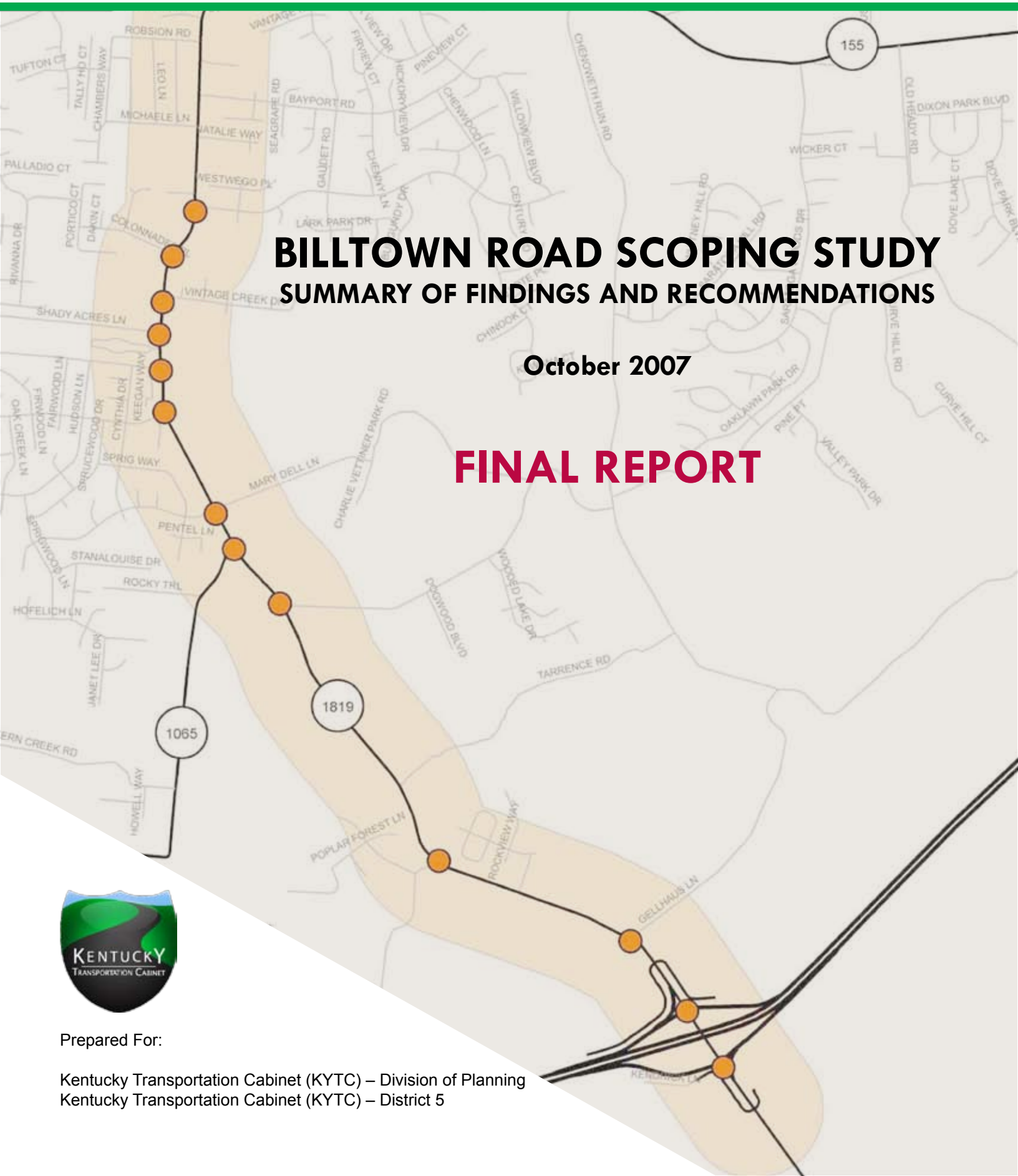
Prepared By:

PB Americas, Inc.

LOUISVILLE, KENTUCKY
JEFFERSON COUNTY
ITEM NO. 5-8203.00



BILLTOWN ROAD SCOPING STUDY

SUMMARY OF FINDINGS AND RECOMMENDATIONS

October 2007

FINAL REPORT

Prepared For:

Kentucky Transportation Cabinet (KYTC) – Division of Planning
Kentucky Transportation Cabinet (KYTC) – District 5

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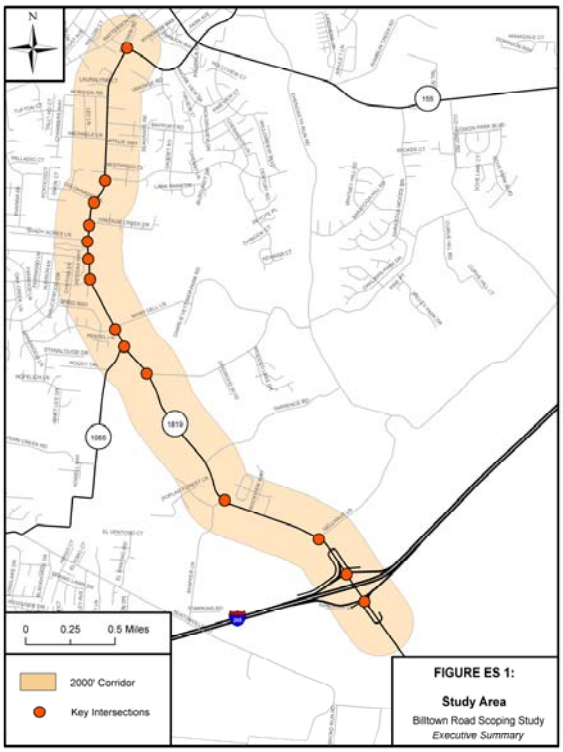
Introduction and Study Area

The Kentucky Transportation Cabinet (KYTC) has identified the corridor of Billtown Road (KY 1819) from Ruckriegel Parkway to I-265 (Gene Snyder Freeway) as a road of interest for a scoping study that will evaluate transportation issues along the corridor. The goals and objectives of this study are to consider low-cost, near-term solutions that address specific deficiencies as well broader, more all-encompassing alternatives to improve corridor wide capacity and operations.

The study area is shown on **Figure ES 1** to the right. Key intersections that were studied along the corridor are shown on the figure and are listed below.



- Billtown Road / Ruckriegel Parkway
- Billtown Road / Saint Rene Road
- Billtown Road / Colonnades Place
- Billtown Road / Vintage Creek Drive
- Billtown Road / Shady Acres Lane
- Billtown Road / Fairground Road
- Billtown Road / Michael Edward Drive
- Billtown Road / Mary Dell Lane
- Billtown Road / Lovers Lane
- Billtown Road / Easum Road
- Billtown Road / Shaffer Lane
- Billtown Road / Gellhaus Lane
- Billtown Road / I-265 (Westbound / Southbound)
- Billtown Road / I-265 (Eastbound / Northbound)

Existing and Projected Conditions

Existing highway characteristics and geometrics, traffic volumes, truck traffic, speed, levels of service, crash rates were all evaluated as part of the existing conditions analysis. The key transportation issues identified from this analysis are summarized below.

- Limited right-of-way and narrow shoulders (three feet or less) along the length of the corridor.
- Historic traffic volumes have shown strong growth along Billtown Road with traffic volumes expected to increase by 7.5% per year along the length of Billtown

Road; with the exception of the Ruckriegel Parkway intersection which is expected to increase by 8.0% per year.

- A speed study showed that most drivers exceed the speed limit, particularly in the north end of the study area.
- For at least one or more approaches there are current (2006) poor levels of service at each intersection except for the intersections of Easum Road, Shady Acres Lane, and Colonnades Place.
- In 2010, all intersections have at least one or more approaches with a poor level of service.
- At the intersection of Gellhaus Lane and Billtown Road, the queue length for the westbound left turn exceeds the available storage.
- At the intersection of Ruckriegel Parkway and Billtown Road, the queue lengths during peak periods exceed the available storage for the westbound left and the northbound right turn.
- The entire corridor operates at LOS E in 2006 and 2010.
- All sections except the portion of Billtown Road between Shady Acres Lane and Ruckriegel Parkway operate at LOS E in 2030. The Shady Acres Lane to Ruckriegel Parkway section operates at LOS F.
- There is a high crash area between Shady Acres Lane and Ruckriegel Parkway.
- The intersection of Saint Rene Road with Billtown Road is a high crash spot.
- The most frequent crash type was rear end crashes on Billtown Road.
- There are no bicycle or transit facilities along the corridor. Sidewalks are present but only intermittently and they do not extend the length of the corridor.

Both human and natural environmental overviews were also performed as part of the existing conditions analysis. Based on these reviews, no major issues were identified that could prevent the effective implementation of any needed improvement options. The Environmental Justice (EJ) review did not show any areas within the study corridor with high percentages of minority, low-income and/or or elderly populations that were greater than county, state, and national levels. Several sites currently listed on the National Register of Historic Places were identified; however they are located off of Billtown Road and College Drive north of Ruckriegel Parkway and would not be impacted by this study. There are several federally protected species known to exist within Jefferson County, and as a result a Habitat Assessment may need to be performed prior to construction of any recommended improvement.

A brief geotechnical assessment also showed that there are no major geologic concerns in the Billtown Road improvement corridor.

Public Involvement

Public involvement was performed to gain an understanding of the issues involved with this study as well as to inform the public of problems, possible improvement alternatives, and to gain feedback. Several types of public involvement activities were performed throughout the study. A local officials meeting was held to provide information on the study as well as obtain feedback regarding issues in the corridor.

Several stakeholder meetings were held to inform stakeholders of the project and receive feedback regarding issues and concerns about the study. Two meetings with the public were held, the first at a booth as part of the Jeffersontown Gaslight Festival to provide information and receive input about the project issues and goals and possible alternatives, and a second traditional open house meeting to present preliminary alternates and obtain specific feedback on them. Agency correspondence was another tool utilized to gain input on the project. Multiple state and federal agencies were contacted, requesting input on potential impacts along the corridor. Finally project team meetings were held with the KYTC throughout the study to guide the project as well as aid in the decision-making.

Alternates Development and Evaluation

The development and evaluation of improvements to Billtown Road have been subdivided into two categories – short-term projects and long-term projects. Short-term refers to projects that could be completed in the near future (by the year 2010) while long-term projects refer to projects that are broader in scope to meet future projected increased traffic and transportation demands. The long-term design year for this project is 2030.

Short-Term Project Development and Evaluation

Short-Term projects focused on improvements at individual intersections. For each intersection, multiple alternates were developed ranging from new and/or additional traffic signals, signal system optimization, turn pockets or lanes, storage lanes and / or extended turn lanes. The alternates were based on project purpose and need, existing / future conditions at each location, recommendations and alternates from any past and / or concurrent studies, Project Development Team suggestions, and feedback from the public involvement process.

Level of service, delay, signal warrants, safety, environmental impacts, public input, property impacts and costs were all considered during the development and evaluation of the alternates. A simulation model was also developed using Synchro / SimTraffic to look at intersection improvements and how they operated in conjunction with one another at a corridor level. This was also useful in evaluating the appropriate combination of alternates to improve traffic flow and operations throughout the corridor.

Long-Term Project Development and Evaluation

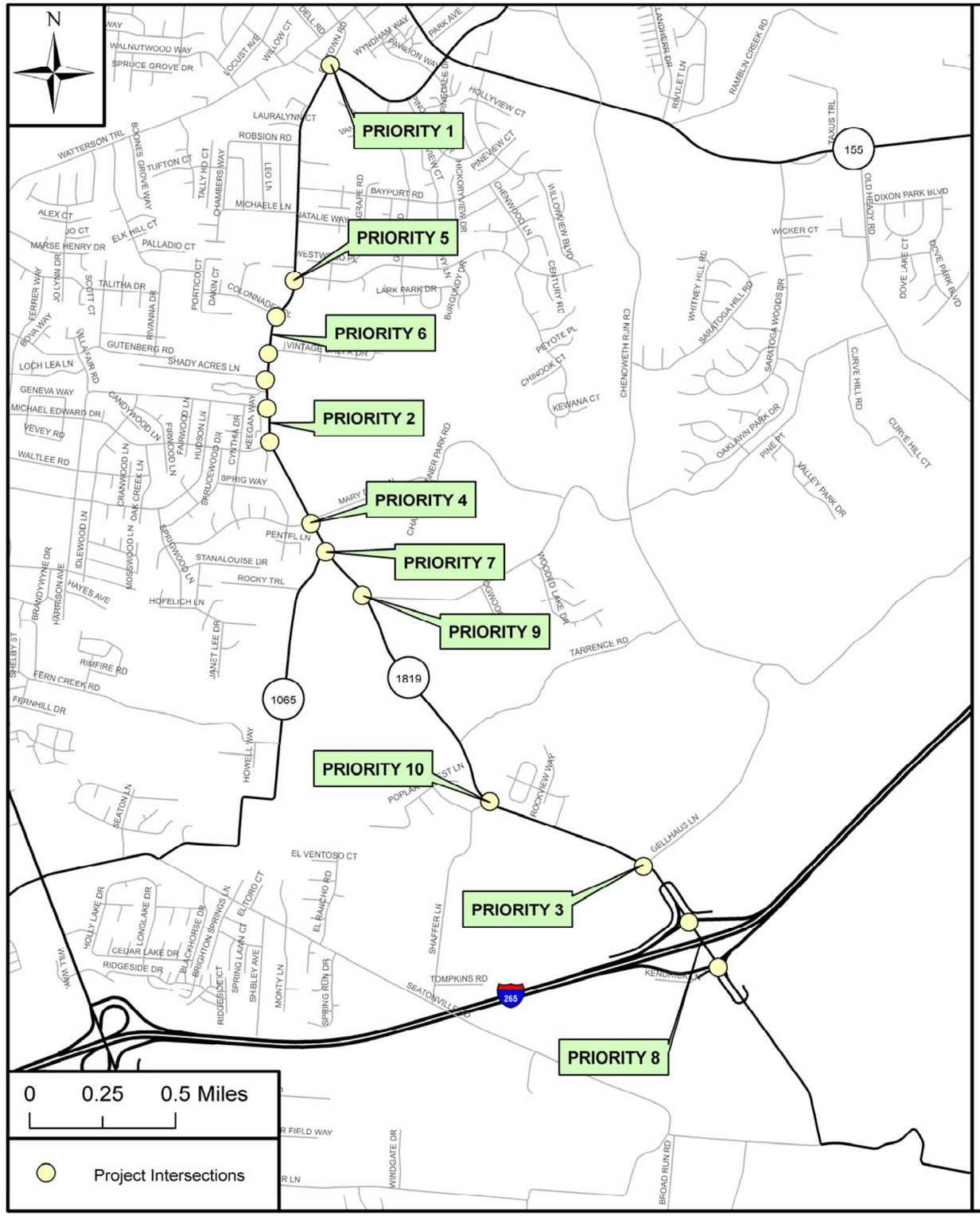
For the Long-Term time frame, a corridor approach was taken as opposed to evaluating specific intersections. The range of alternates considered included three, four, five, and six lane ultimate sections. Based on the traffic forecasts, level of service results, and property impacts, it was determined that the three lane and four lane sections were the most feasible and appropriate corridors to carry forward for additional study. Both were presented to the public at the second public meeting. Input from the public along with more detailed property, cost, and operations analysis was used to assist in the decision-making process.

Multimodal Considerations

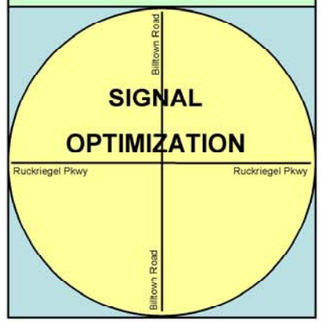
Consideration was also given to incorporating multimodal (transit, bicycle / pedestrian and Intelligent Transportation Solutions (ITS)) elements into the alternate development and evaluation process. Billtown Road currently does not have any bus service or designated bicycle lanes. Sidewalks are present, but intermittent and are not continuous through the corridor.

