How well do you think this solution will help to accomplish the Goals and Objectives?"* The automated polling system was used and a total of 66 people participated in the exercise. The results are shown in **Table VII-3**.

Table VII-3. Evaluation of Initial Candidate Mobility Solutions

Candidate Solution	Average	Median
1. Downtown Traffic Signal Timing Modifications	7.2	7
2. Northwest Connector	4.8	3
3a. Bluegrass Parkway/US 60 Interchange Traffic Signal	5.4	5
3b. Bluegrass Parkway/US 60 Interchange Flyover or Ramps	6.2	7
4. Bluegrass Parkway/Exit 59 (US 127) Signage	6.9	9
5.1a. Main Street/N. Main/Frankfort St./Elm St./Broadway Traditional	6.5	7
5.1b. Main Street/N. Main/Frankfort St./Elm St./Broadway Roundabout	6.3	7
5.2a. Clifton Road/Tyrone Pike/Rose Hill Avenue Traditional	7.2	8
5.2b. Clifton Road/Tyrone Pike/Rose Hill Avenue Roundabout	5.1	5
6. Marsailles Drive through Edmonds Cross (planned)	7.3	9
7. Cedar Ridge Lane to Huntertown Road	7.3	9
8. Neighborhood Connectivity	7.3	9
9. US 60 Bypass/Markham Drive Intersection	6.7	8
10. Crossfield Drive to Laval Heights (planned)	7.4	9

Based on input from the public, it was determined that definitive conclusions were not reached on the intersection improvements – 5.1 Main Street/N. Main Street/Frankfort Street/Elm Street/Broadway and 5.2 Clifton Road/Tyrone Pike/Rose Hill Avenue. While both (a) traditional intersection improvements and (b) the roundabout alternatives at both of these locations were deemed to be effective, public preference was varied. Further input was sought from the Steering Committee on the evaluation of these alternatives. Additionally, it was necessary to obtain Steering Committee input on those alternatives to the Northwest Connector that were identified after the third and final public meeting.

The intersection improvements, Northwest Connector and alternatives, and the candidate traffic signal at US 60 and Frankfort Street were evaluated in a subsequent Steering Committee Meeting. Committee members were asked to rate each of the solutions on a scale of 1 to 9 in response to how they met the five individual project goals. Additionally, the average scores were weighted according to the relative weights assigned to the individual goals. A summary of the evaluation results and weighted scores for these additional alternatives is presented in **Table VII-4**. It should be pointed out that the proposed signal at US 60 and Frankfort Street was evaluated by the Committee against the collective goals and objectives (i.e., "How well do you think this solution will help to accomplish the Goals and Objectives?") and not the individual goals. Also, it must be re-iterated that the alternatives to the Northwest Connector were identified and evaluated after the third and final public meeting; public input on these alternatives came from the Steering Committee only and not the general public.

Table VII-4. Summary of Steering Committee Alternatives Evaluation

	GOAL*					
	1	2	3	4	5	Weighted Score
Score	7.3	6.5	8.4	6.1	6.5	
Weight**	20.9%	18.7%	24.2%	17.6%	18.7%	
Northwest Connector Options						
2a. Outer Northwest Connector	6.50	5.25	6.75	4.63	5.50	5.81
2b. Thomas Lane Extension***	3.50	3.63	3.25	3.38	3.25	3.40
2c. Park Street Extension***	3.25	2.75	4.00	3.88	3.63	3.52
2d. Falling Springs East Extension***	7.00	6.00	6.50	5.38	6.38	6.29
Main Street/Frankfort Street/Elm Street/Broadway						
5.1.a. Traditional Improvements	7.75	7.88	7.75	8.00	6.88	7.66
5.1.b. Roundabout	7.00	6.75	6.63	7.50	7.25	7.00
Clifton Pike/Tyrone Pike/Rose Hill Avenue						
5.2.a. Traditional Improvements	7.00	7.38	7.13	6.88	7.00	7.08
5.2.b. Roundabout	6.50	6.00	7.00	6.13	6.38	6.44
10. US 60 at Frankfort Street Signal	N/A	N/A	N/A	N/A	N/A	4.875

* Goals adopted by the Steering Committee

Goal 1. Improve multimodal mobility within the community

Goal 2. Provide for efficient and equitable allocation of public resources for transportation infrastructure improvements

Goal 3. Improve safety of the transportation system

Goal 4. Minimize the impacts of transportation improvements and strategies on the environment

Goal 5. Recognize the sensitivity both locally and regionally of the transportation/land use relationship

*** Weight = Individual Score Divided by the Sum of the Scores*

**** This option was evaluated late in the study at the request of a Steering Committee member. It has not been presented at a public meeting.*

VIII. Recommendations

The development and evaluation of candidate mobility solutions was performed against the backdrop of the study goals: to improve mobility, to provide an efficient and equitable allocation of public resources, to improve safety, to minimize impacts on the environment, and to recognize the sensitivity of the transportation/land use relationship. In some cases those goals were not necessarily complementary, particularly for those candidate solutions that involved new routes or facilities.

Recommendations were made by ENTRAN with consideration of input from the Steering Committee and the general public. For some of the recommended solutions, there was general consensus and near-unilateral support. For others, while effectiveness measures may have pointed toward a clear-cut alternative, public support was divided. In these cases, recommendations were made considering Steering Committee and public input but also included weighting of performance measures according to study goals.

Recommended Mobility Solutions

The following mobility solutions are recommended for implementation, based on the outcome from the study process.

1. Downtown Traffic System Improvements

This solution consists of a set of strategies, namely:

A. *Optimization of signal timing plans for the five coordinated signals that comprise the downtown system.* Timing parameters to be optimized include system cycle lengths, offsets, phasing sequences and phasing intervals. Signal locations are:

- Main Street/North Main Street/Frankfort Street/Broadway/Elm Street (a five-legged intersection)
- Main Street/Lexington Street
- Main Street/Rose Hill Avenue/Morgan Street
- South Main Street/Montgomery Street
- Lexington Street/Locust Street

B. *Limited removal of on-street parking spaces to ease choke points.* Specifically, the first three spaces along southbound Main Street at Lexington Street, the first two spaces along southbound Main Street at Rose Hill Avenue, and the first three spaces along westbound Lexington Street at Main Street (adjacent to the Stuart & Hardin Law Offices building). For the latter, consideration should be given to restriping the westbound approach to provide a short right-turn lane. Also, the current Accessible parking space would need to be relocated around the corner on Main Street or moved farther east on the Lexington Street approach.

C. *Enlarged overhead lane use signs.* These should be located on existing signal mast arms to provide better guidance in advance of intersections, particularly for southbound Main Street.

2. Further Analysis of the Northwest Connector

The concept of a Northwest Connector was examined within a general corridor that lay west of the Versailles city limits and extended from Tyrone Pike (US 62) near the Woodford County Park to US 62 in the vicinity of Midway Road (US 62). The conceptual roadway was evaluated as a four-lane, median-divided facility with signalized intersections at Clifton Road (KY 1964) and McCracken Pike (KY 1659). The facility would be similar to Falling Springs Boulevard and have a posted speed limit of 45 mph.

The analysis showed that the Connector would reduce future traffic volumes on Main Street in downtown Versailles by roughly 50 percent. However, only minor increases in traffic along Clifton Road and McCracken Pike/Elm Street would be anticipated. A significant reduction in truck traffic through downtown would be anticipated as well.