Recommendations

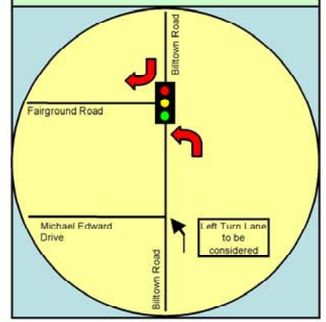
Recommendations are provided for both the short (2010) and long (2030) term time frames. Recommendations are based on the evaluation criteria discussed previously, the Synchro / SimTraffic analysis, and a project team meeting held on July 6, 2007. The following figure (**Figure ES 2**) illustrates the short-term intersection recommendations. They are listed by project priority to provide guidance on future implementation.



PRIORITY 1



PRIORITY 2



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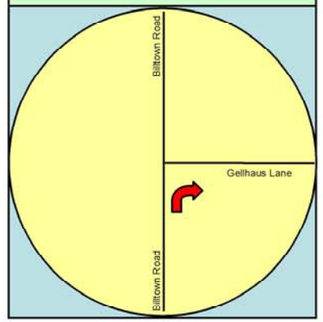

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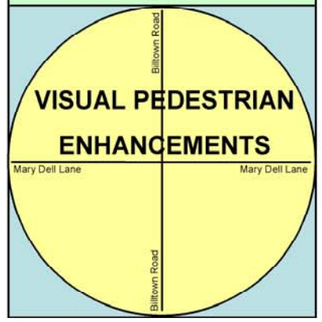

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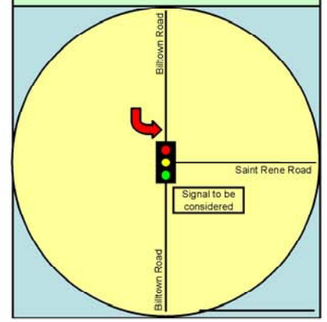

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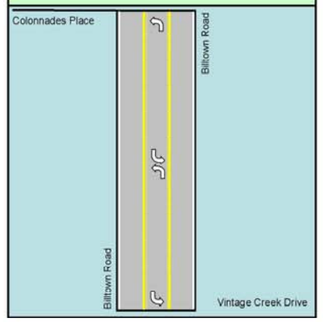

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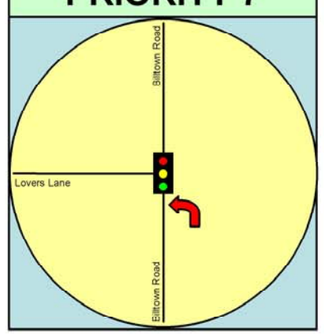

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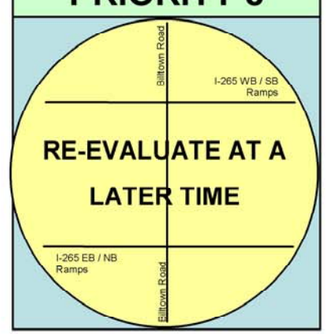

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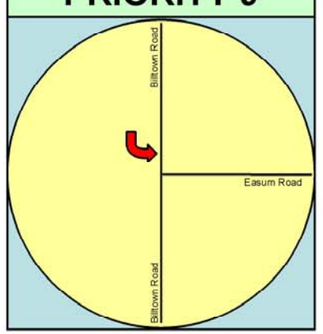

PRIORITY 10

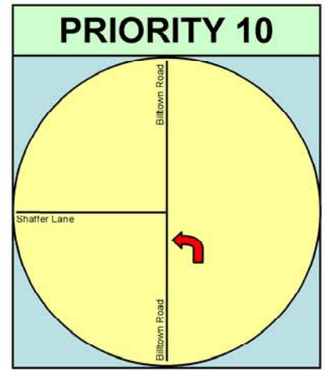

FIGURE ES 2:

High Priority Short-Term Recommendations

Billtown Road Scoping Study

Executive Summary

Final 2007 planning level cost estimates and right-of-way impacts were assessed for use in future project development phases. These are listed below in **Table ES 1** for each of the short-term recommendations. It should be noted that the cost estimates do not include design, utilities or right-of-way costs.

Table ES 1: Recommended Short-Term Projects Cost Estimates

Project	Cost	ROW Impact (acreage)
Ruckriegel Parkway – Signal Optimization as Currently Being Pursued by KYTC	**Minimal**	**0**
Saint Rene Road – SB Left Turn Lane from Billtown Road to Saint Rene Road First, then Signalization	**$200,000**	**0.85**
Colonnades Place and Vintage Creek Drive – Two-Way Left-Turn Lane b/w Vintage Creek Drive and Colonnades Place	**$180,000**	**1.60**
Fairground Road – Signalization with Separate Turn Lanes	**$460,000**	**1.54**
Michael Edward Drive – Consider NB Left Turn Lane from Billtown Road to Michael Edward Drive	**$200,000**	**1.71**
Mary Dell Lane – Pedestrian Enhancements (signs, upgraded markings with actuated flashing beacons, etc.)	**$75,000**	**0**
Lovers Lane – Signalization with NB Left Turn Lane from Billtown Road to Lovers Lane Pending the Urton Lane Recommendation	**$330,000**	**1.92**
Easum Road – SB Left Turn Lane from Billtown Road to Easum Road	**$200,000**	**2.76**
Shaffer Lane – NB Left Turn Lane from Billtown Road to Shaffer Lane	**$200,000**	**2.41**
Gellhaus Lane – NB Right Turn Lane from Billtown Road to Gellhaus Lane	**$140,000**	**0.94**

Note: Some projects overlap and have an impact on how much right-of-way is required overall. If the project at Michael Edward Drive is completed first, then the required right-of-way for the Fairground Road project is 1.15 acres. If the Fairground Road project is completed first, then the required right-of-way for the Michael Edward Drive project is 1.32 acres. A similar situation exists for the Lovers Lane and Easum Road projects. If the Easum Road project is completed first, then the required right-of-way for the Lovers Lane project is 0.70 acres. If the Lovers Lane project is completed first, then the required right-of-way for the Easum Road project is 1.54 acres.

The long-term recommendation is a three-lane section along Billtown Road with curbs and gutter along the entire corridor. Sidewalks would be included as appropriate, however, a separate bicycle lane was not recommended due to lack of public support and minimal right-of-way available for both a roadway and multi-use or on-road bicycle facility. The estimated planning level cost for this project in 2007 dollars is $8.9 million.

Next Steps / Implementation

Funding should be allocated out of the remaining funds for this project to begin detailed design, acquire right-of-way, for utility work, and possibly for construction of the high priority projects. For the remaining projects, these should be included in the KYTC's Six-Year Highway Plan for funding or Unscheduled Project List (UPL) for program planning purposes respectively. The corridor recommendation should be reflected on the UPL and KIPDA's Long Range Plan.

1.0 INTRODUCTION

The Kentucky Transportation Cabinet (KYTC) initiated the Billtown Road (KY 1819) Scoping Study to address various transportation issues along the Billtown Road corridor from Ruckriegel Parkway to the Gene Snyder Freeway (I-265) ramps. The study focused on short-term recommendations that can be quickly and effectively implemented at both an individual intersection level and on a corridor level. The study also sought to address long-term concerns by examining the future need for capacity and determining options for future improvements.

Members of the project team included: KYTC District 5, KYTC Central Office Division of Planning, and the Kentuckiana Regional Planning and Development Agency (KIPDA). KYTC selected the consulting firm of PB to lead the study effort.

1.1 Study Objectives

Based on the initial direction provided by the KYTC, six primary study objectives were developed as summarized below.

1. Examine existing traffic, highway, environment, and geotechnical conditions in the study area;
2. Determine where (or if) there are problems or deficiencies;
3. Define project purpose and need;
4. Develop a range of alternates to satisfy the project purpose and need and address the identified problems;
5. Evaluate and compare the proposed alternates, considering public input as well as transportation, community, environmental, and economic benefits and impacts; and
6. Recommend an alternate or set of alternates for implementation.

While KYTC has the ultimate responsibility for constructing and maintaining safe and efficient highways, KYTC desires to incorporate public and agency input into the evaluation and decision-making process. Therefore, all six of these study objectives were completed in coordination with a comprehensive public and agency involvement program.

1.2 Project Location and Study Area

The study area begins at Ruckriegel Parkway near Jeffersontown and ends at I-265 in Jefferson County as shown in **Figure 1**.

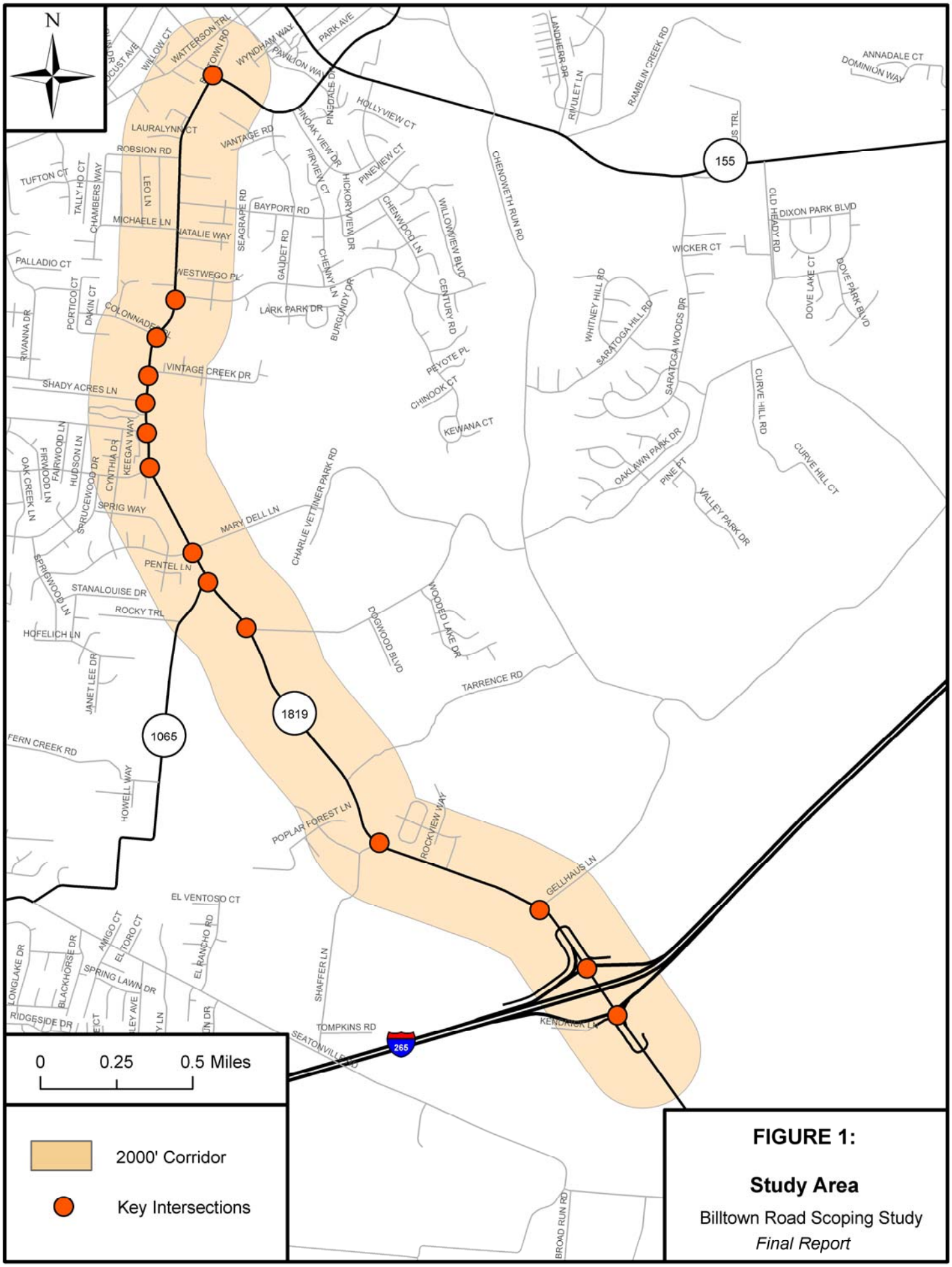

FIGURE 1:

Study Area

Billtown Road Scoping Study

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Specific intersections are also included in the analysis along Billtown Road including:

- Billtown Road / Ruckriegel Parkway
- Billtown Road / Saint Rene Road
- Billtown Road / Colonnades Place
- Billtown Road / Vintage Creek Drive
- Billtown Road / Shady Acres Lane
- Billtown Road / Fairground Road
- Billtown Road / Michael Edward Drive
- Billtown Road / Mary Dell Lane
- Billtown Road / Lovers Lane
- Billtown Road / Easum Road
- Billtown Road / Shaffer Lane
- Billtown Road / Gellhaus Lane
- Billtown Road / I-265 (Westbound / Southbound)
- Billtown Road / I-265 (Eastbound / Northbound)

The study primarily focused on these intersections as well the highway segments in between these intersections.

1.3 Study Process

The study process used to evaluate potential alternates consisted of four major elements: 1) Define the purpose and need of the study, 2) Develop alternates, 3) Evaluate the alternates, and 4) Recommend an alternate(s).

The subsequent chapters in this report follow these steps, beginning with the development of the purpose and need for the study. The following five chapters contain the technical analysis and documentation used to confirm the purpose and need and then develop the alternates. These chapters include an analysis of existing and future No-Build highway conditions, a review of related studies, a summary of the human environment, a summary of the natural environment, and a geotechnical overview.

In addition to the technical analysis, public input and feedback was gathered throughout the study process. The framework for including the public in the study process is presented in the section following the technical analysis. Next, the discussion of the alternates development procedure and evaluation is presented. The final stage in the study process was to provide a recommendation, which is also the final section in this report.

2.0 PURPOSE AND NEED

It is important to establish the Purpose and Need for a project during the beginning stages of a study since it defines the actual reason(s) for doing the study and provides the basis for the development, evaluation, and comparison of alternates. According to current KYTC policy, there are three parts to a complete Purpose and Need statement: (1) the Purpose, (2) the Need, and (3) Goals and Objectives. The Purpose identifies the problem to be solved by the study and is supported by the Need. Goals and Objectives are other elements of the study that go beyond the transportation issues in the study and should be considered and addressed as part of a successful solution to the problem.

The Purpose and Need statement for this study was developed from issues identified in field reviews, the technical analysis, and through stakeholder and public input, as well as from deficiencies identified in the existing and future conditions analysis. A complete description of these project phases is included in the following chapters of this report.

2.1 Purpose

The purpose of this study is to address various transportation issues along the Billtown Road corridor from Ruckriegel Parkway to the Gene Snyder Freeway (I-265) ramps.

2.2 Need

Supporting the study purpose above is the study need. From the existing and future conditions analysis, a documented need exists as shown below.

Limited Right-of-Way and Narrow Shoulders – Development along Billtown Road is close to the roadway, with shoulders of three feet or less along the length of the corridor.

High Traffic Growth – Based on historic traffic volumes, there has been significant growth in traffic over the past several years. According to these trends, traffic volumes are projected to increase in the short-term (by 2010) by 7.5% per year along the length of Billtown Road with the exception of the Ruckriegel Parkway intersection which is expected to increase by 8.0% per year.

High Vehicle Speeds – Based on a speed study, most drivers along Billtown Road exceed the speed limit, particularly in the north end of the study area near Jeffersontown. Most recorded speeds were around ten miles per hour above the posted speed limit.

Poor Traffic Operations – At each study area intersection along Billtown Road with the exception of Easum Road, Shady Acres Lane, and Colonnades Place, there are poor levels of service (LOS D or worse) for one or more approaches. At the Ruckriegel

Parkway / Billtown Road intersection, several of the queue lengths exceed the available storage during the peak periods. Overall, the entire corridor operates at LOS E currently, which is below the desirable LOS threshold.

High Crash Rates – Shady Acres Lane to Ruckriegel Parkway along Billtown Road is a high crash rate area. Between 2004 and 2006, 99 crashes occurred along this segment, including one fatal crash. The fatal crash occurred near the Saint Rene Road intersection with Billtown Road, which was identified through the crash analysis as a high crash spot.

Limited Multimodal Facilities – Currently there are no bicycle facilities or transit facilities along the corridor. Sidewalks are present but intermittent.

2.3 Goals and Objectives

In accordance with the Transportation Cabinet's policy on Purpose and Need statements, the following goals and objectives were developed to balance environmental and community issues with transportation issues.

- Consider low-cost, near-term solutions to address specific deficiencies as well as broader, more all-encompassing alternates to improve corridor wide operations.
- Consider noise and air quality concerns.