There are several environmental concerns associated with the project, including potential impacts to the Woodford County Park. If the road were to avoid the park, it would be necessary to relocate an existing section of Falling Springs Boulevard to the southwest. Additional potential impacts on floodplains, wetlands, historic properties, green space and view sheds would have to be identified in more detail and possibly mitigated. There are concerns over secondary development that could accompany a new route if development restrictions aren't put in place. Finally, although the business community has been generally supportive of efforts to ease traffic congestion downtown, there has been almost no input from downtown

businesses in response to the estimated 50 percent reduction in traffic that would result from building the Connector.

Three alternatives to a Northwest Connector were considered. These were identified and evaluated late in the study, after the final public meeting had been held, over Steering Committee concerns that other alternatives should be examined in an effort to exhaust all potentially feasible options for a facility to help reduce traffic and congestion from downtown. Two of these alternatives – the Thomas Lane Extension and the Park Street Extension – had been examined and dismissed early in the study, but were re-examined in further detail. Both of these options were deemed infeasible due to high construction and right-of-way costs, potential environmental impacts, and limited effectiveness in reducing downtown congestion.

The third option, an eastward extension of Falling Springs Boulevard to US 60 east of downtown, did show potential for improving mobility and reducing downtown congestion. However, this concept was not considered initially because it fell outside the study area that was established at the beginning of this process. Furthermore, the environmental overview that was conducted as part of this study did not include the corridor for this alternative.

In response to concerns over potential secondary development and environmental concerns, several mitigation strategies were discussed as part of this study. Establishing a corridor overlay district for the Northwest Connector (similar to the Paris Pike Corridor Commission that was established for Paris Pike in Fayette and Bourbon counties) would be an effective instrument for preventing secondary development. The overlay district would be enforced by a commission whose authority to deny certain development types within the established corridor would supersede local planning and zoning authority. Tools such as access management and context sensitive design could be used to optimize safety and make the roadway "fit" into the natural landscape such that aesthetics and natural resources are preserved as much as possible. Stormwater retention and vegetative screening are other mitigation tools that could be employed.

This study has demonstrated that peak hour congestion in downtown Versailles is problematic. The congestion will worsen as future projections have shown that area traffic volumes will increase. It is recommended that the Northwest Connector concept be advanced to consider alternative alignments, specific environmental issues associated with alignment alternatives, and that a detailed, focused public involvement effort be undertaken that actively engages both property owners in the corridor and downtown businesses (because of the significant decrease in downtown traffic that would result). For the sake of cost efficiency, the concept should be expanded to include the option of two lanes built on four-lane right-of-way.

It is also recommended that the study area be expanded to include the corridor for the Falling Springs Boulevard East Extension, that the environmental overview should be expanded to include this corridor, and that alternative alignments be identified and evaluated. The focused public involvement efforts should include this alternative as well. At the conclusion of this process, one of the following recommendations should be made based on the results of further study and focused public involvement:

1. Recommend the Northwest Connector
2. Recommend the Falling Springs Boulevard East Extension
3. Recommend both the Northwest Connector and the Falling Springs Boulevard East Extension
4. Take no further action

3. Flashing Warning Beacons on US 60 at the Blue Grass Parkway

Flashing yellow warning beacons should be installed on US 60 at the intersection with the exit ramp from the Blue Grass Parkway to westbound US 60. Flashing red beacons should be installed at the end of the ramp from the Parkway to US 60 westbound.

4. Truck Signing at Blue Grass Parkway Exit 59

Install two new guide signs along eastbound Blue Grass Parkway, one at Exit 59 and one in advance of the exit, that include the following message: "Interstate 64 truck traffic use US 127."

5.1 Intersection Improvements: Main Street/ North Main Street/Frankfort Street/ Broadway/Elm Street

It is recommended that a roundabout at this location be given first consideration and that this solution should be vetted through the Transportation Cabinet's Roundabout Review and Approval Process. This process includes preliminary design to fully determine its feasibility.

It was demonstrated that a roundabout would operate more efficiently than signalized control for this 5-legged intersection. With the extension of Markham Drive into the Kentucky Community and Technical College System (KCTCS) headquarters campus and potential increased traffic via this connection to North Main Street, a roundabout would better serve both current and future traffic demands. Furthermore, roundabouts offer a safer alternative to signalized intersections as they provide a traffic calming effect and eliminate right-angle and head-on crash types through their design. With the relocation of St. Leo's School, additional right-of-way at this location would be available if needed. Finally, a roundabout here could be viewed as a gateway feature to downtown and could be landscaped accordingly.

Should a roundabout be deemed infeasible, then the following "traditional"-type improvements are recommended:

- Optimization of current traffic signal timing plans to better "fit" peak hour traffic flows (particularly on the Elm Street and Broadway approaches)
- Construction of curbs and/or improved delineation of existing curbs that clearly identify the edge of roadway
- Restriping and adding lane use arrows to clearly identify turn lanes and through lanes

5.2 Intersection Improvements: Clifton Road/Tyrone Pike/Rose Hill Avenue

It is recommended that a roundabout at this location be given first consideration and that this solution should be vetted through the Transportation Cabinet's Roundabout Review and Approval Process. This process includes preliminary design to determine its feasibility.

This intersection was identified in the study as a high-crash location, primarily as a result of 1) severe skew angle and sight distance restrictions on the Tyrone Pike approach and 2) inconsistent application of traffic control (the Clifton Road approach is STOP-controlled, while the other legs are uncontrolled). A roundabout would treat all approaches equally and would provide the additional benefit of removing the most severe crash types – right-angle and head-on – by nature of its design.

Operationally, delays would be distributed more equally across all legs instead of concentrated on the one STOP-controlled leg. However, these delays would be acceptable as analyses showed that average peak period delays on all legs would be less than 20 seconds per vehicle, placing it in the Level-of-Service (LOS) B range.

A roundabout at this location would provide the added amenity of serving as a gateway to downtown and could be landscaped as a feature. At one of the public meetings, an adjacent property owner offered to provide adjacent right-of-way if needed.

Should it be determined that a roundabout at this location is not feasible, then the following "traditional"-type improvements are recommended:

- Improve the sight distance on the Tyrone Pike approach by lowering the crest of the existing vertical curve and re-align this approach to intersect at an angle closer to 90 degrees
- Consider signalization at this location (if signal warrants are met)

7. Cedar Ridge Lane Extension

This project involves the extension of Cedar Ridge Lane from its current dead end to Huntertown Road. The project effectively would provide an extension of Falling Springs Boulevard to Huntertown Road. The extension would pass through the Lane property and would require right-of-way acquisition.

8. Neighborhood Connectivity

On a case-by-case basis, stubbed neighborhood streets should be joined to improve connectivity and help spread traffic demand. Connecting streets should be

considered in conjunction with control measures and traffic calming devices as a means to temper speeds.

9. US 60 Bypass/Markham Drive Intersection Improvements

It is recommended that modifications to the existing intersection should be provided; specifically:

- The westbound left-turn lane from the US 60 Bypass to Markham Drive should be extended to provide increased storage length and a longer deceleration lane for left-turning vehicles.
- Assuming adequate median width, a median storage pocket should be created for vehicles turning left from Markham Drive onto westbound US 60 Bypass. This pocket, which would be in the median of the Bypass, would allow drivers to make a left-turn onto the Bypass in two stages and would provide an acceleration lane onto the Bypass.

Additionally, an analysis should be conducted to determine if warrants for a traffic signal installation are met.