3.0 EXISTING AND FUTURE NO-BUILD CONDITIONS

To determine if there are deficiencies or problems with the existing highway, a detailed analysis was completed looking at the existing highway characteristics and geometrics, traffic volumes, truck traffic, speed, levels of service, crash rates, and other key issues. The analysis considered current and future traffic conditions assuming no changes to the existing highway. In support of the analysis, highway and traffic data was collected from a variety of sources including:

- KYTC Highway Information System database
- KYTC District 5 data sources
- Study area field reviews
- Peak period turning movement traffic counts
- 24-hour vehicle classification counts

3.1 Existing Highway Characteristics and Geometrics

Billtown Road is a two-lane undivided highway for the entire section, and is classified as an urban minor arterial. Shoulder widths range from nine feet at the I-265 interchange and narrow down to three feet along the rest of Billtown Road to Ruckriegel Parkway. The posted speed limit is 45 mph between Colonnades Place south to I-265. The remaining sections of Billtown Road are posted at 35 mph. Refer to **Figure 2** for a graphic representation of the existing highway characteristics and geometrics.

3.2 Current and Historic Traffic Volumes

Current Traffic Volumes

The average daily traffic volumes used for this project included traffic counts provided by the KYTC. These counts were conducted during the years of 2003 - 2005, and included the following count stations (refer to **Figure 3** for the count station locations):

- Station 323: Seatonville Road to I-265 Overpass (2005)
- Station 325: I-265 Overpass to KY 1065 (2005)
- Station 498: KY 1065 to Shady Acres Lane (2003)
- Station 496: Shady Acres Lane to KY 155 (2004)

The counts from 2003 to 2005 were forecasted to a base year of 2006 using historical trends. **Figure 4** shows the current (2006) average daily traffic volumes.

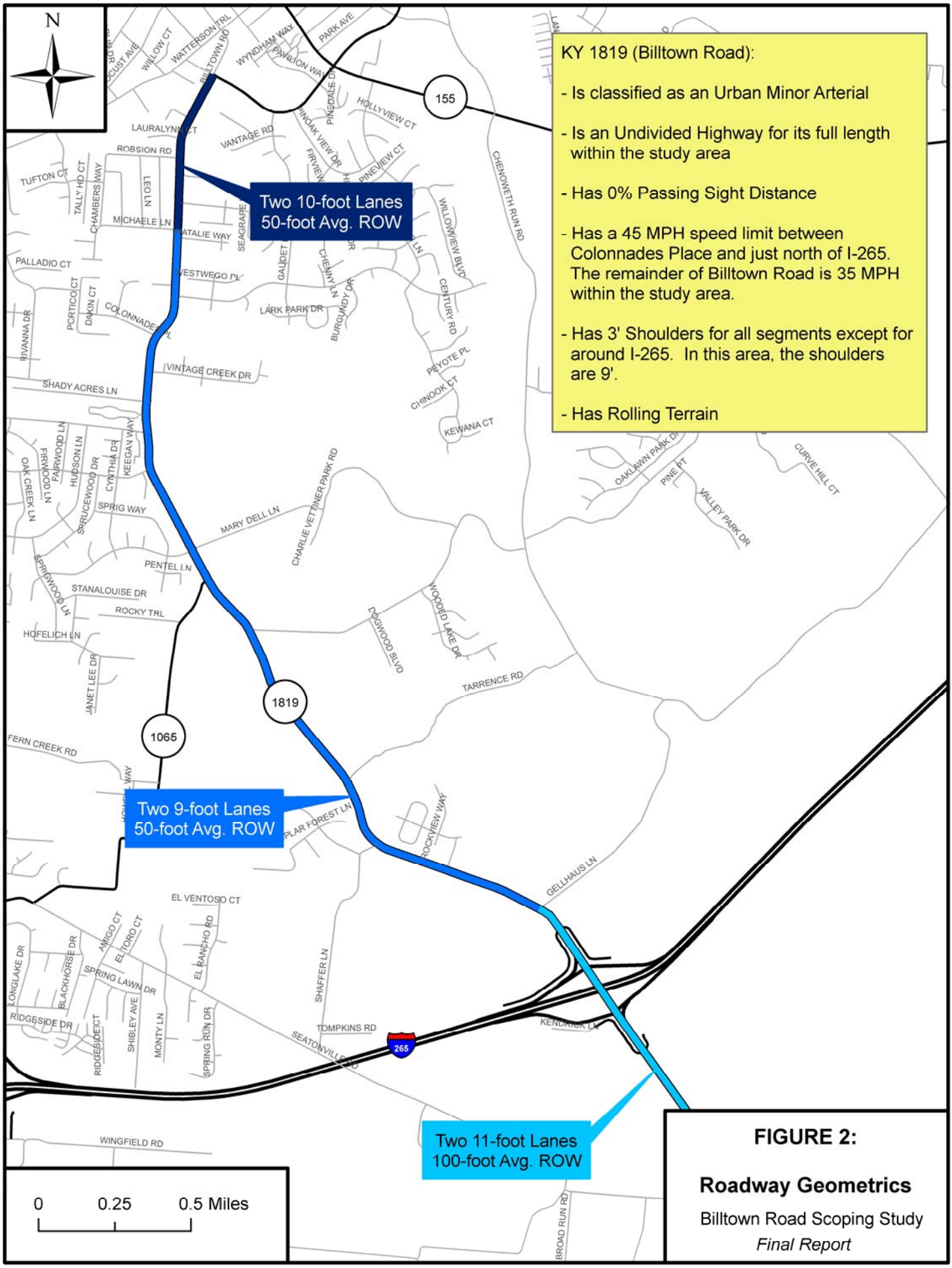

FIGURE 2:

Roadway Geometrics

Billtown Road Scoping Study

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Source: KYTC Highway Information System

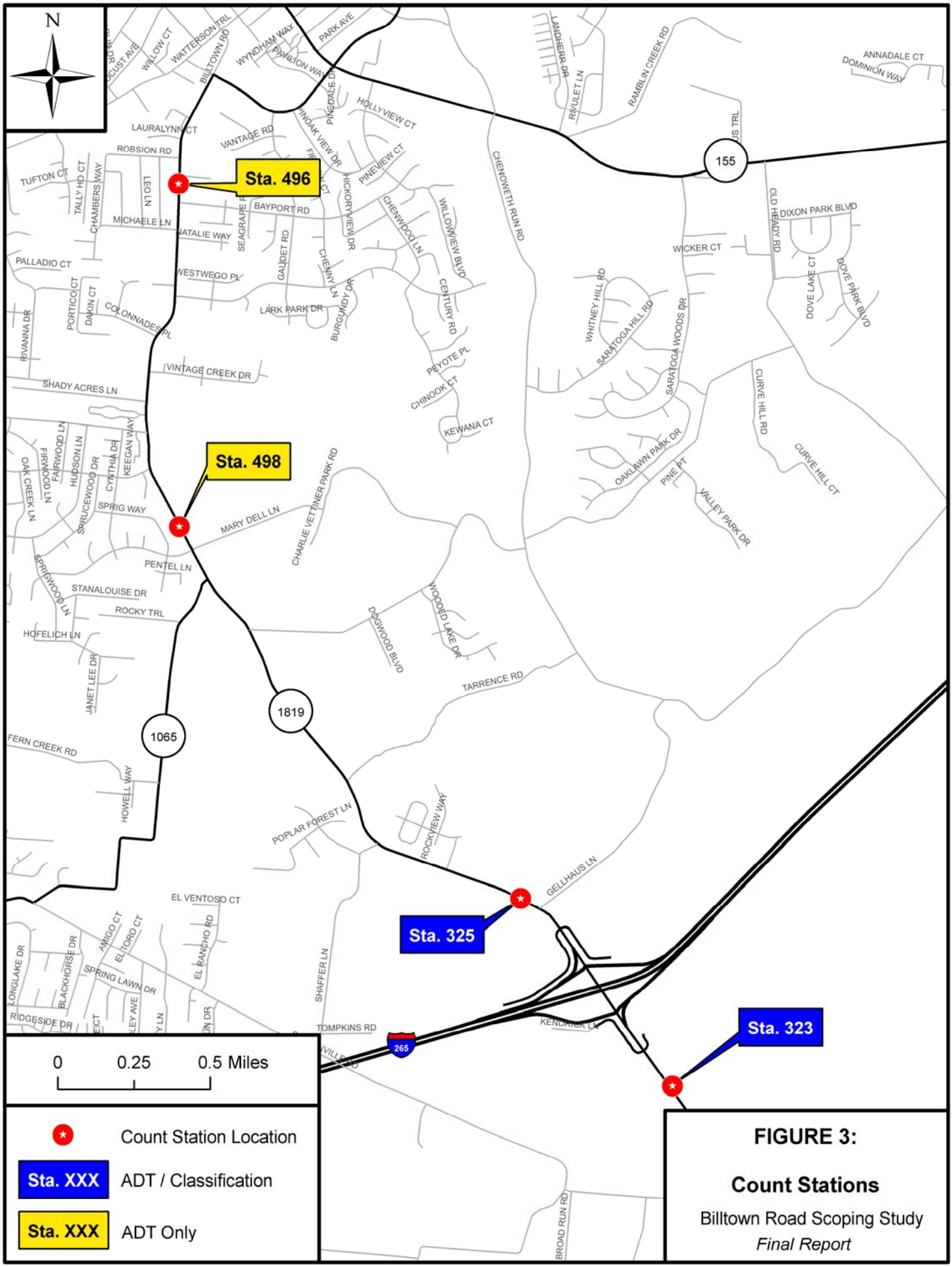
N
Sta. 496
Sta. 498
Sta. 325
Sta. 323
155
1819
1065
265
0 0.25 0.5 Miles
Count Station Location
Sta. XXX ADT / Classification
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FIGURE 3:
Count Stations
Billtown Road Scoping Study
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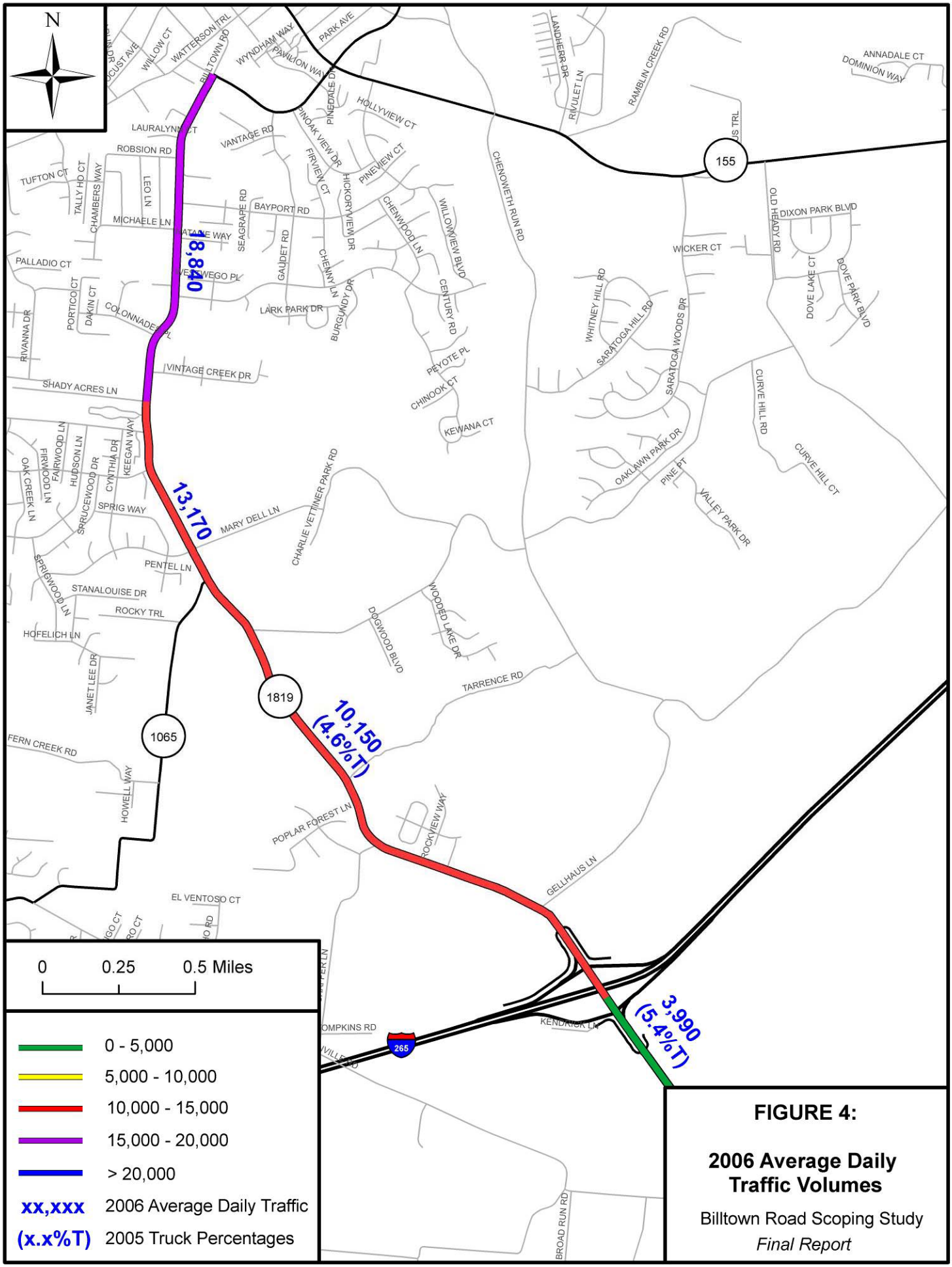

Source: KYTC Highway Information System / KYTC Traffic Counts System (CTS)

In addition, KYTC provided turning movement counts at seven key intersections within the study area during the AM peak (7:00 AM – 9:00 AM) and PM peak (4:00 PM – 6:00 PM) periods. These intersections included:

- Billtown Road / Gellhaus Lane
- Billtown Road / Shaffer Lane
- Billtown Road / Mary Dell Lane
- Billtown Road / Michael Edward Drive
- Billtown Road / Fairground Road
- Billtown Road / Saint Rene Road
- Billtown Road / Ruckriegel Parkway

These counts were performed in 2004 and 2005 and were forecasted to a base year of 2006 using historical trends.

Peak period turning movement counts for seven additional study area intersections were conducted by PB on 8/22/06 and 8/24/06. These intersections included:

- Billtown Road / I-265 EB/NB Ramps
- Billtown Road / I-265 WB/SB Ramps
- Billtown Road / Easum Road
- Billtown Road / Lovers Lane (KY 1065)
- Billtown Road / Shady Acres Lane
- Billtown Road / Vintage Creek Drive
- Billtown Road / Colonnades Place

The turn movement volumes were balanced as appropriate. The 2006 intersection volumes for all fourteen intersections can be seen on **Figures 5** and **6**.

Historic Traffic Volumes and Growth Rates

Growth rates for this study are based upon a historical traffic growth analysis along KY 1819 from I-265 to Ruckriegel Parkway. The analysis utilized traffic counts obtained from the KYTC's 'CTS' traffic count program which includes counts from 1963 to 2006.

The historical counts were entered into a spreadsheet provided by KYTC. The spreadsheet calculates growth rates using both exponential and trendline analyses. The historical growth rates are shown in **Table 1**.

Table 1: **Historic and Proposed Growth Rates**

Station	From	To	Historical Growth Rate	Proposed Growth Rate
323	Seatonville Road	I-265 Overpass	6.60%	7.5%
325	I-265 Overpass	KY 1065 (Lovers Lane)	7.49%	7.5%
498	KY 1065 (Lovers Lane)	Shady Acres Lane	0.77%	7.5%
496	Shady Acres Lane	KY 155	8.03%	7.5%*

* Used 8.0% at Billtown Road / Ruckriegel intersection.

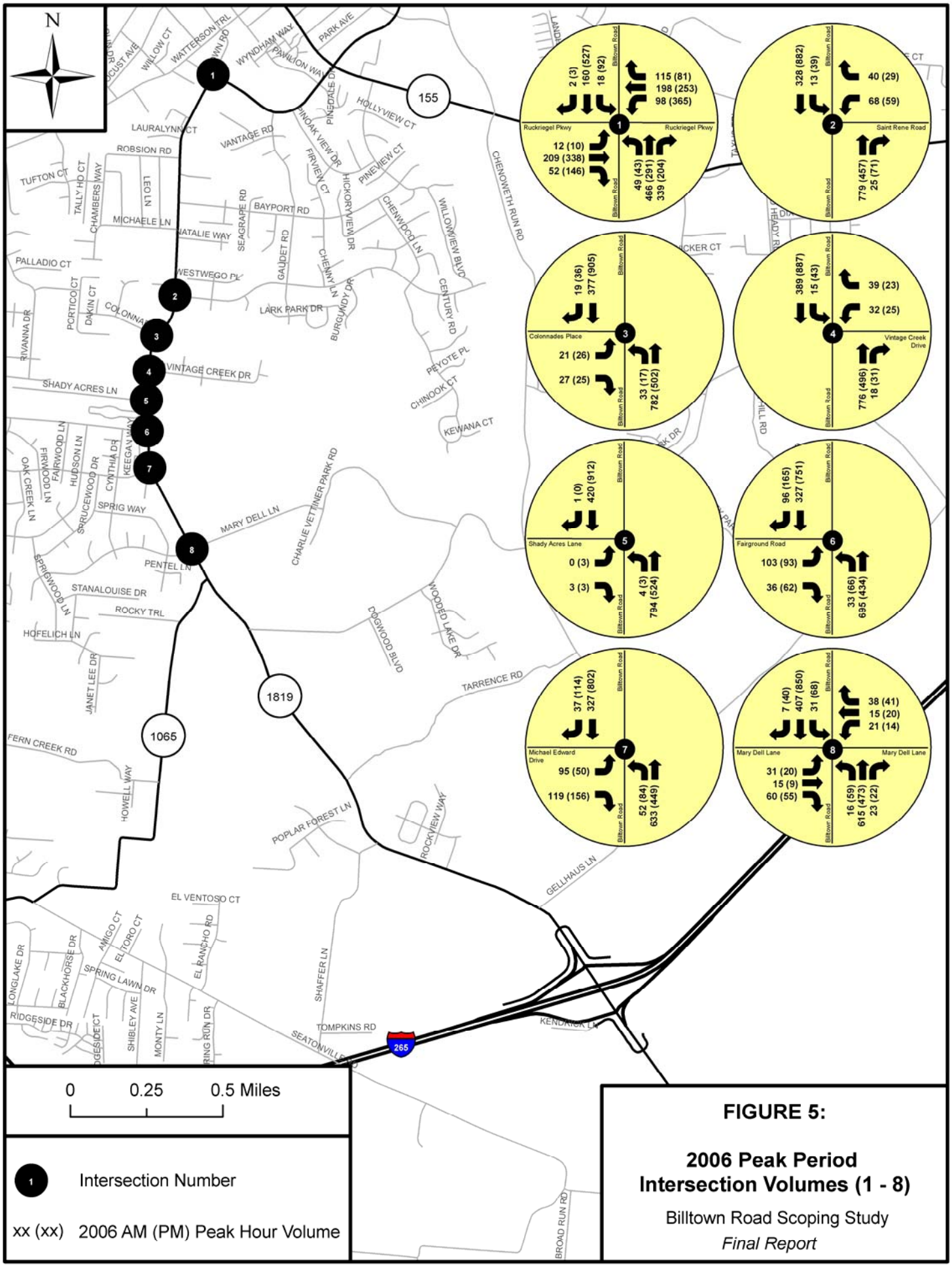

FIGURE 5:

2006 Peak Period Intersection Volumes (1 - 8)

Billtown Road Scoping Study

Final Report

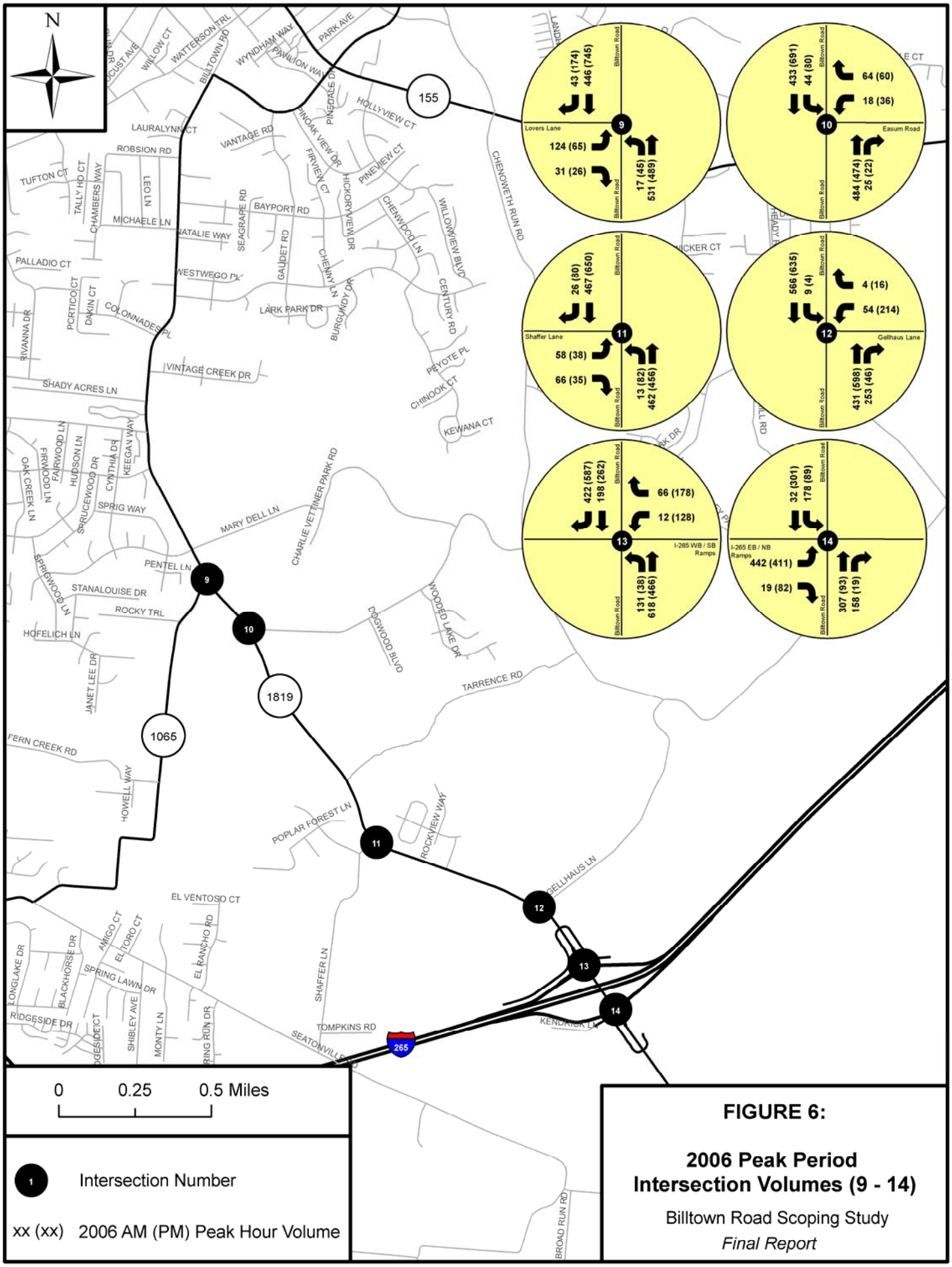

FIGURE 6:

2006 Peak Period Intersection Volumes (9 - 14)

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In selecting an appropriate traffic growth rate, several factors were considered including the historical growth, recent traffic volumes, and geography. It should be noted that future traffic volumes calculated for this study reflect intersection demand and do not consider capacity constraints at intersections. Several of the intersections being evaluated as part of this study are within close proximity of each other. Due to this close proximity, it makes sense to balance traffic volumes between the intersections, and therefore, apply a similar growth rate. Specific intersection groupings along Billtown Road include:

- I-265 Eastbound Ramps; I-265 Westbound Ramps; and Gellhaus Lane.
- Easum Road; Lovers Lane; Mary Dell Lane; Michael Edward Drive; Fairground Road; Shady Acres Lane; Vintage Creek Drive; Colonnades Place; and St. Rene Road.

The intersections of Shaffer Lane and Ruckriegel Parkway with Billtown Road are somewhat isolated from these intersection groupings and were considered as individual intersections.

Based on the divisions of the count stations, a different growth rate would be applied to the I-265 Eastbound Ramps intersection, the two intersections north of I-265 (I-265 Westbound Ramps intersection and Gellhaus Lane), the intersections north of Shady Acres Lane, the intersections between Shady Acres Lane and Lovers Lane, as well as south of Lovers Lane to Gellhaus Lane. Analysis of the most recent traffic volumes between Lovers Lane and Shady Acres Lane showed that in 2003, average daily traffic volumes were 10,600. South of Lovers Lane, the 2005 average daily traffic volume was 9,350. These average daily traffic volumes are very similar, and continuing back a few years, the similarities remain. Therefore, it seemed reasonable to use the higher growth rate of 7.5% per year and apply it to all intersections from Easum Road to St. Rene Road. Shaffer Lane was already within the 7.5% growth rate section; therefore, 7.5% was applied to this intersection as well.

In the south, only the intersection of I-265 Eastbound Ramps was under the 6.5% growth rate. To be consistent, 7.5% was used instead to balance this intersection with the I-265 Westbound Ramps intersection and Gellhaus Lane. In the north end of the study area, the intersection of Ruckriegel Parkway was forecasted at 8.0% since it was identified as an individual intersection. Given the proximity of this intersection to Jeffersontown and the surrounding development at this intersection (drug store, post office, gas station), a higher growth rate seems appropriate.

The growth rates discussed in this section reflect historical trends along each segment, but do not include specific developments that may be constructed within or adjacent to the project area. Potential developments were discussed with KYTC and other knowledgeable agencies, including Louisville Metro Planning and Jefferson County Public Schools. This information as well as trip generation in the future year forecasts is discussed in a later section.

3.3 Truck Volumes

Vehicle classification counts on Billtown Road were obtained to examine recent truck percentages. Historic truck percentage trends were not available within the study area. Classification counts were taken on Billtown Road during 2005 as shown in **Table 2**.

Table 2: Vehicle Classification Counts on Billtown Road and Average Statewide Truck Percentages

Route	Milepoint	Count Station	General Location	Year	ADT	Axles per Truck	Percent Trucks	2004 Statewide Average Truck %[1]
KY 1819	4.800	323	B/W Seatonville Rd & I-265 Overpass	2005	4,000	2.743	5.4%	8.7%
	6.000	325	B/W I-265 Overpass & KY 1065	2005	9,790	3.224	4.6%	

[1]2004 Statewide Average Truck % from Traffic Forecasting Report 2004, KYTC Division of Multimodal Programs, December 2004, Page 21.

3.4 Spot Speed Study

Speed data was collected at two locations along Billtown Road on October 24, 2006 (Tuesday) to determine vehicle speeds relative to the posted speed limit. The locations were selected to provide speed data in both the north and south end of the study area. Vehicle speeds were obtained by radar for the northbound and southbound directions in fifteen minute time periods. The methodology used for conducting the speed study was based on the procedures outlined in the *Institute of Transportation Engineers Manual of Transportation Studies*. This included collecting the data during off-peak periods.

In speeds studies, the most significant statistic is the 85th percentile speed. The 85th percentile speed is the speed threshold at or below which 85 percent of the motorists travel. Generally speed limits are set within five mph of the 85th percentile speed. **Table 3** presents a summary of the speed statistics for Billtown Road.

Table 3: Speed Statistics

	Between Gellhaus Lane & Shaffer Lane		Between Colonnades Place & St. Rene Road	
Statistics	Northbound	Southbound	Northbound	Southbound
No. of Observations	34	40	72	36
Minimum Speed (mph)	38	41	35	34
Maximum Speed (mph)	51	63	51	49
85th Percentile Speed (mph)	47	54	45	45
Posted Speed Limit (mph)	45	45	35	35
Difference (85th – Posted)	+2	+9	+10	+10

The observed vehicle speeds exceeded the posted speed limit, particularly in the north end of the study area where the posted speed limit is 35 mph. At this location, almost

all vehicles were observed to be going faster than the posted speed limit. Overall, there appears to be a trend with vehicles exceeding the posted speed limit along the entire length of Billtown Road.

3.5 Current Level of Service Analysis

3.5.1 Methodology

Intersection Analysis

Intersection operations were evaluated at the following study intersections:

- Billtown Road / Ruckriegel Parkway
- Billtown Road / Saint Rene Road
- Billtown Road / Colonnades Place
- Billtown Road / Vintage Creek Drive
- Billtown Road / Shady Acres Lane
- Billtown Road / Fairground Road
- Billtown Road / Michael Edward Drive
- Billtown Road / Mary Dell Lane
- Billtown Road / Lovers Lane
- Billtown Road / Easum Road
- Billtown Road / Shaffer Lane
- Billtown Road / Gellhaus Lane
- Billtown Road / I-265 Westbound Ramps
- Billtown Road / I-265 Eastbound Ramps

Of the fourteen intersections listed above, only the intersections at Ruckriegel Parkway and Gellhaus Lane are signalized.

For this analysis, the Highway Capacity Software Plus package (HCS+) was used to assess the peak period traffic operating conditions. This software package implements the Highway Capacity Manual (HCM) intersection analysis method. For each study intersection, average vehicle delays were calculated as well as the resulting levels of service (LOS).

Level of service (LOS) is a qualitative measure of expected traffic conflicts, delay, driver discomfort, and congestion. Levels of service are described according to a letter rating system ranging from LOS A (free flow, minimal or no delays – best conditions) to LOS F (stop and go conditions, very long delays – worst conditions). For intersections, the Highway Capacity Manual (2000) defines levels of service based on the average delay due to signal or STOP control as shown in **Table 4**.

Table 4: LOS Criteria for Intersections

LOS	Signalized Intersections Control Delay (seconds vehicle)	Unsignalized Intersections Control Delay (seconds/vehicle)
A	≤ 10	≤ 10
B	>10 – 20	>10 – 15
C	>20 – 35	>15 – 25
D	>35 – 55	>25 – 35
E	>55 – 80	>35 – 50
F	>80	>50

Source: Highway Capacity Manual (2000)

In general terms, a facility is considered to have reached its physical capacity at LOS E. However, for urban and suburban conditions, LOS C is usually considered the threshold for desirable traffic conditions. Operations below this threshold are noted as undesirable and warrant improvement. LOS C corresponds to ≤ 35 seconds of delay per vehicle at a signalized intersection and ≤ 25 seconds of delay at an unsignalized intersection. (Refer to the HCM published by the Transportation Research Board for more specific information.)

Two-Lane Highway Analysis

A corridor level of service analysis was also prepared for Billtown Road from Ruckriegel Parkway to I-265 using the HCS+ two-lane road analysis module. This is based on the 2000 HCM. For this method, there are two classes of roadways: Class I highways which include higher speed arterials and daily commuter routes, and Class II highways which include lower speed collector roadways and roads primarily designed to provide access. Driver expectations regarding speed and flow are important in determining a highway's class. Billtown Road, a major through route in the study area, was considered to be a Class I highway. Levels of service for Class I highways are based on the estimated average travel speeds and percent time vehicles spend following other vehicles as shown in **Table 5**. Levels of service for Class II highways are defined only in terms of the percent time vehicles spend following other vehicles. Average travel speed is not considered since drivers typically will tolerate lower speeds on a Class II facility because of its function as an access roadway (serving shorter trips and fewer through trips). Refer to the HCM for more details.

Table 5: LOS Criteria for Two-Lane Highways

LOS	Class I Highways		Class II Highways
	Percent Time Spent Following	Average Travel Speed	Percent Time Spent Following
A	≤ 35	>55	≤ 40
B	>35 - 50	>50 – 55	>40 – 55
C	>50 - 65	>45 – 50	>55 – 70
D	>65 – 80	>40 - 45	>70 – 85
E	>80	≤40	>85
F	LOS F applies whenever the flow rate exceeds the capacity		

Source: Highway Capacity Manual (2000)

Again, LOS C is the threshold for desirable traffic operations in this study. Operations below this threshold are noted as undesirable and warrant improvement. For Class I highways, the LOS C threshold corresponds to an average travel speed of >45 miles per hour with ≤65 percent time spent following another vehicle. For Class II highways, the LOS C threshold corresponds to ≤ 70 percent time spent following another vehicle. (Refer to the HCM for more specific information.)