Implementation

Those mobility solutions involving State-maintained roads and streets must be implemented by the Kentucky Transportation Cabinet. It is anticipated that the following solutions could be implemented through maintenance or operating funds within District 7:

1. Downtown Traffic System Improvements
3. Flashing Warning Beacons on US 60 at the Blue Grass Parkway
4. Truck Signing at Blue Grass Parkway Exit 59
9. US 60 Bypass/Markham Drive Intersection Improvements

Intersection improvements 5.1 Main Street/ North Main Street/Frankfort Street/ Broadway/Elm Street and 5.2 Clifton Road/Tyrone Pike/Rose Hill Avenue will involve more significant capital expenditures and most likely would require inclusion into a future version of the State Highway Plan. It is possible that Federal Transportation Enhancement (TE) funds could be used for the roundabouts and Safety-Hazard Elimination (HES) funds could be used to lower the grade on Tyrone Pike if more traditional improvements are implemented there.

Major capital projects using State and possibly Federal funds must be programmed through the State Highway Plan. Entry into the Plan begins with the review, evaluation, and prioritization of unscheduled transportation projects. Within Central Kentucky, this effort is coordinated through the Regional Transportation Committee of the Bluegrass Area Development District. Requests for mobility solutions recommended by this study to be included in the unscheduled projects list must be made to the Committee by the City of Versailles, Woodford Fiscal Court, and/or the City of Midway.

Solution 7, Cedar Ridge Lane Extension, would be a locally-funded project. As the current Lane property does not lie within the Versailles city limits, this project would have to be undertaken by the Woodford Fiscal Court unless the area were to be annexed by the City of Versailles.

Solution 8, Neighborhood Connectivity, is a policy-based strategy that would be implemented through the City of Versailles and the Woodford Fiscal Court. Individual projects likely would have to be initiated on a petition basis and would be locally funded.

Appendix

Summary of Written Public Comments – November 17, 2008 Public Meeting

Respondent No.	1. Did this evening's Public Meeting provide the right kind of information about the Traffic Study? If not, please tell us what should have been addressed.	2. Do you have any further suggestions for potential projects or issues that should be considered in this Study? Any major concerns?	3. Do you have any ideas, suggestions or comments you would like to express to the Project Team?
1	I think it is difficult if not impossible to only look at half of Versailles. That severely restricts a true traffic/mobility study.	Stop the study until all of Versailles and its surrounding Woodford Co. area can be included in (the) mobility study. This is a waste of tax dollars and appears very much to be using (a) limited area to justify another connector road from Falling Springs Blvd. to Frankfort Rd. US 60. Please consider a traffic light at the end of BG Pkwy. to allow a safe way (connecting 4 lane road to 4 lane road) to get from (the) southern part of Woodford County to Frankfort. A "traffic study" will never show a need because it is too dangerous for a majority of the day/people to turn left. Consider placing a light there, publicize it – then review.	
2	How many times do we have to deal with issues that are not so detrimental to our style of living? We do not require additional roads/bypasses.		
3			Yes – find out what the local businesses need to solve the "peak" problems with funded jobs from the city, county, etc. SP (State) funds are short. Explain the costs, like parking, that come with solutions.

Northwest Versailles Mobility Study

Respondent No.	1. Did this evening's Public Meeting provide the right kind of information about the Traffic Study? If not, please tell us what should have been addressed.	2. Do you have any further suggestions for potential projects or issues that should be considered in this Study? Any major concerns?	3. Do you have any ideas, suggestions or comments you would like to express to the Project Team?
4	This is a good start. I hope you are actually listening and are not set on a certain outcome.	Anything should be done that will encourage people to drive less, including: Don't make commuting long distances to work easier. Encourage people to live close to where they work. Save fuel!	

November 17, 2008

Mr. Tom Creasey
Transportation Planning Engineer
Entran

RE: Opposition to consideration of a western by-pass

Dear Mr. Creasey,

As we are owners of property on two corners of Main Street in Versailles (1½ acres of commercial property with a feed mill located on North Main), and a luxury apartment complex in an old historical building on South Main, we are very involved with downtown Versailles. It is also because we are very concerned about Woodford County that we opposed any extension to the KY 33/US Connector or a north/western by-pass, for the following reasons:

1. In 1991 this "proposed connector" (then titled "proposed by-pass") was overwhelmingly rejected by the citizens of Woodford County in a public meeting held by the Transportation Cabinet. The fact was recognized by the Cabinet and the project thereby dropped. Nothing has occurred since then to change this public sentiment.
2. In 1997 this connector was touted to "ease the woes" of traffic thru downtown Versailles and was constructed from Hwy 33 to Tyrone Rd. It did not ease the traffic woes or we would not be again considering another by-pass. All the existing corridor did was to afford more development and thus more traffic.
3. A western by-pass would destroy the horse farming potential of many viable and productive farms in this area - still one of the chief industries of Woodford County.
4. If the purpose of another "by-pass" is to especially alleviate truck traffic in the downtown area of Versailles, then I further object to such an expense to the taxpayers without first having a study to determine the origin and destination of such trucks, with an actually count of how many trucks are involved.

At stake in this issue are three major points. First, it would be in violation of Woodford County's Comprehensive Plan. Secondly, this proposed action is completely unwarranted, and definitely unwanted by the citizens of Woodford County and is factually not substantiated as a need. Thirdly, it would be an overwhelming financial burden to be born by our taxpayers, especially at this critical economic time. It would only enhance the private enterprises of the developers.

November 17, 2008

Kentucky Department of Transportation
Frankfort, KY

Re: Northwest Versailles Mobility Study

There are several issues involved with Versailles traffic problems. I believe most of them are solvable without tearing through valuable and beautiful Woodford County farmland, only to end up with more subdivisions that only benefit developers and builders.

I will start at the west end of Versailles coming in from Frankfort on US 60.

1. Caution light at meeting of US 60 with US 60 bypass.

   Install a three-way traffic light

2. Elm Street, Broadway, Frankfort Street, North Main, and the road running next to Kentucky Lighting.

   a. No turn on red signs for Elm, Frankfort & North Main
   b. Left turn lane & arrow signal from N. Main onto Elm St. A driver passing on right to get around left turn vehicles is very dangerous.

3. Main Street at Green Street

   a, Do not block intersection signs on Main

4. Main Street and Lexington Road.

   a. Drivers turning left from Main onto Lexington Rd. at this traffic light can block through lane because of parked cars and vice-versa.

      1. Take away two parking spaces on Main St.

      2. Left turn arrow

   b. Pedestrians trying to use any crosswalk at this intersection take their lives in their

hands. There is a delay allowing pedestrians to walk before the actual light turns green, but this has not solved the problem.

1. No turn on red signs. Drivers in Versailles think that a driver turning right at a red light means "do not make a complete stop – cruise right on through."

c. Trucks turning right onto Lexington Road

1. Take away one parking space on Main and one on Lexington Rd

d. Confusion on lanes of traffic coming from Courthouse Rd.

1. Take away the one parallel parking space used by the Sheriff's Office. This one space blocks vision.

2. Better enforcement of signs that say left turn lane must yield on green light and law that states "Do Not Block any Intersection".

4. Main Street and Morgan/Rose Hill

a. Left turn arrow signals for Rose Hill and Morgan as both have designated left turn lanes.

b. Take away one parking space on west side of South Main so left and straight lane do not block right turn only lane.

c. Left turn and straight coming south on Main St does not work well.