3.5.2 Existing Traffic Operating Conditions

Intersection Level of Service and Delay

In order to determine the level of service and delay at the key intersections, the peak period traffic counts collected by KYTC and PB were utilized. As noted, the peak periods were 7:00 AM to 9:00 AM (AM peak) and 4:00 PM to 6:00 PM (PM peak) for most of the study intersections. The highest peak hour for each count was selected for use in the analysis. Intersection geometry, signal timings, and other necessary traffic operations data was also collected and used to evaluate the intersection operations.

Typical weekday traffic operating conditions were determined for both the AM and PM peak hours. **Table 6** lists the level of service and delay for each approach. For the unsignalized intersections, the Highway Capacity Software (HCS+) does not calculate whole intersection levels of service or a level of service for approaches with no conflicting movements.

Table 6: 2006 Intersection Levels of Service

Intersection	Type	Approach	AM Avg. Delay (sec)	LOS	PM Avg. Delay (sec)	LOS
Billtown Road / I-265 EB/NB Ramps	STOP Controlled	Eastbound	415.7	F	100.4	F
		Northbound	-	-	-	-
		Southbound	9.2	A	7.6	A
Billtown Road / I-265 WB/SB Ramps	STOP Controlled	Westbound	18.3	C	36.3	E
		Northbound	9.7	A	10.2	B
		Southbound	-	-	-	-
Billtown Road / Gellhaus Lane	Signalized	Westbound	30.4	C	34.6	C
		Northbound	56.2	E	38.7	D
		Southbound	11.9	B	13.2	B
		Whole Int.	35.7	D	27.3	C
Billtown Road / Shaffer Lane	STOP Controlled	Eastbound	22.1	C	37.3	E
		Northbound	8.5	A	9.9	A
		Southbound	-	-	-	-
Billtown Road / Easum Road	STOP Controlled	Westbound	16.6	C	31.4	D
		Northbound	-	-	-	-
		Southbound	8.7	A	8.8	A
Billtown Road / Lovers Lane	STOP Controlled	Eastbound	47.4	E	76.6	F
		Northbound	8.5	A	10.8	B
		Southbound	-	-	-	-
Billtown Road / Mary Dell Lane	STOP Controlled	Eastbound	36.3	E	209.1	F
		Westbound	35.2	E	158.5	F
		Northbound	8.3	A	10.6	B
		Southbound	9.1	A	8.8	A
Billtown Road / Michael Edward Drive	STOP Controlled	Eastbound	41.8	E	149.1	F
		Northbound	8.3	A	11.1	B
		Southbound	-	-	-	-
Billtown Road / Fairground Road	STOP Controlled	Eastbound	49.8	E	169.9	F
		Northbound	8.4	A	10.9	B
		Southbound	-	-	-	-

Table 6: 2006 Intersection Levels of Service (cont.)

Intersection	Type	Approach	AM Avg. Delay (sec)	LOS	PM Avg. Delay (sec)	LOS
Billtown Road / Shady Acres Lane	STOP Controlled	Eastbound	11.0	B	27.4	D
		Northbound	8.3	A	10.2	B
		Southbound	-	-	-	-
Billtown Road / Vintage Creek Drive	STOP Controlled	Westbound	28.2	D	35.2	E
		Northbound	-	-	-	-
		Southbound	9.9	A	8.8	A
Billtown Road / Colonnades Place	STOP Controlled	Eastbound	19.9	C	33.4	D
		Northbound	8.3	A	10.6	B
		Southbound	-	-	-	-
Billtown Road / St. Rene Road	STOP Controlled	Westbound	30.0	D	55.4	F
		Northbound	-	-	-	-
		Southbound	9.8	A	8.8	A
Billtown Road / Ruckriegel Parkway	Signalized	Eastbound	86.8	F	350.7	F
		Westbound	117.1	F	174.4	F
		Northbound	180.4	F	63.7	E
		Southbound	56.2	E	194.9	F
		Whole Int.	112.5	F	191.5	F

Most of the intersections have at least one approach during one or more peak periods that operates at a LOS E or F. The only exceptions are the intersections of Billtown Road and Easum Road, Shady Acres Lane, and Colonnades Place respectively. However, these three intersections have at least one approach that operates at a LOS D during one of the peak periods. Given the current poor levels of service, these intersections will most likely continue to experience traffic operational problems in the future, which may possibly become worse with any additional traffic.

In addition to a level of service analysis, queue lengths were evaluated for all of the intersections with dedicated turn lanes. Queue lengths, available storage, and an assessment of adequacy are provided in **Table 7**. This table is based on the Highway Capacity Manual method (95th percentile) and uses existing signal timings for the two signalized intersections. This method is somewhat conservative in estimating queues.

Table 7: 2006 Queue Length Evaluation

Int.	Approach / Movement	Design Hour	95th Percentile Queue (HCM)	Queue Length (ft)	Available Storage Length (ft)	Notes
Billtown Road / I-265 EB Ramps	EB Left	AM	33.82	846	2,060	**MEETS** available storage
		PM	16.88	422	2,060	**MEETS** available storage
	EB Right	AM	0.06	2	280	**MEETS** available storage
		PM	0.44	11	280	**MEETS** available storage
	SB Left	AM	0.69	17	160	**MEETS** available storage
		PM	0.21	5	160	**MEETS** available storage
Billtown Road / I-265 WB Ramps	WB Left	AM	0.34	9	180	**MEETS** available storage
		PM	4.93	123	180	**MEETS** available storage
	WB Right	AM	0.60	15	1,380	**MEETS** available storage
		PM	1.57	39	1,380	**MEETS** available storage
	NB Left	AM	0.57	14	460	**MEETS** available storage
		PM	0.18	5	460	**MEETS** available storage
Billtown Road / Gellhaus Lane	WB Left	AM	3.00	75	156	**MEETS** available storage
		PM	12.80	320	156	**EXCEEDS** available storage
	WB Right	AM	0.20	5	156	**MEETS** available storage
		PM	0.90	23	156	**MEETS** available storage
	SB Left	AM	0.30	8	150*	**MEETS** available storage
		PM	0.10	3	150*	**MEETS** available storage

* Turn lane striped for 150 feet but two-way left turn lane prior to turn lane could be used for additional storage.

Table 7: 2006 Queue Length Evaluation (Cont.)

Int.	Approach / Movement	Design Hour	95th Percentile Queue (HCM)	Queue Length (ft)	Available Storage Length (ft)	Notes
Billtown Road / Colonnades Place	EB Left	AM	0.50	13	100	**MEETS** available storage
		PM	0.92	23	100	**MEETS** available storage
	WB Right	AM	0.15	4	100	**MEETS** available storage
		PM	0.31	8	100	**MEETS** available storage
Billtown Road / St. Rene Road	WB Left	AM	1.83	46	100	**MEETS** available storage
		PM	2.87	72	100	**MEETS** available storage
	WB Right	AM	0.43	11	100	**MEETS** available storage
		PM	0.19	5	100	**MEETS** available storage
Billtown Road / Ruckriegel Parkway	EB Left	AM	1.10	28	225	**MEETS** available storage
		PM	1.00	25	225	**MEETS** available storage
	WB Left	AM	9.70	243	180	**EXCEEDS** available storage
		PM	51.50	1288	180	**EXCEEDS** available storage
	NB Left	AM	4.40	110	190	**MEETS** available storage
		PM	3.90	98	190	**MEETS** available storage
	NB Right	AM	39.10	978	200	**EXCEEDS** available storage
		PM	19.80	495	200	**EXCEEDS** available storage
	SB Left	AM	1.60	40	240	**MEETS** available storage
		PM	8.40	210	240	**MEETS** available storage

Most turn lanes have adequate storage given the current traffic volumes and operations. The exceptions are the westbound left turn lane at the Gellhaus Lane intersection and several turn lanes at the Ruckriegel Parkway intersection. At the Ruckriegel Parkway intersection, the westbound left and the northbound right turn lanes have queues that exceed the available storage during both peak periods.

Two-Lane Highway Level of Service and Delay

The most recent 24-hour KYTC traffic counts were used to evaluate corridor operating conditions on Billtown Road. Peak hour traffic volumes for highway segments were estimated based on the average daily traffic volumes for those segments using K-factors derived from the KYTC counts. The current lane widths, shoulder widths, percent passing, and other design factors were also used.

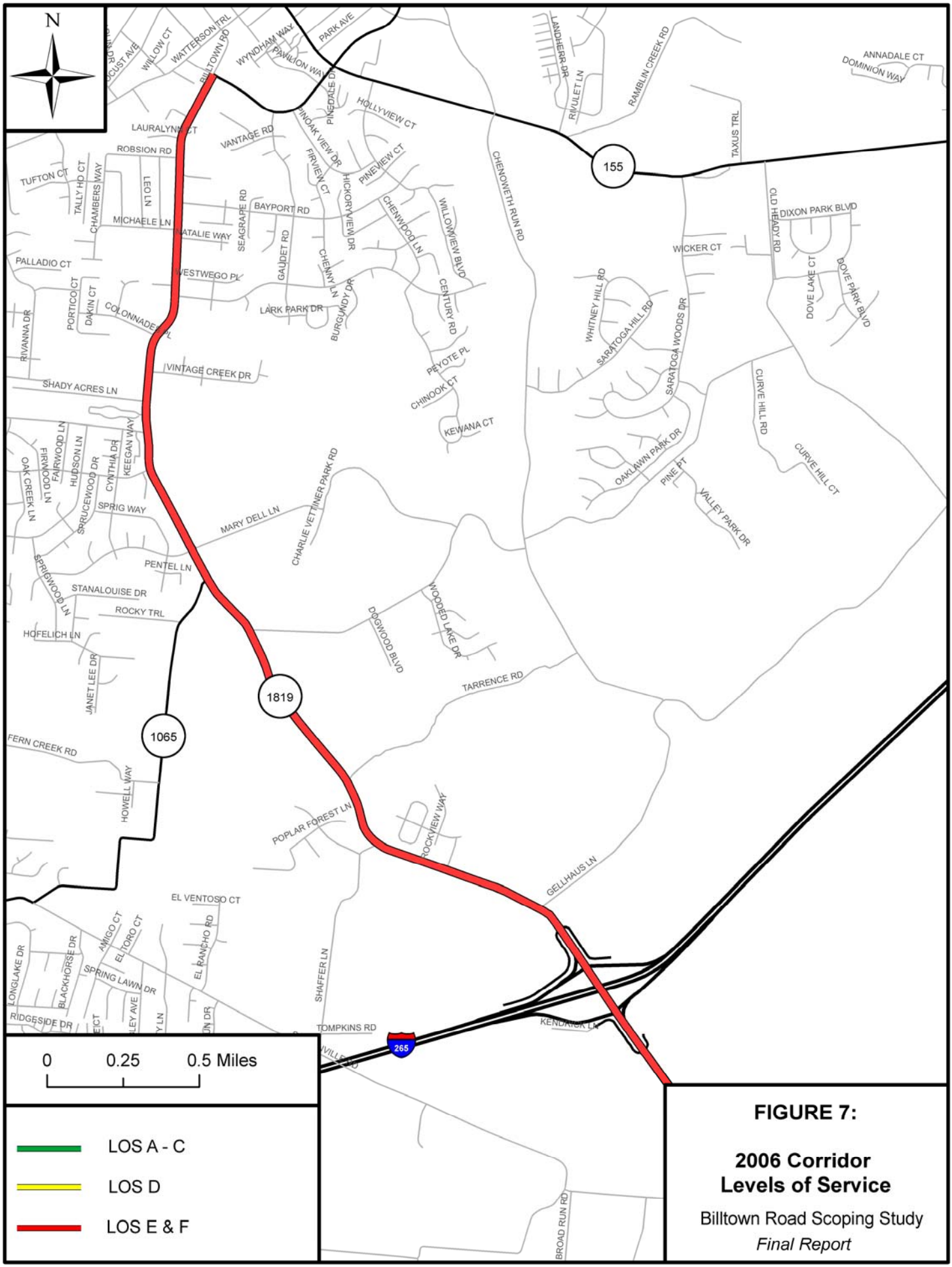
All sections operate at a level of service E, which is below the desirable LOS threshold of C. The poor levels of service are a result of low estimated travel speeds (<45 mph) which are attributable to a number of factors including narrow lanes and shoulders, poor sight distance and the inability to pass other vehicles (especially those turning left), and high traffic volumes. The segment levels of service are listed in **Table 8** and are shown on **Figure 7**.

Table 8: 2006 Corridor Levels of Service

Route	Section	Begin Milepoint	End Milepoint	Section Length (miles)	2006 ADT	K-Factor	2006 DHV	Posted Speed Limit (MPH)	% Trucks and Buses	Estimated Travel Speed (MPH)	% Time Spent Following	LOS
KY 1819	1	3.930 (Beg. of Study Area)	5.180 (I-265)	1.25	3,990	0.133	531	35	5.4%	29.2	62.5	E
	2	5.181 (I-265)	7.139 (Lovers Lane)	1.96	10,050	0.108	1085	45	4.6%	24.5	75.6	E
	3	7.140 (Lovers Lane)	7.770 (Shady Acres Lane)	0.63	13,170	0.112	1475	45	5.0%	21.6	82.9	E
	4	7.771 (Shady Acres Lane)	8.885 (Ruckriegel Parkway)	1.11	18,840	0.106	1997	35	5.0%	17.3	89.4	E

LOS E - F
LOS D
LOS A - C

Notes:
ADT = 2006 Average Daily Traffic (forecasted volume based on 2003 - 2005 KYTC counts)
K-Factor = Design Hour Factor obtained from KYTC counts
DHV = 2006 Design Hour Volume (Average Daily Traffic x K-Factor)
Speed Limit obtained from Highway Information System
% Trucks and Buses obtained from KYTC counts
Estimated Travel Speed, % Time Spent Following, and Level of Service (LOS) calculated using Highway Capacity Software


N
0
0.25
0.5 Miles
LOS A - C
LOS D
LOS E & F
FIGURE 7:
2006 Corridor Levels of Service
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3.6 Future No-Build Traffic Operating Conditions

Traffic forecasts for each of the fourteen intersections were developed for the No-Build scenario for the future year 2010. In addition, traffic forecasts were developed for each of the study area segments for the future years of 2010 and 2030. The methodology and findings for the future No-Build traffic forecasts are summarized below. For a more detailed explanation of the traffic forecast methodology, refer to **Appendix A** where the complete Traffic Forecast Methodology Report is included.

Traffic Forecast Methodology

For intersections, a growth rate of 7.5% per year was applied to current turning movement volumes except for the intersection of Billtown Road and Ruckriegel Parkway which was forecasted at 8.0% per year. These growth rates were based primarily on historic traffic data as discussed previously in Section 3.2. Corridor traffic volumes for 2010 and 2030 were forecasted using model output from the Kentuckiana Regional Planning and Development Agency (KIPDA).

Upon review of the Traffic Forecast Methodology Report and proposed growth rates for Billtown Road by KYTC, there was some concern that the growth rate proposed for the 2010 volumes was too high. The KYTC Division of Planning proposed a 5.0% growth rate for the study area based on similar historical traffic counts but used a slightly different procedure to calculate historic growth patterns. After reviewing both methodologies, it was determined that the growth rate of 7.5% per year proposed by PB may be high, but it would not have a significant affect on the intersection operations in the future since most intersections currently have poor traffic operations in 2006.

Trip Generation

In addition to projected traffic growth, there are several planned developments along this corridor that are likely to impact traffic volumes in the future. The most significant development is the construction of a new school complex off of Gellhaus Lane. The school complex consists of a new elementary school, middle school, and bus compound. The elementary school opened in August 2007, but as this study was begun a year prior to its opening, the associated traffic is treated as forecasted volumes rather than included in a new traffic count. It was designed for 650 students with bell times at 9:05 AM to 3:45 PM. The middle school is due to open in August 2008. It is being designed to accommodate 950 students, with bell times from 7:40 AM to 2:20 PM. The bus compound has also opened and has parking for 110 buses and 112 cars.