1. Adjust traffic lights so drivers traveling south go at one time, and north-bound drivers go next.

2. Pedestrian safety requires "No Turn on Red" signs

5. Main & Montgomery

a. Pedestrian Safety – "No Turn on Red" signs

6. Lexington Road at intersection of US 60 bypass

a. Return left turn only lane to left and straight, the way it used to be.

b. Yield signs for drivers on Lexington Rd turning right onto US 60 by-pass, so left turners coming from town onto by-pass have a fighting chance to get in the right hand lane in order to turn right on Crossfield Drive

General observations of things that could be done to improve traffic flow in Versailles:

1. Signs above lanes at all traffic lights to direct traffic instead of relying only on pavement painting.

2. Better signage at Frankfort, Elm, Broadway and N. Main intersection.

3. White paint on pavement after S. Main was resurfaced has not held up. It is faded, and at night, especially when it is raining, it is almost impossible to see striping.

4. More signs directing traffic to public parking lots

5. There is no sign on Midway Road, driving from Versailles, ending 45 mph limit, resuming to 55mph.

In conclusion, taking into consideration the financial situation in Frankfort and country-wide, the money it would take to build this road could be better used to fix existing roads and bridges.

Summary of Written Public Comments – April 16, 2009 Public Meeting

Respondent No.	1. Did this evening's Public Meeting adequately explain the candidate mobility solutions that are being considered? If not, please tell us what else could have been done.	2. Do you have any further suggestions for potential solutions that should be considered in this Study? Any major concerns?	3. Do you have any ideas, suggestions or comments you would like to express to the Project Team?
1		Add 3C. At-grade intersection with signal and bypass lanes for westbound traffic. Keep existing ramps south of US 60. With a corridor route instead of a traditional 4-lane divided highway, look at a 2-lane divided boulevard type of section with wide median that has plantings along with adequate turn movements at major roadways. Connectivity with urban service side and restricted with rural side.	
2	Yes	A connector is the only way to move cars. There is not enough room to build the road and signal improvements needed to move traffic downtown.	Is there any law that allows Woodford County to ban trucks downtown? If there is, start now! But I don't think you can enforce that.
3		Use bypasses we already have in place. Do not allow through truck traffic over 4 axles on Business 60.	
4	Yes	• Please do not consider roundabouts. • Please work with the school systems on Frankfort Street. • Please get a light at Green Street and Main Street. • Please connect the neighborhoods.	Put more info in the paper about the project. Thanks – team has done a good job.

Respondent No.	1. Did this evening's Public Meeting adequately explain the candidate mobility solutions that are being considered? If not, please tell us what else could have been done.	2. Do you have any further suggestions for potential solutions that should be considered in this Study? Any major concerns?	3. Do you have any ideas, suggestions or comments you would like to express to the Project Team?
5	OK – Some conceptual design for the "different" options – "flyover", "roundabout" – would have helped even more.	Rethinking the lane uses at Rose Hill/Morgan/Main because the right turn lane can easily empty to allow the thru traffic to BG Parkway to go on through. But keeping the lane (left and through) would continue to limit traffic flow even with a left turn lane signal.	Strongly urge you to rank options by cost and impact on historic farms in the county. Many of the options (#1, 3a, 4, 5.1a, 5.2a) are relatively cheap, especially in comparison to purchase of right of ways, condemnation of private land, construction costs for 2 and 8.
6	Yes	With a NW Connector, what properties would be taken? What restrictions would be put on building in that area? Would it be kept a green space and not allow expansion of empty shopping areas?	Need to work with City and County plans for developing NW Connector properly.
7			• The hill just before the Clifton/Rose Hill intersection needs to be lowered before any options are considered. • Roundabout at US 60 and Bypass. • Rose Hill light will not hold any time for traffic from Rose Hill and Morgan.

Respondent No.	1. Did this evening's Public Meeting adequately explain the candidate mobility solutions that are being considered? If not, please tell us what else could have been done.	2. Do you have any further suggestions for potential solutions that should be considered in this Study? Any major concerns?	3. Do you have any ideas, suggestions or comments you would like to express to the Project Team?
8	Yes. Thank you for taking the time to explain it to me personally when I could not attend either meeting.	• More public transit – buses, trains, etc. • Park & Ride lots on the Bypass, Lexington Road, Frankfort Road • School buses shouldn't have stops every hundred feet on main roads (Laval Heights, for example). Drivers now cut through neighborhoods to avoid the bus. • Bike racks downtown • Bike loan program like Lexington's (but easier to use) • Bike lane or something to protect bikers & walkers traveling out to Kroger; very hazardous from Woodford Feed to Kroger	Other than various intersections or traffic light improvements, none of the suggested solutions fulfilled Goal #1. How do any of these improve biking or walking as an alternative to more personal vehicles on the road? No discussion of more public transit (both within Versailles or around the county or to Frankfort, Lexington, Louisville, etc.) Thank you, Versailles, for doing this study.
9		There should be some emphasis on public transportation between Versailles and Lexington, and between Versailles and Frankfort. Gas prices will climb sharply again and inter-city bus service can be an efficient and environmentally sensitive alternative.	The Crossfield extension idea is a sham. It would require an inordinate amount of engineering for such a short stretch. It would destroy farmland/wetland, and it would funnel even more traffic along the already overburdened residential streets Laval Heights and Montgomery Avenue. The whole project was cooked up just because someone wants to make a buck.

Northwest Versailles Mobility Study

Summary of Comments Received via www.nwversailles.com

Date Submitted	Comment
November 13, 2008	At high traffic times, Main Street gets backed up past St. Leo School. One way to help this would be to simply have a turn arrow on the light at Main and Lexington allowing a left turn while headed South. Often, only one car gets through this light for a left turn, leaving cars to back up dangerously past the Library and making it difficult to enter the through (right) lane. Talk about big bangs for the buck, this would be very cost effective for results obtained.
November 13, 2008	For improving traffic congestion in and through the City of Versailles, I request you include in your study the feasibility of redesigning the interchange of the Bluegrass Parkway with Highway 60. Presently, commuters travel from southern Woodford County and Jessamine County on Highway 33 and 169 through Versailles on their way to Cincinnati, Frankfort, or Louisville. Commuters also turn off the Bluegrass Parkway from the west on to Highway 33 to travel through Versailles on their way to Cincinnati, Frankfort, or Louisville. The Bluegrass Parkway intersects with Highway 60 and has a lane merging on to Highway 60 east; however for traffic wanting to travel west from the Parkway on to Highway 60, the driver must stop at a stop sign, negotiate through two lanes of east-bound traffic and merge into traffic heading west. Living in southern Woodford County I wanted to avoid driving through Versailles to avoid its traffic congestion as I traveled to Louisville, Frankfort, or Cincinnati. The logical route is to turn off Highway 33 on to the Bluegrass Parkway, turn on to Highway 60 west and utilize the by-pass around Versailles. I tried this many times during peak commuting hours. After experiencing many near hits while trying to negotiate through Highway 60 east-bound traffic and merging into the west-bound traffic, I gave up and returned to driving through Versailles on my way to Louisville, Frankfort, or Cincinnati. I think there are many other commuters that do the same – because the Bluegrass Parkway/Highway 60 interchange is not driver friendly for turning west on to Highway 60. As a result, Highway 33,169 and Bluegrass Parkway drivers take the route through Versailles, thus increasing downtown traffic while their only desire is to get to the other side of town and continue to their destination of Frankfort, Louisville, or Cincinnati. Two years ago, the Woodford County Fiscal Court passed and forwarded a resolution to the Kentucky Transportation Cabinet a request to investigate the feasibility of redesigning the Bluegrass Parkway/Highway 60 interchange to encourage traffic to utilize Highway 60 west and the Highway 60 by-pass while traveling to Louisville, Frankfort, or Cincinnati. A few weeks later, the City of Versailles passed a similar resolution and forwarded to the Kentucky Transportation Cabinet a request to investigate the feasibility of redesigning the Bluegrass Parkway/Highway 60 interchange to encourage traffic to utilize Highway 60 west and the Highway 60 by-pass for traffic traveling to Louisville, Frankfort, and Cincinnati.