Recently, there have been numerous new subdivisions built along Billtown Road; however, at the time of this study, most of them were complete with only scattered lots still available for construction. The only significant development currently underway noted during a field visit was off of Shaffer Lane. In the subdivision of Grey Oaks, 111 lots are available. Directly across from this development is a smaller community called Shaffer Farms which will have a total of 20 lots. In all, the traffic generated by these new homes was considered significant such that it should be added to the analysis. It is

expected that build-out of these developments should be substantially complete by the beginning of 2008.

Additional information was provided by the Louisville Metro Planning and Design department regarding three residential developments to be located along or near Billtown Road. One development is located off of Gellhaus Lane, near the school complex. It is proposed to have 40 single family homes and 294 multi-family homes. Another development is located along Tarrance Road with access on Billtown Road. This development is listed as having 40 condo / townhouse units. Finally, a third development is to be built along Lovers Lane with multiple access points, including Lovers Lane and Billtown Road. This development includes plans for 191 single family homes. **Figure 8** shows the general location for each of these developments.

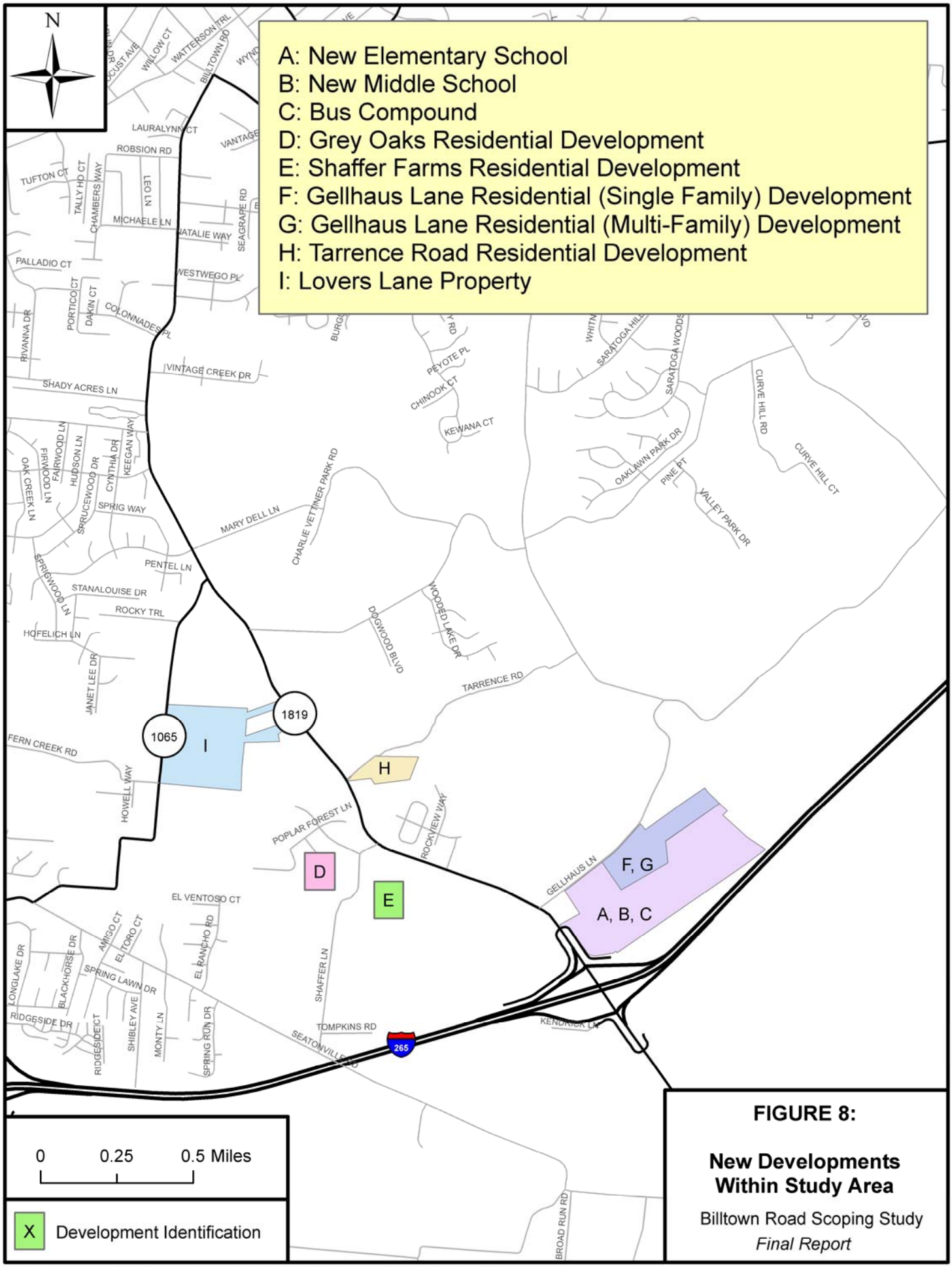

FIGURE 8:

New Developments Within Study Area

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Source: Schools / Bus Compound information provided by Jefferson County Public Schools.

The *Institute of Transportation Engineers (ITE) Trip Generation* manuals were used to develop approximate numbers of trips generated by these developments. **Tables 9, 10,** and **11** provide a summary of the trips generated by the identified developments.

For the Bus Compound, comparison studies used to develop trip rates were not available in the manual. Therefore, some assumptions were made. Based on a conversation with the Executive Director of the Division of Facilities and Transportation for Jefferson County Public Schools, buses at the compound typically are on the road before 6:30 AM and do not return to the compound until after 9:30 AM (outside the AM peak hour). In the afternoon, buses typically leave the compound around 1:30 PM and do not return until 5:30 PM. The return of the buses and the departure of the drivers in their personal vehicles will occur during the PM peak period. Therefore, with this information, it was assumed that four trips per day would be made by the buses with a portion of trips being made during the AM peak period, and one trip for each space made during the PM peak period.

Table 9: Identified Developments

Development	Name / Location	Units	Daily Trips / Unit	Daily Trips (Rounded)
A	New Elementary School	650 Students	1.29	839
B	New Middle School	950 Students	1.62	1,539
C	Bus Compound	110 Spaces	4.00	440
D	Grey Oaks Residential Development	111 S.F. Units	-	1,145
E	Shaffer Farms Residential Development	20 S.F. Units	-	237
F	Gellhaus Lane Residential Development	40 S.F. Units	-	448
G	Gellhaus Lane Residential Development	294 Multi Units	-	1,920
H	Tarrence Road Residential Development	40 Condo/T.H.	-	295
I	Lovers Lane Property	191 S.F. Units	-	1,886
			Total =	8,749

Table 10: AM Trip Rates / Distribution

Development	Units	Trips / Unit	Trips (Rounded)	% Trips In	% Trips Out	Number of Trips In	Number of Trips Out
A	650 Students	-	235	55	45	129	106
B	950 Students	-	523	55	45	288	235
C	110 Spaces	0.20	22	0	100	0	22
D	111 S.F. Units	-	90	25	75	23	68
E	20 S. F. Units	-	20	25	75	5	15
F	40 S.F. Units	-	40	25	75	10	30
G	294 Multi Units	-	150	20	80	30	120
H	40 Condo/T.H.	-	25	17	83	4	21
I	191 S.F. Units	-	140	25	75	35	105
					Total =	524	722

Table 11: PM Trip Rates / Distribution

Development	Units	Trips / Unit	Trips (Rounded)	% Trips In	% Trips Out	Number of Trips In	Number of Trips Out
A	650 Students	-	163	45	55	73	90
B	950 Students	0.30	285	45	55	128	157
C	110 Spaces	1.00	110	50	50	55	55
D	111 S.F. Units	-	118	63	37	74	44
E	20 S. F. Units	-	25	63	37	16	9
F	40 S.F. Units	-	47	63	37	30	17
G	294 Multi Units	-	178	65	35	116	62
H	40 Condo/T.H.	-	28	67	33	19	9
I	191 S.F. Units	-	192	63	37	121	71
					Total =	632	514

Given that the types of development are residential or schools, it is unlikely that pass-by trips would be attracted to these developments such as they would be for a retail center. Therefore, 0% pass-by trips were assumed. It was also assumed that full build-out of the developments would be completed by the future forecast year of 2010. The additional volumes from these developments was added to the future year forecasted traffic volumes as appropriate.

Future No-Build Traffic Volumes

The 2010 future year intersection No-Build traffic volumes were calculated by applying a 7.5% per year growth rate to all intersections except for the Ruckriegel Parkway / Billtown Road intersection. An 8.0% per year growth rate was applied to this intersection. The additional traffic volumes generated by the new developments for the AM and PM peak periods were added to the increased volumes for 2010. For the 2010 and 2030 corridor volumes, the KIPDA model was used to generate these volumes. The 2030 corridor volumes were provided directly from KIPDA. The 2010 volumes were derived from interpolation between the 2006 and 2030 No-Build volumes.

Figures 9 and **10** show the projected 2010 intersection volumes for the No-Build scenario. Similarly, **Figures 11** and **12** show 2010 and 2030 average daily traffic volumes for the No-Build scenario, respectively. It should be noted that the low growth south of the I-265 interchange is attributed to the proposed Urton Lane connector which is included in the KIPDA model approximately 0.25 miles north of the northern interchange ramps.

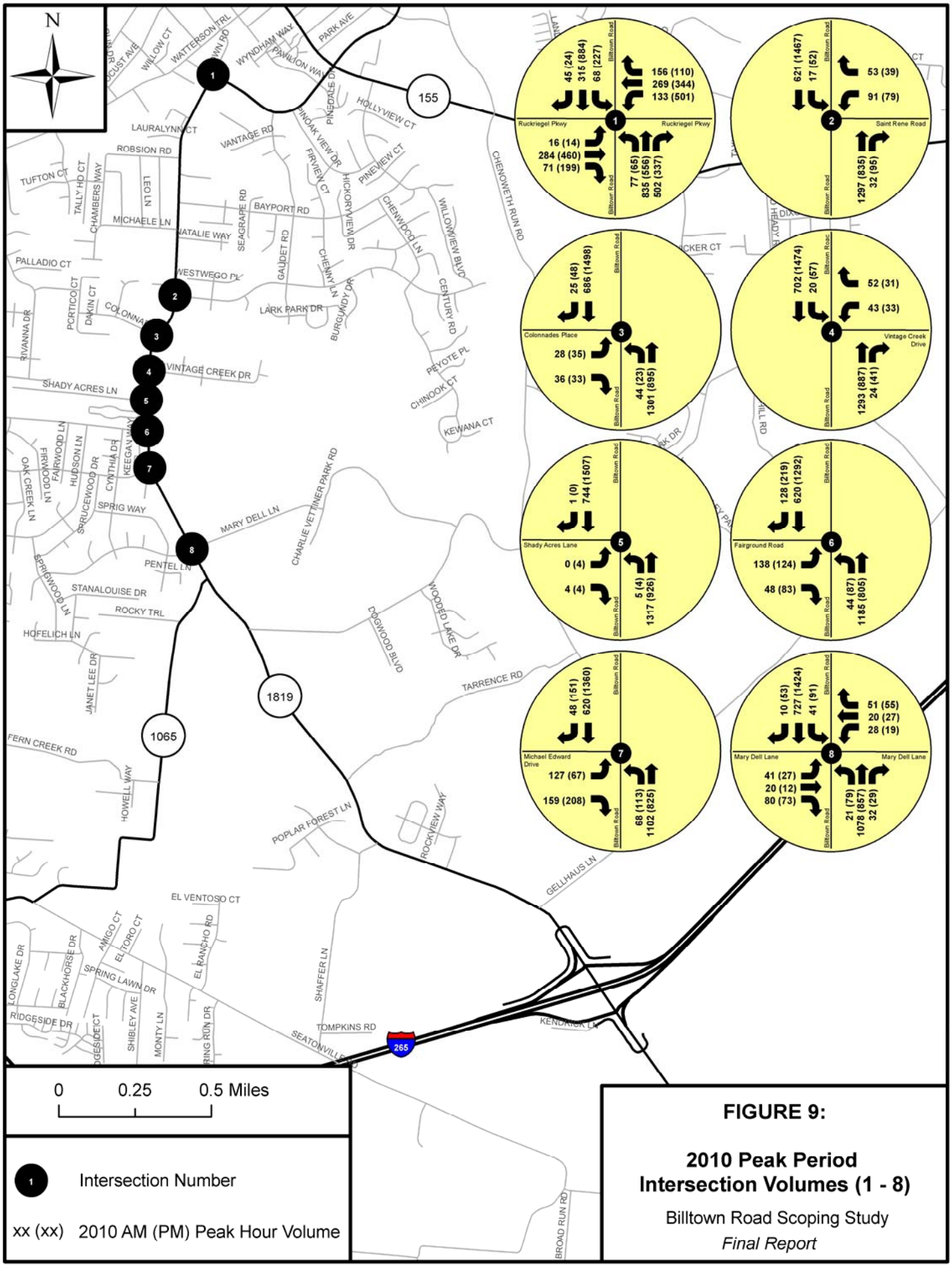

FIGURE 9:

2010 Peak Period Intersection Volumes (1 - 8)

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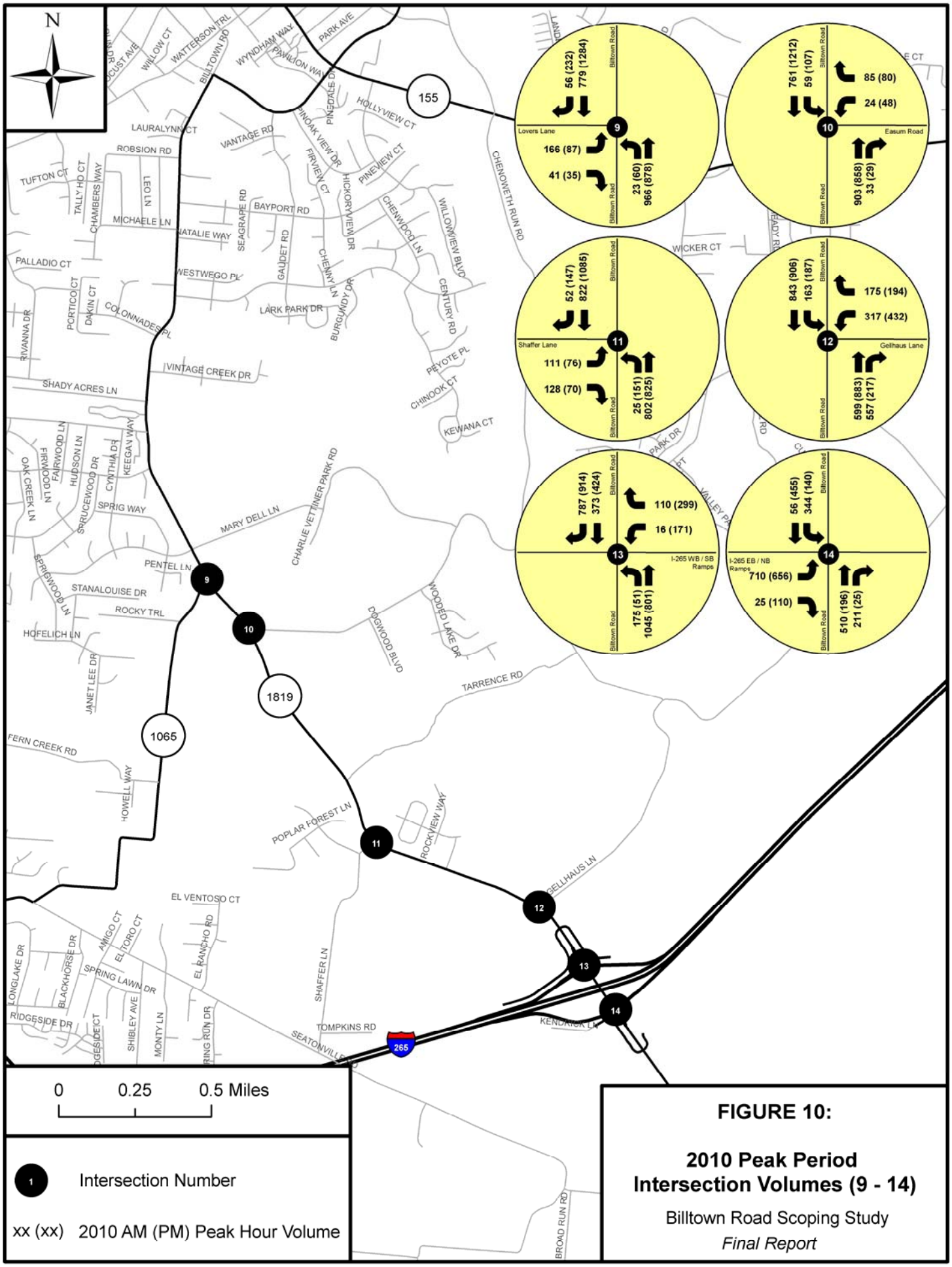

FIGURE 10:

2010 Peak Period Intersection Volumes (9 - 14)

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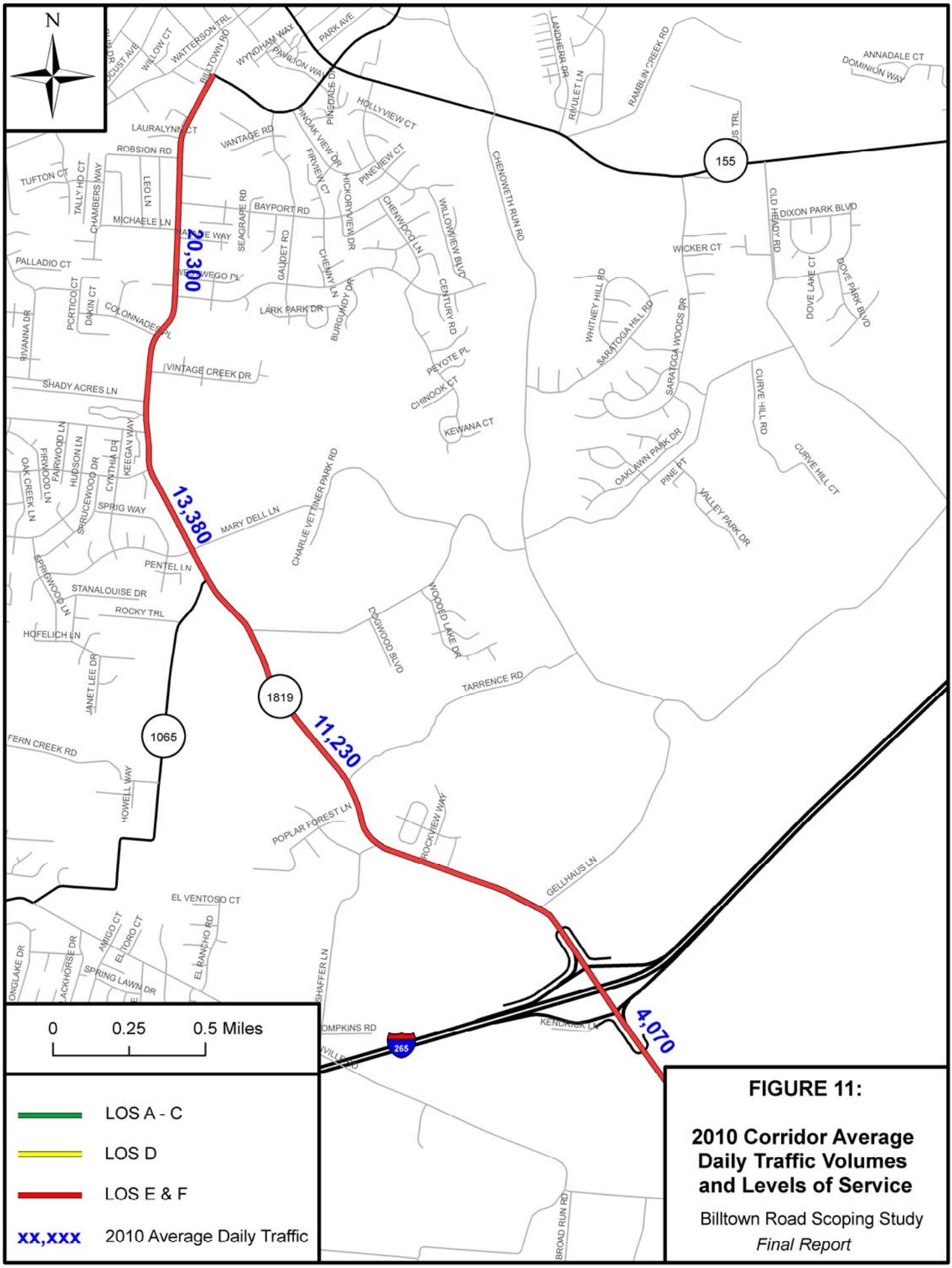

FIGURE 11:

2010 Corridor Average Daily Traffic Volumes and Levels of Service

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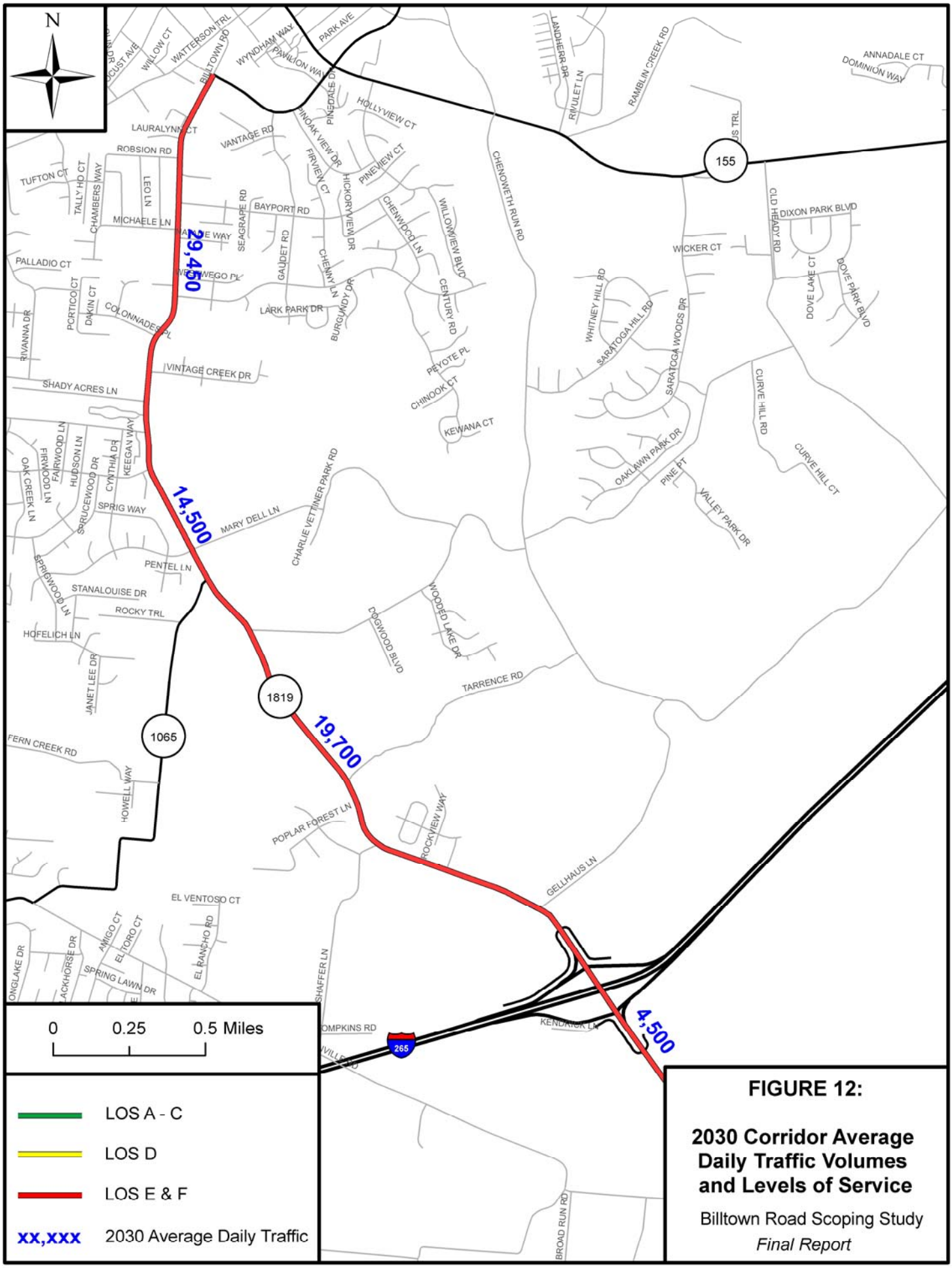
N
0
0.25
0.5 Miles
LOS A - C
LOS D
LOS E & F
xx,xxx
2030 Average Daily Traffic
29,450
14,500
19,700
4,500
1819
1065
155
265
BILLTOWN RD
BAYPORT RD
LARK PARK DR
VINTAGE CREEK DR
SHADY ACRES LN
MARY DELL LN
TARRENCE RD
FERN CREEK RD
POPLAR FOREST LN
GELLHAUS LN
CHENOWETH RUN RD
DIXON PARK BLVD
WICKER CT
SARATOGA WOODS DR
CURVE HILL RD
OAKLAWN PARK DR
VALLEY PARK DR
CHARLIE VETTINER PARK RD
DOGWOOD BLVD
WOODED LAKE DR
ROCKYVIEW WAY
SHAFFER LN
KENDRICK LN
BROAD RUN RD
FIGURE 12:
2030 Corridor Average Daily Traffic Volumes and Levels of Service
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2010 Intersection Level of Service and Delay

No-Build scenario levels of service were evaluated for the key intersections using the projected traffic volumes. The key intersections are the same as the ones evaluated in the 2006 analysis. **Table 12** shows the 2010 No-Build intersection levels of service and delay.

Table 12: 2010 Intersection Levels of Service

Intersection	Type	Approach	AM Avg. Delay (sec)	LOS	PM Avg. Delay (sec)	LOS
Billtown Road / I-265 EB/NB Ramps	STOP Controlled	Eastbound	4301.0	F	929.8	F
		Northbound	-	-	-	-
		Southbound	12.9	B	8.1	A
Billtown Road / I-265 WB/SB Ramps	STOP Controlled	Westbound	73.9	F	456.5	F
		Northbound	15.4	C	14.0	B
		Southbound	-	-	-	-
Billtown Road / Gellhaus Lane	Signalized	Westbound	40.4	D	72.5	E
		Northbound	340.9	F	276.5	F
		Southbound	21.6	C	26.5	C
		Whole Int.	164.2	F	134.3	F
Billtown Road / Shaffer Lane	STOP Controlled	Eastbound	571.8	F	1850.0	F
		Northbound	10.2	B	15.6	C
		Southbound	-	-	-	-
Billtown Road / Easum Road	STOP Controlled	Westbound	78.3	F	846.1	F
		Northbound	-	-	-	-
		Southbound	10.9	B	11.1	B
Billtown Road / Lovers Lane	STOP Controlled	Eastbound	1063.0	F	1987.0	F
		Northbound	10.0	A	16.6	C
		Southbound	-	-	-	-
Billtown Road / Mary Dell Lane	STOP Controlled	Eastbound	2227.0	F	*	F
		Westbound	1590.0	F	*	F
		Northbound	9.5	A	16.6	C
		Southbound	11.9	B	10.9	B
Billtown Road / Michael Edward Drive	STOP Controlled	Eastbound	1024.0	F	2706.0	F
		Northbound	9.5	A	18.8	C
		Southbound	-	-	-	-
Billtown Road / Fairground Road	STOP Controlled	Eastbound	1160.0	F	3124.0	F
		Northbound	9.7	A	17.5	C
		Southbound	-	-	-	-

*Delay too high to calculate

Table 12: 2010 Intersection Levels of Service (cont.)

Intersection	Type	Approach	AM Avg. Delay (sec)	LOS	PM Avg. Delay (sec)	LOS
Billtown Road / Shady Acres Lane	STOP Controlled	Eastbound	14.7	B	116.2	F
		Northbound	9.5	A	14.4	B
		Southbound	-	-	-	-
Billtown Road / Vintage Creek Drive	STOP Controlled	Westbound	381.0	F	681.7	F
		Northbound	-	-	-	-
		Southbound	13.3	B	10.9	B
Billtown Road / Colonnades Place	STOP Controlled	Eastbound	108.3	F	421.4	F
		Northbound	9.6	A	15.6	C
		Southbound	-	-	-	-
Billtown Road / St. Rene Road	STOP Controlled	Westbound	440.8	F	1203.0	F
		Northbound	-	-	-	-
		Southbound	13.2	B	10.8	B
Billtown Road / Ruckriegel Parkway	Signalized	Eastbound	55.0	D	326.5	F
		Westbound	85.5	F	144.8	F
		Northbound	185.8	F	65.5	E
		Southbound	63.1	E	540.0	F
		Whole Int.	129.1	F	277.8	F

Compared to the 2006 levels of service and delay, all intersection operations declined with the additional traffic. In fact, each intersection has one or more approach with a LOS F in 2010. Several intersections that either had acceptable levels of service or borderline levels of service in 2006 fail in 2010. These intersections include Shaffer Lane, Easum Road, Vintage Creek Drive, and Colonnades Place. Most of the poor approach operations are on the side streets which are stop controlled. However, the two signalized intersections (Gellhaus Lane and Ruckriegel Parkway) will both fail overall in this future year. Improvements need to be considered for the system, but in particular at these two intersections to handle the additional traffic demand.

2010 Highway Level of Service and Delay

No-Build scenario levels of service were also calculated for Billtown Road for the year 2010. The highway sections are the same as those used in the 2006 analysis. **Table 13** and **Figure 11** displays the levels of service for each of the highway sections.

As shown in this table, all of the sections remain at LOS E. Overall, the 2006 analysis showed poor operations the entire length of the corridor with the 2010 analysis showing that traffic operations will only continue to decrease with the additional traffic volumes.

2030 Highway Level of Service and Delay

Table 14 and **Figure 12** display the levels of service for each of the highway sections for the year 2030. Most sections remain at LOS E, however, the section between Shady Acres Lane and Ruckriegel Parkway drops to a LOS F with traffic operations almost at a near standstill.