Date Submitted	Comment
	To help reduce Highway 33, 169, and Bluegrass Parkway traffic presently traveling through the City of Versailles in route to Frankfort, Louisville, or Cincinnati, I am requesting you include in your study the feasibility of redesigning the Bluegrass Parkway--Highway 60 west interchange for providing a better alternative travel route.
November 14, 2008	Per your stating that US 60 is located outside the study, but it will be considered to the extent that is feasible, I request that you consider the impact of traffic that flows northward from Highway 33, 169, and the Bluegrass Parkway that travels through Versailles due to the inability of turning left on to Highway 60 westward from the Bluegrass Parkway. Instead of Highway 60, which is outside the study, the focus would be the unnecessary traffic traveling through Versailles heading westward and northward from Highway 33, 169, and the Bluegrass Parkway.
November 24, 2008	I was unable to attend the meeting on Monday, November 17 at Falling Springs because I teach an evening course. But I want to suggest some ways to ease downtown traffic in Versailles. Before I do so, I want to provide a context for my comments. • Several years ago, the Woodford County Fiscal Court, in response to a proposed Kentucky Department of Transportation study of a Northwest corridor by-pass around Versailles voted to oppose the expenditures for such a study. The basis for the opposition was the impact of such a by-pass on historic horse farms and neighborhoods in the county as well as our tourism. • About 10 years, during a major community visioning process, hundreds of residents of Versailles and Woodford County indicated that they did not want to see a by-pass built because of concerns for how this would affect our downtown businesses. • The Kentucky Transportation Cabinet has moved toward a position that existing roads should be the focus for relieving transportation bottlenecks rather than the construction of new roads. • While there are short-term bottlenecks in downtown Versailles twice a day, Monday through Friday, this may last an hour but rarely more than that. Furthermore, state traffic counts show that the level of traffic downtown has remained fairly constant since 1992. Given this, why has the need to "solve" a "problem" emerged now when nothing else has changed? I do not know the term of the contract with the City of Versailles, but I do know that your public statements are that your project is "to explore what can

Date Submitted	Comment
	be done to ease downtown traffic congestion" (Lexington Herald Leader, "Versailles Traffic Focus Monday"). If there is not an underlying intent to simply amass "evidence" that a northwest bypass is the only solution, then your firm should be willing to explore other alternatives. The overarching theme of my comments is that there are much less costly and destructive solutions to this temporary congestion in downtown Versailles. Option 1 One source of the traffic congestion in downtown Versailles that is often cited is tractor trailer traffic moving from the Bluegrass Parkway to I-64. If true, a portion of these trucks are traveling east and before they cross the Kentucky River they pass a very fine 4-lane highway that connects Bluegrass Parkway at Lawrenceburg to I-64 at Frankfort. I suspect that a sign at this exit directing tractor trailer traffic to exit at this point to get to I-64 and a sign at the Frankfort/Lawrenceburg exit directing tractor trailer traffic to exit at that point to get to Bluegrass Parkway would be substantially less costly than the construction of a by-pass. Option 2 Tractor trailer traffic as well as auto traffic could be eased by making it easier to turn left off of Bluegrass Parkway at Versailles Rd (US 60). I believe that truck and autos exit at Versailles because it is difficult to make a left turn off the Parkway at US 60. Again, I believe that a "fix" at this location would be substantially less costly than the construction of a by-pass. Option 3 Do nothing. If traffic counts have remained stable for the last 16 years, and downtown has survived and continued to function, then why do anything? Traffic continues to move through downtown, albeit a bit slowly during morning and afternoon rush hour. But would a by-pass reduce this congestion significantly enough to warrant its cost? I don't think any state or local government needs to be spending or bonding multimillions to fund the construction of a by-pass that a community has lived without for 16 years. I believe that a cost/benefit analysis would conclude that a by-pass solution is not cost effective.
November 25, 2008	Yes I think it would be nice to have a connector road on my side of town the NW. It would relieve traffic from Kentucky Ave and downtown Versailles. I would hate to see them cut up the pretty horse farms so maybe they could get rid of some junky housing on that side of town. They could even buy me out. It would be nice to have a grocery store on that side of town so u don't have to go across town to buy everything. That would be nice I think. If you live on the NW side of town u always are having to go to the SE side of town to buy groceries or anything else u need.

Date Submitted	Comment
December 1, 2008	Gentlemen, I sent and email to all KCTCS System Office staff asking for their suggestions on the study. Listed below are some the suggestions that have been submitted: 1) Install a traffic light at the Markham Avenue – US 60 By-pass entrance. 2) Install north merge turn lane on west US 60 By-pass off of Markham Avenue. 3) Extend connector to Falling Springs on to US 60 north. 4) Look at ways to improve traffic flow on Main Street during peak periods. 5) Install a longer turn lane on US 60 By-pass coming from Lexington at Markham Avenue. 6) Consider staggering school hours to not occur during peak work times. Several of our employees live in Versailles. Their main concerns was the congestion on Main Street. I've encourage all local residents to attend any and all of the open forums.
January 1, 2009	Thank you so much for involving the public in this work. Others have said that walking downtown in Versailles is dangerous; I often walk there, and I have never had any problem. A very inexpensive change could be to make all the main traffic lights have no turn on red. With the need to make dollars stretch to do that which is most necessary, please recommend to the Ky transportation people that ALL transporation monies must be used to make our current bridges (especially) and roads safe --NO NEW ROADS. The above rule should apply to any consideration of a "NW Mobility Corridor.". I believe that this is something dreamed up by the former transportation cabinet. Because: (1) Time and again it is shown that this kind of bypass has killed small downtowns like ours that have no college or other thing to assure survival. (2) The kind of development that takes place in that sort of bypass is usually either (a) chains or (b) temporary looking uglies that are eyesores. Such places become "anywhere, USA," with no sense of place. (3) It would go across some of our very best bluegrass farmland, which is becoming more and more precious and is the unique thing we have to encourage sustainable tourism (and agriculture - from which we get our FOOD!) (4) It would put pressure on the Midway Road for "improvement," and that would also ruin the unparalleled landscape in that area and would encourage MORE traffic. The sign on the Bluegrass Pkwy. still shows the connection to I-64 at the Lawrenceburg exit only in with other information; it is not emphasized at all. The very first thing to be done is to put a separate, very noticeable sign at the proper place on the BGPkwy. This sign should DIRECT all through trucks to

Date Submitted	Comment
	take 127 directly to I-64. At the worst times of day, the traffic in Versailles seems to me not as bad as that on Nicholasville Rd in Lex. We need to encourage people to live closer to where they work, not make it easier for them to live farther and farther away.
March 16, 2009	How much of a "study" does it take to realize that we need more left turn signals, better timing on existing traffic lights,less yield signs and more stop lights plus wider lanes where bike lanes have been put in place? By stopping exiting traffic from Lexington onto the US 60 bypass would eliminate the DANGER of trying to get into the right lane when entering the bypass from Versailles. Consistancy in the pattern of through traffic would help "out of towners" and make driving through downtown Versailles a lot easier. How long will this study take?
April 9, 2009	I hate to see good farm land and historical areas distroyed because some people are upset about a little traffic. There are 2 times a day for traffic in Versailles and it doesn't last long. If they think traffic is bad in Versailles, let them move to Lexington or worse Nicholasville to see what traffic is really like. The exits off the connector now was only suppose to be for farm use - now look at it! I am afraid that will be the same if you go thru with this project. It amazes me that the city of Versailles is behind this - this will take more people away from downtown which has very little to offer anyway. Oh, well, who said that public officials are smart. The best oxymoron is "an honest politician" I am sure that this will never be read or responded to but I have had my say.
April 9, 2009	Thank you for your reply - I really didn't expect one! One note on your 2nd comment - while you say "the City of Versailles", you must mean the "council" because I am aware of more people who do NOT want the extension than do. But I do know the Mayor is in favor of this and he will do whatever it takes to get it passed. Nothing would please him more than to have the city limits be the entire county! Residents of Versailles and Woodford County live in this place because of the beauty and quietness. Like I said, if they want the hustle and bustle of city life, let me move elsewhere. Once you plant houses on good farm land the land is forever gone. I have lived in the country most of my life and I certainly don't mind getting behind tractors on country roads - after all they were here long before we were. It is nice to go slow and appreciate the scenery - while we still have it.

Date Submitted	Comment
April 12, 2009	I am a lifelong resident of Versailles, having lived 90% of my life on Elm Street (near Kentucky Ave). There is a critical need for some type of connector/by-pass to connect Midway Road with Falling Springs Blvd. I have watched a steady increase in traffic on Kentucky Ave and Martin Luther King as residents seek a shortcut to avoid Main Street during AM and PM rush hours. This project seems like a "no brainer" to relieve this excessive traffic off a residential, 1 1/2 lane, narrow street (MLK Blvd), and Kentucky Ave/Beech Street, that were never intended to carry the load that they now are forced to carry. Please let reason and logic over-ride the emotions of anti-growth sentiment that has previously blocked this needed improvement, at whatever the cost to our county and city. This project was once proposed in the 10 year highway plan, but was subsequently removed for political reasons. It is now time to take positive steps to assure that our community's transportation needs can be recognized, and proceed in a progress manner into the second decade of this century.
April 13, 2009	The only time I have seen traffic problems is when school is in session. Why can the buses not go around town instead of going through town?
April 14, 2009	Please don't solve this problem with a bypass through prime farmland! Woodford County is very special and areas like it are becoming more rare each day. Bypasses ALWAYS invite sprawl and ugly commercial development which will kill our sweet downtown area. Resist the temptation to make us look like every other non-descript small town in this country! Thank you for allowing comment on this important topic.
April 14, 2009	Sooner or later, a bypass will be built around the western side of Versailles. For the thousands of drivers who now daily wind their way through narrow residential streets to get from one side of town to the other, and for the traffic-plagued residents along those streets, sooner would be better than later.
April 15, 2009	After 20 years of living in the countryside of Wayne, Il. where I served on planning and zoning and where we were members of the Wayne DuPage Hunt...after 15 of those years in multiple meetings to fight off advancement & development of the village center and countryside...we've found our haven in Woodford County. You have honored the countryside and selected to be stewards of the land...would you all be foolish enough to throw this away with one connecting corridor? We are against the road development through NW Woodford/Versailles.

Date Submitted	Comment
April 15, 2009	The written comments thus far have made excellent points, especially the one that said a survey should be done on the truckers going through Versailles. That should have been step one. I may have overlooked it, but I saw no mention of the use of a "Truck Route". Other towns use these to route truck traffic in the safest manner for the town -- not for the convenience of the trucks. So why can't Versailles do that, also? The suggestion has already been made about the BlueGrass/US 60 interchange needing a light for a left hand turn onto US60. If this were done, it would aleviate the danger there and all truck traffic that is going through downtown to get to other towns would be routed on US60/Bluegrass Parkway. Trucks leaving the Sylvania plant would need to go to the Bluegrass Pkwy and then go to US60, if need be. Versailles is not that big. Such a routing would not be a drastic inconvenience and would leave only local delivery trucks to enter the downtown area. The last thing Versailles needs is another big study that costs a lot of money and leads to no benefit for the citizens.
April 16, 2009	I realize that a lot of attention will be devoted to issues like bypass and all, but there is another problem building. We live in the subdivision area that is crossed by Marsailles Road from Versailles/Lexington to Hunterstown. This street is typical of what is happening as housing and business density increases without regard to the capacity of the residential street network to absorb growth. Marsailles, for example, was never intended to be a though street but it is now a high volume, high speed feeder including, increasingly, commercial truck traffic. The new subdivisions in the area, particularly Sugar Tree and the one next to it whose name escapes me, something Cross, are making it worse with only one exit each which both dump right on to the Huntertown/Marsailles road links. This is rapidly becoming a safety issue as these same streets serve school busses, children, slow traffic entering and exiting driveways and cul-de-sacs, etc. We don't want to see street widening in these areas. We very very much want to see increased enforcement and effective physical traffic mediation techniques added to these networks of what are now overburdend roads. In addition, there should be a moratorium on new subdivision developments that do not provide adequate entrance and exit patterns to disburse traffic evenly.
April 16, 2009	I am opposed to the "northwest connector." It is my understanding that this was removed from the Woodford County Comprehensive Plan and I'm not sure why the study was conducted when the county decided that it wasn't necessary. I believe the western by-pass will destroy prime farmland and create another

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	corridor for development in a county that needs to be proud of its rural areas. This is an endangered asset to Central Kentucky as noted by the mention is the World Monuments Watch List in 2006. This type of bypass at small towns like Versailles has been shown to spawn poorly conceived commercial development that eventually kills the downtown. They become traffic problems rather than traffic solvers -- just look at New Circle Road in Lexington.
April 16, 2009	I would think that recent traffic count information from the state should be available before your summer meeting, and that such data--notwithstanding that you have earlier data--might shed more light on the decision-making process and help citizens better understand the existing traffic situation. Surely we need all the information we can get to make sound decisions. Particularly when the issue might be contentious. My personal opinion is that many inbound drivers on McCowans Ferry, Lawrenceburg Road, and Clifton would rather take a bypass to U.S. 60 than drive through downtown or residential streets on the west side. I understand and sympathize with farm owners who might be affected, but a bypass could be located to minimize the impacts on them and would bring benefits to thousands of drivers, the economy, and existing residential environments.
April 16, 2009	I saw on the flyer that Marsailles Drive is to eventually connect to Troy Pike. I have a major problem with this idea. The traffic on Marsailles is already horrible and now people will have even more free pass to fly down my street. I have called the police numerous times to complain about people speeding down the street. The speed limit is 25 but it might as well be 45 since this seems to be the preferred speed from Tincher to Huntertown Road. I have a difficult time in the mornings getting out of my driveway and now you want to add more traffic. I am afraid to let my kids out the front door because I am afraid someone will be trying to turn left onto Duchess Court and to avoid a collision they will wind up in my front yard. So here comes our brillant planners wanting to lengthen my street to "alleviate traffic downtown". You should be considering the safety of the citizens on these streets first. I have traveled through town (around the courthouse) in the mornings and afternoons. It still does not compare to the daily pounding my street receives. The residents of Montgomery Avenue were able to get speedbumps and rumble strips to slow traffic. We can't buy a stop sign for the intersection of Marsailles and Duchess or Marsailles and Regent. Anything to slow down traffic is "not the job of the road department" is what my spouse was told when he made inquiries. Stop signs were not to be used to control traffic. If this is true then why have them! I probably can survive the volume increase but the speed will be a killer. Thanks for letting me voice my opinion. Oh, one more thing, the paving job on the street several years ago is still terrible. Crew couldn't pave their way out of a speeding ticket!!!!

Date Submitted	Comment
April 17, 2009	Thanks for once again running a productive and informative meeting. I thought everyone was well-behaved. I did make the mistake, though, of reading the online comments on the Herald-Leader story. Yikes. Two thoughts: 1) I know Main Street parking is prized, but the spaces close to the stoplights really screw up drivers' ability to get into their desired lane. 2) I think the roundabout at Broadway/Elm/etc. is a great idea. I do foresee a problem at peak hours, when every school bus will still have to stop at the RR crossing on Frankfort St. (or Main St., whatever). I don't know how that would impact a roundabout, but I thought I'd remind you of that problem. Good luck with your work. I'll be curious to see how they remove the people lying in the path of the bulldozers when work begins on the NW connector. I don't wish those folks any harm, but I would like to be there to watch.
April 18, 2009	I read with interest the report in the Lex Herald on the meeting Thursday. Sorry to not be able to attend. I wanted to expand my previous comments which were restricted to my opposition to the 'nw corridor'. --- I am very much in support of putting signs (and if possible weight limits) on the Blue Grass parkway that would direct big trucks headed to Interstate 64 or even Interstate 75 to use the U.S. 127 North at Lawrenceburg. This is a better route for the trucks and would greatly improve the Versailles/Lexington Road traffic. --- I am in support of the roundabouts. I have lived in England and know that they work - particularly if they are one lane instead of the two lanes as in Lexington. Is there a location on the web to see your entire report. I looked at your website and couldn't find it. Thanks for your work and consideration of public opinion
April 18, 2009	According to KRS 189.222 trucks can go anywhere within 15 miles of a parkway or interstate. In your public meeting you stated you wanted to divert truck traffic through Anderson County and have that enforced by Vehicle Enforcement. Do you really think that is an option? How would that be enforced? You can't make the trucks take a longer route. Also changing the timing on Main Street will not help because there are more cars and commercial vehicles than the road can physically handle. Until trucks have a way to get from the Bluegrass to the interstate downtown will be gridlocked. The connector road is only a band aid to the problem of not extending the Bluegrass over to the interstate. The other options did not even

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	address the problem. Until the Bluegrass is extended to the interstate there will be more commercial vehicles than the roads in Versailles can handle.
April 19, 2009	Hello. I run a successful Bed and Breakfast near the corner of Tyrone Pike and Clifton Pike (Rose Hill Avenue). It is a VERY dangerous intersection where individuals speed from Tyrone Pike (Highway 62) onto Rose Hill Avenue. I have witnessed several accidents at the intersection over the period of 5 years. Twice in the last 5 months, cars have ran through that intersection (no signal or stop sign coming from Tyrone Pike) and ran right through my fence in the front of my property. The first one hit a tree. The second plowed the fence down. Pulling out at the stop sign that is on Rose Hill, coming up from Clifton Pike, is dangerous in the extreme. There should be a stop sign on Tyrone Pike as the cars or trucks approach Rose Hill Avenue. A simple sign can save lives...and my fence!
April 19, 2009	I was unable to attend the Apr 16 2009 meeting, but I would like to submit my comments to alterations presented at this meeting. I live on Camden Ave and work in Frankfort. I provide my comments in the terms provided (1: I object to the option; 9 I strongly support this option). Thanks for your work on this & on this opportunity to participate. 1. Downtown traffic signal modifications: 7 it's confusing to navigate (do I want the right lane or the left lane?) when driving through town. 2. NW Connector: 1 NOT AT ALL - strong objection AGAINST this idea - bulding this connector would create too easy an opportunity for development in the affected area, and Versailles should retain its greenspace rather than create new housing (especially now). 3a. BG PKWY / US60 Interchange (signal light): 1 NOT AT ALL - if light is installed, it will remain there for many years due to lack of funding for flyover ramp. 3b. BG PKWY / US60 Interchange (flyover ramp): 5 meets goals, but I'm not confident effort can be funded. 4. Traffic rerouting signs on BG Pkwy: 8 we should try it, but I'm not confident that the effort will produce a big improvement 5.1.a - Main/N Main/Elm/Frankfort/Broadway (traditional): 1 not at all 5.1.b - Main/N Main/Elm/Frankfort/Broadway (roundabout) 9 strongly meets goals. The roundabout will reduce traffic speeds at this area.

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	5.2.a - Clifton Rd/Tyrone Pike/Rose Hill (traditional): 1 not at all 5.2.b - Clifton Rd/Tyrone Pike/Rose Hill (roundabout): 5 - not sure if there is room to build a proper roundabout there. 6. Marsailles Dr / Troy Pike extension: 5 - not sure if the residents there would support this. 7. Cedar Ridge / Huntertown Rd extension: 5 - not sure if the residents there would support this. 8. Neighborhood Connectivity: 9 this could disperse traffic more evenly throughout the city. 9. US60 Byp / Markham intersection improvements: 5 - not aware of traffic problems at this location 10: Crossfield Drive Extension: 5 - I can't strongly advocate this expenditure.
April 19, 2009	I'm happy to see on your Public Meeting consideration of modifying US60/Bluegrass Parkway Interchange. For those commuters, including me, traveling from the southern and western section on the Blugrass Parkway, Highway 169, 1967, and 33 traveling to Frankfort and Louisville, being able to use the Bluegrass Parkway and travel westward on US 60 safely either by a traffic light or by the flyover or loop ramp would greatly reduce traffic through Versailles, but would also please many commuters who have no choice but to work through the downtown Versailles added unnecessary traffic. Thanks for including this as a feasible and realistic option.
April 20, 2009	I have been a resident of Versailles since 1984. I also have been employed by Brookdale Farm since 1986. Brookdale Farm property, located on McCracken Pike, would be directly affected by a Northwest Connector that is being considered to solve traffic issues of Versailles. I have attended both meetings involving the mobility study by Entran and plan on attending the final meeting in the summer of '09. I am sending this e-mail in lieu of responding to the handout information presented at the last meeting Thursday, April 16. I would like to make a suggestion for a question that I think should be presented to the public in the last scheduled meeting. I believe that the majority of people attending the final meeting would like to be asked a very direct, to the point question: " Should Versailles find any and all viable solutions to the current and future traffic congestion problems to avoid a connector road through farmland/ greenspace through Clifton Road and McCracken Pike? Strongly Disagree 1 .....10 Strongly Agree

Date Submitted	Comment
April 21, 2009	In 1999 & 2000, Versailles City and Woodford County spent $200,000 for a traffic study of the surrounding Versailles area. The report showed how there would be traffic complications if not one more house was built. It stated that the bypass from US 33 to US 60 ,Marsaillis to US 33, Blue Grass Parkway to I 64 were in deed needed. These roads have not been constructed and as a result it is extremely difficult to make your way through downtown. Since there is no plan and definatly as far as I and my business are concerned, to stop growth and new construction in Versailles, work on these roads need to start immediately as we are in desperate need of change in our traffic conditions.. It is vital to the business that remain in our town.
April 23, 2009	I would like to go on record that I strongly oppose the idea of a "Northwest Corridor" option for traffic improvement in Woodford County. I feel that many of the other options presented at the meeting at Fallings Springs would greatly improve traffic flow, and would not require the destruction of farmland. If this can be recorded in any official records with the study, I would appreciate it.
August 27, 2009	Please use some common sense and do not include these. Woodford County is home to many farmers and horse/cattle owners/exhibitors. The inception of these roundabouts would cause numerous wrecks as trailers, wagons, etc. swing thru sharp curves that are not meant to handle them.
September 22, 2009	Comments following the September 17, 2009 Mobility Study Meeting 1. I think the study does an inadequate job of disclosing options that Versailles should investigate to improve traffic flow within the current city limits. 2. The options presented do not place any real hardship upon the leadership of Versailles to make decisions that may be politically difficult. Significant impact is proposed for people and properties outside the city limits. (non-voters). 3. The study does not offer a sufficient variety of cost/benefit alternatives. The options seem to be either very inexpensive "no-brainers" or the tens of millions "bypass". Yes, the roundabouts are options that cost more than signal improvements but their support from the public is not much different than a more standard improvement of the intersections. 4. The busiest retail areas in Versailles are on the east side of town and improvements to traffic flow in that direction received overwhelming positive votes. I think notice should be made that what Versailles needs and wants most is east/west connectivity and could place less emphasis on north/south. Specifics 5. I think a smoother flow of traffic from the south to east as will be accomplished by the Marsailles road extension will reduce downtown

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	traffic. Public support of this is very high and the city should focus on making this throughway as efficient as possible for traffic. 6. The High School has been mentioned as an area of unacceptable congestion. I think some of the congestion is because no traffic light is at the intersection of Frankfort Street (US 62) at the bypass (US 60). People are uncomfortable with left turns across multiple lanes, especially when the traffic is moving quickly. A traffic light to allow Frankfort Street to safely flow north will encourage people traveling north to use that intersection and will reduce traffic at Yellow Jacket Drive. I believe the effects will also be seen at Douglas Avenue at the bypass. 7. High Street at the intersection with Rose Hill should be aligned with Park Street at Rose Hill. Park Street should be improved and extended past North Street and Elm Street to Frankfort Street. This will require the city to acquire property but the benefit will be a 2nd north/south thoroughfare that removes congestion from Main Street and makes the parking access easier. I believe it is possible that the Park Street north extension could parallel or share the railroad easement to Frankfort Street. I rarely see trains moving through town and the occasional blocking of this route during a train movement is not a major detraction from the overall benefit this route offers. 8. Thomas Lane should be improved and made into a through road that parallels or shares the railroad route to Clifton Road. At Clifton Road the new Thomas Lane (extended) should align with Beech Street. Beech Street turns into Kentucky Avenue as the route goes north. A lot of the north moving traffic on Kentucky Avenue zig-zags onto Camden Avenue which then connects to Yellow Jacket Drive. If Thomas Lane was improved and extended as described there would be a "Northwest" connector internal to the City that is less expensive than the new connector proposed in the study. 9. Traffic counts indicate that flow would be improved if Clifton Road and McCracken Pike traffic had to stop to allow Camden Avenue, Kentucky Avenue, Beech Street and Martin Luther King Blvd traffic to flow unimpeded. Other thoughts 10. An improvement and connection of Thomas Lane to Clifton Road would relieve Martin Luther King Blvd. traffic. The road is too narrow for the traffic it carries. 11. Think long term when public transportation may become the normal way to move around. What if the monies proposed for the NW bypass were used to re-route the railroad to go around Versailles, still connecting to the Woodford County Park. The entire rail route inside Versailles could be converted and added to the streets system. The park would be a great place for a train station and parking and the rail system could link the towns and cities together. 12. During unusually heavy rain events there are water control problems in the city and county. Glenn's Creek carries a lot of the city water runoff.

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	Millville residents are affected by the flooding of Glenn's Creek and are aware that Versailles water control issues impact their community. Any work that occurs northwest of Versailles that affects Glenn's Creek and runoff rates need to be properly engineered to mitigate the rain effects. Proper engineering does not necessarily mean "meets minimum standards". 13. Some limitations of this study have come about due to tightly controlled timelines for Steering Committee and Public Hearings. Summation: The studied proposals have become polarized between proposals that are easy and inexpensive to implement and that have little negative reaction amongst reviewers and a single, very expensive (about $1000 per capita cost based upon population projections for the county) proposal that places almost all of the burden outside the city. As presented I think Study Goals 2, 4, and 5 have been largely downplayed. The alternative proposals described above, especially the ones that involve Park Street and Thomas Lane offer benefits and costs that fall between the studied proposals and frankly, should also be studied as methods to improve mobility inside the city. The Versailles City leaders need to show proper stewardship of taxpayer money that is available.
October 2, 2009	On the NWVersailles web site are comments, after the Sept 17th meeting, that outline the most logical, elegant, visionary remedy yet, it seems to me. I do not have the background or training to think of the solutions posted there, but I am wondering why these ideas were not part of the candidate mobility solutions originally proposed? I strongly urge you to seriously study the solutions proposed by these comments. This could be the answer to everyone's wishes....a northwest bypass right in town, facilitating the use of downtown businesses, in addition to alleviating the traffic situation! Please look closely! (Of course, there will be naysayers, but too often they are giving "kneejerk" responses.) You may not be aware that the St Leo's school will be moved out to the church property, and where it is now (N Main and Elm St.) will probably be for sale, thereby possibly facilitating part of this proposed plan. To rearrange the train tracks for the proposed uses seems the work of genius to me. Looking forward like this should be rewarded. (Are you sure you didn't sneak that idea in...it certainly helps some of the stated environmental goals that were sort of brushed over in the meeting.) With creative planning, the rearranged streets could be made to enhance the whole feel of Versailles. helping the town to be viable for years to come.

Date Submitted	Comment
	Thank you for the proposed handling of the trucks coming north on Bluegrass Parkway. Who has the responsibility of implementing all of that solution (getting dispatchers to send them straight to I-64, instead of the lowest mileage, etc)? You may already know that the Bluegrass Landscape has been on more than one Endangered List, one of the lists selected from all over the world. It is truly a treasure that if lost would impoverish, not only our lives here in the immediate vicinity, but those of many others who marvel at the beauty.
October 9, 2009	Thank you so much for taking time to so thoughtfully answer my comments. You are absolutely right about the Thomas Lane---Camden route, and I appreciate all your other responses, also. I realize that there are always complex issues.
October 21, 2009	I am a Woodford County resident living on McCracken Pike and I have been monitoring and participating in the exploration process by attending meetings and giving input. Much to my disappointment, I recently learned that a meeting was held in September; but I was unaware that it took place. Where was this meeting publicized? I specifically remember listing my contact information on a sign-in sheet before the other two meetings so I am unclear why those of us that made the effort before were not notified this past month. Please let me know which publications were used to announce the September meeting (and the dates they were run).

Northwest Versailles

Mobility Study

Project Team

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Project Web Site

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