Table 13: 2010 Corridor Levels of Service

Route	Section	Begin Milepoint	End Milepoint	Section Length (miles)	2010 ADT	K-Factor	2010 DHV	Posted Speed Limit (MPH)	% Trucks and Buses	Estimated Travel Speed (MPH)	% Time Spent Following	LOS
KY 1819	1	3.930 (Beg. of Study Area)	5.180 (I-265)	1.25	4,070	0.133	541	35	5.4%	29.2	62.8	E
	2	5.181 (I-265)	7.139 (Lovers Lane)	1.96	11,230	0.108	1213	45	4.6%	23.7	78.0	E
	3	7.140 (Lovers Lane)	7.770 (Shady Acres Lane)	0.63	13,380	0.112	1499	45	5.0%	21.4	83.3	E
	4	7.771 (Shady Acres Lane)	8.885 (Ruckriegel Parkway)	1.11	20,300	0.106	2152	35	5.0%	15.9	90.8	E

LOS E - F
LOS D
LOS A - C

Notes:
ADT = ADT based on 2006 volumes with an applied per year growth rate provided by KIPDA
K-Factor = Design Hour Factor obtained from KYTC counts
DHV = 2010 Design Hour Volume (Average Daily Traffic x K-Factor)
Speed Limit obtained from Highway Information System
% Trucks and Buses obtained from KYTC counts
Estimated Travel Speed, % Time Spent Following, and Level of Service (LOS) calculated using Highway Capacity Software

Table 14: 2030 Corridor Levels of Service

Route	Section	Begin Milepoint	End Milepoint	Section Length (miles)	2030 ADT	K-Factor	2030 DHV	Posted Speed Limit (MPH)	% Trucks and Buses	Estimated Travel Speed (MPH)	% Time Spent Following	LOS
KY 1819	1	3.930 (Beg. of Study Area)	5.180 (I-265)	1.25	4,500	0.133	599	35	5.4%	29.0	64.0	E
	2	5.181 (I-265)	7.139 (Lovers Lane)	1.96	19,700	0.108	2128	45	4.6%	16.1	90.6	E
	3	7.140 (Lovers Lane)	7.770 (Shady Acres Lane)	0.63	14,500	0.112	1624	45	5.0%	20.5	85.1	E
	4	7.771 (Shady Acres Lane)	8.885 (Ruckriegel Parkway)	1.11	29,450	0.106	3122	35	5.0%	*	97.1	F

LOS E - F
LOS D
LOS A - C

Notes:
ADT = Forecasted Volumes from KIPDA based on output from their Regional Travel Demand Forecasting Model
K-Factor = Design Hour Factor obtained from KYTC counts
DHV = 2030 Design Hour Volume (Average Daily Traffic x K-Factor)
Speed Limit obtained from Highway Information System
% Trucks and Buses obtained from KYTC counts
Estimated Travel Speed, % Time Spent Following, and Level of Service (LOS) calculated using Highway Capacity Software

3.7 Crash Analysis

Crash Analysis Methodology

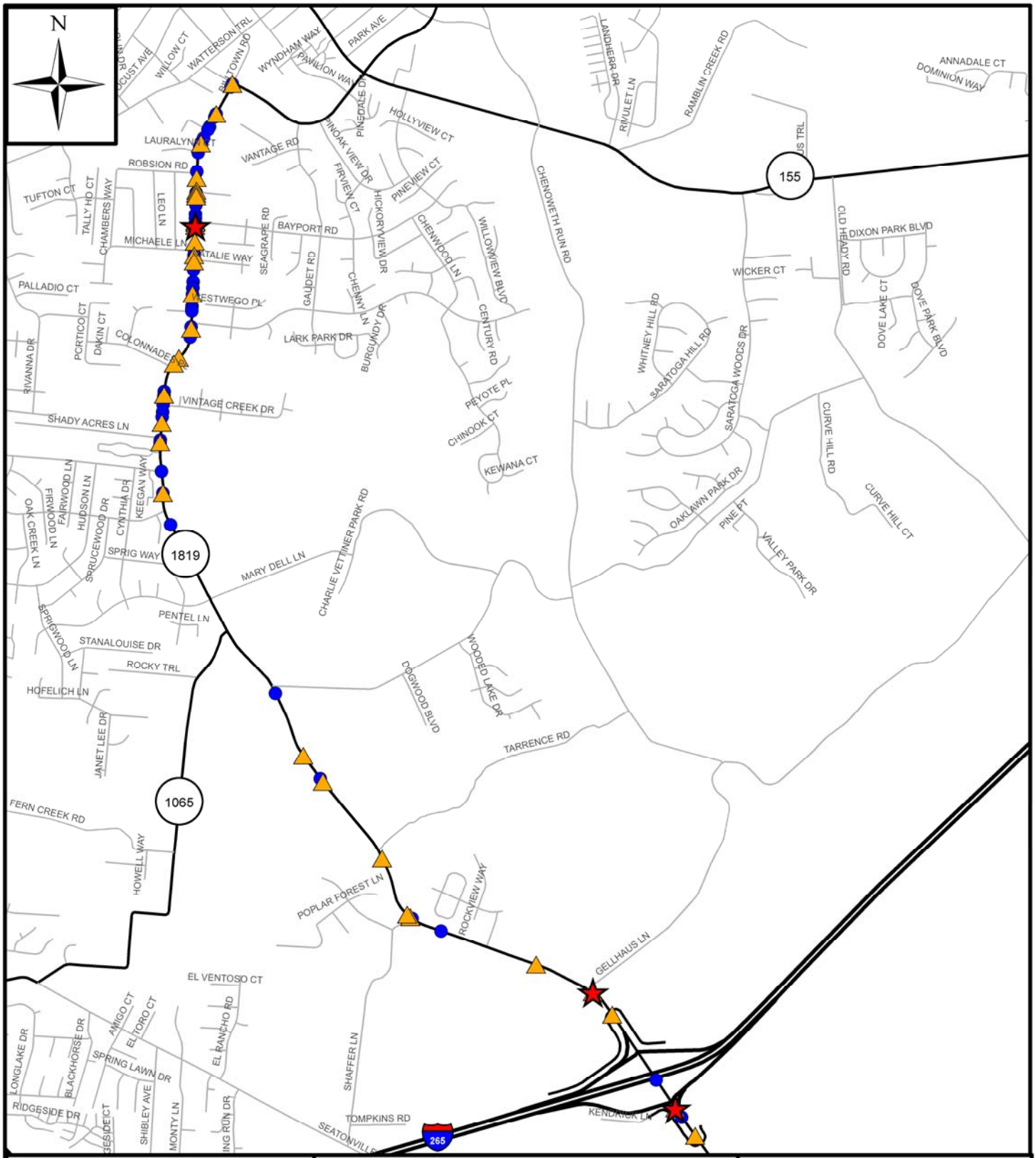
The Kentucky Transportation Cabinet provided crash data for a three-year period from January 1, 2004 through December 31, 2006. **Figure 13** shows the locations of these crashes by crash type (fatality, injury or property damage). The Jeffersontown Police Department and Louisville Metro Police Department were also contacted to determine if any additional reported crashes occurred during the same time period (2004 – 2006) not listed in the state database. The Jeffersontown Police Department has jurisdiction from Fairground Road to Ruckriegel Parkway and provided data for 14 additional crashes. The Louisville Metro Police Department has jurisdiction from Fairground Road south to the I-265 interchange, but did not have any additional crashes for this area. The additional crash data provided by the Jeffersontown Police was incorporated into the crash analysis.

Crash rates were computed for specific segments of Billtown Road using the methodology provided in the crash analysis report periodically published by the Kentucky Transportation Center (KTC)[1]. The section crash rates are based on the number of crashes on a specified section, the average daily traffic on the roadway, the time frame of analysis, and the length of the section. They are expressed in terms of crashes per 100 million vehicle-miles. A section's crash rate was then compared to a statewide critical crash rate[2] derived from critical crash rate tables for highway sections in the KTC crash report (Appendix D of KTC crash report). This comparison is expressed as a ratio of the section crash rate to the critical crash rate and is referred to as the critical crash rate factor. Sections with a critical crash rate factor greater than one are considered high crash locations and are potential candidates for safety improvements.

The section crash rate is also compared directly to the statewide average crash rate presented in the KTC crash report. The statewide averages consider all crashes for a specified period that are listed in the Collision Report Analysis for Safer Highways (CRASH) database maintained by the Kentucky State Police and stratified by functional classification (Table B-2 in KTC crash report). Section rates that exceed the statewide average crash rate but not the critical crash rate may be problem areas, but they are not statistically proven to be higher crash areas. Therefore, this second comparison is used to identify a second tier of highway sections that may have crash problems and could be considered for safety improvements if warranted based on further analysis.

[1] Analysis of Traffic Crash Data in Kentucky (2000 – 2004), Kentucky Transportation Center Research Report KTC-05-19/KSP2-05-1F.

[2] The critical crash rate is the threshold above which an analyst can be statistically certain (at a 99.5% confidence level) that the section crash rate exceeds the average crash rate for a similar roadway and is not mistakenly shown as higher than the average due to randomly occurring crashes.



NOTES:

1. The crash locations represent crashes occuring January 1, 2004 to December 31, 2006 based on KYTC data.

2. Additonal data was obtained from the Jeffersontown Police (23 crashes for same time period) but is not shown on this map since the data does not include specific crash location.

3. The purpose of this figure is to provide an approximate location of crashes within the study area. In some cases, more than one crash is represented by a symbol.

FIGURE 13:

Crash Locations

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Section Crash Analysis

Only one section along Billtown Road exceeded the critical crash rate for that roadway type. Between Shady Acres Lane and Ruckriegel Parkway 99 crashes occurred between 2004 and 2006 and the critical crash rate factor was 1.32. Most of these crashes were rear-end crashes possibly due to excessive speed, drivers unaware of intersections/driveways, slippery surface, or lack of adequate gaps. From the I-265 interchange area to Shady Acres Lane, the critical crash rate factor was much lower than one (0.18 – 0.49). **Table 15** shows the crash statistics for the segments analyzed and **Figure 14** shows the crash analysis by segment on a map.

Spot Crash Analysis

To determine if there are any crash rate problems in the vicinity of the study area intersections, a spot crash analysis was conducted. A spot location is defined as a section of highway 0.3 miles in length. The methodology used to calculate the spot crash rates is similar to that used for calculating the section crash rates. The crash rates at these "spots" were compared to the critical crash rates for similar facilities derived from critical spot crash rate tables in the KTC crash report (Appendix E in KTC crash report). **Table 16** lists the spots crash analysis by intersection, highlighting places exceeding the critical crash rate for the location.

From the spot crash analysis, the intersection of Saint Rene Road at the north end of the study area had a critical crash rate factor greater than one, and is therefore considered a high crash location. The majority of crashes at this intersection were also rear-end crashes, possibly indicating the need for turn lanes or further intersection improvements. The remaining thirteen study area intersections did not have a crash rate problem based on the existing data.

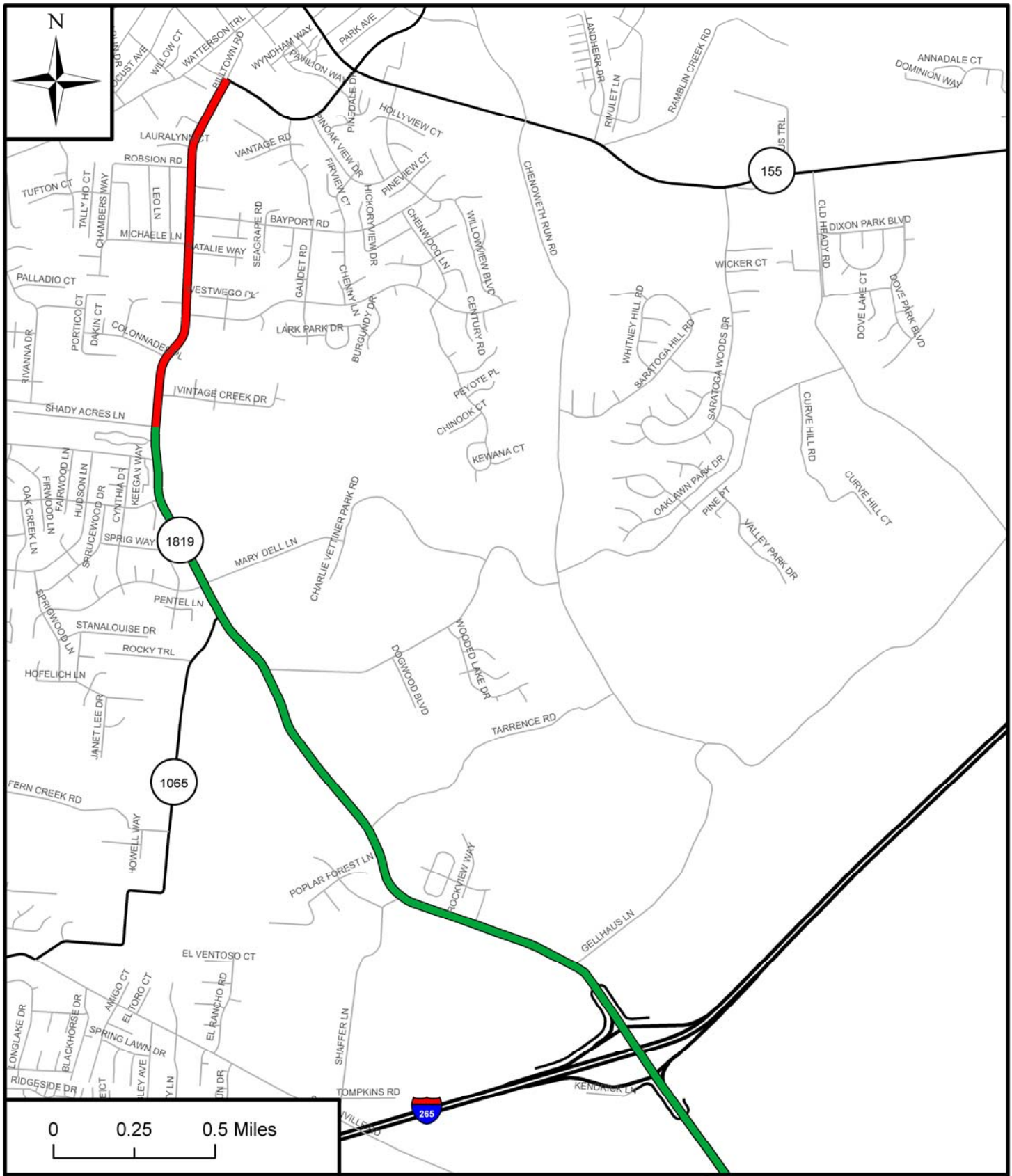
Table 15: Crash Rates by Segment

Route	Section	Begin Milepoint	End Milepoint	Total Crashes	Average Daily Traffic	Section Length* (miles)	Exposure "M" (100 or 1 MVM)	Statewide Average Crash Rate	Section Crash Rate	Statewide Critical Crash Rate	Critical Crash Rate Factor
KY 1819	1	3.930 (Beg. of Study Area)	5.180 (I-265)	4	3,710	1.25	0.051	258	79	439	0.18
	2	5.181 (I-265)	7.139 (Lovers Lane)	13	9,350	1.958	0.200	258	65	349	0.19
	3	7.140 (Lovers Lane)	7.770 (Shady Acres Lane)	15	11,050	0.63	0.076	258	197	403	0.49
	4	7.771 (Shady Acres Lane)	8.885 (Ruckriegel Parkway)	99	17,718	1.114	0.216	258	458	348	1.32

Critical Crash Rate Factor >1, Section Crash Rate Exceeds Statewide Critical Rate (High Crash Rate Section)
Critical Crash Rate Factor <1, Section Crash Rate Exceeds Statewide Average Rate
Critical Crash Rate Factor <1, Section Crash Rate Lower Than Statewide Average Rate

Notes:
Analysis Period: 3 Years (1/1/2004 to 12/31/2006)
Crash rates are expressed in crashes per 100 MVM (100 million vehicle miles traveled)
Exposure (M) = [(ADT) x (365) x (Time Frame of Analysis (Years)) x (Section Length)] / 100,000,000
Section Crash Rate = Total Crashes / Exposure
Critical Crash Rate Factor = Section Crash Rate / Statewide Critical Crash Rate
ADT = Average Daily Traffic, MVM = Million Vehicle Miles

Sources:
Crash data for 1/1/2004 to 12/31/2006 from KYTC Data and Jeffersontown Police
Statewide Rates from KTC Research Report KTC-05-19/KSP2-05-1F, Analysis of Traffic Crash Data in Kentucky (2000 - 2004)



Crash Rate Exceeds Critical Crash Rate for Road Type

Crash Rate Exceeds Average for Road Type

Crash Rate Below Average for Road Type

NOTES:

1. The crash locations represent crashes occuring January 1, 2004 to December 31, 2006.

FIGURE 14:

Crash Rates by Segment

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Table 16: Crash Rates by Spot

Route		Intersection	Total Crashes	Average Daily Traffic	Spot Crash Rate	Critical Crash Rate	Critical Crash Rate Factor
KY 1819	1	I-265 (Northbound / Eastbound) (4.910 - 5.210)	4	3,710	0.98	1.84	0.54
	2	I-265 (Southbound / Westbound) (5.211 - 5.415)	1	9,350	0.10	1.42	0.07
	3	Gellhaus Lane (5.416 - 5.716)	2	9,350	0.20	1.42	0.14
	4	Shaffer Lane (5.945 - 6.245)	4	9,350	0.39	1.42	0.28
	5	Easum Road (6.732 - 7.032)	1	9,350	0.10	1.42	0.07
	6	Lovers Lane (7.033 - 7.194)	0	11,050	0.00	1.37	0.00
	7	Mary Dell Lane (7.195 - 7.398)	0	11,050	0.00	1.37	0.00
	8	Michael Edward Drive (7.399 - 7.607)	4	11,050	0.33	1.37	0.24
	9	Fairground Road (7.608 - 7.719)	1	11,050	0.08	1.37	0.06
	10	Shady Acres Lane (7.720 - 7.820)	11	17,718	0.57	1.25	0.45
	11	Vintage Creek Drive (7.821 - 7.928)	10	17,718	0.52	1.25	0.41
	12	Colonnades Place (7.929 - 8.063)	3	17,718	0.15	1.25	0.12
	13	Saint Rene Road (8.064 - 8.364)	25	17,718	1.29	1.25	1.03
	14	Ruckriegel Parkway (8.735 - 9.035)	17	17,718	0.88	1.25	0.70

Notes:
Analysis Period: 3 Years (1/1/2004 to 12/31/2006)
Spot Crash Rate = [(1,000,000) x (Total Crashes)] / [(365) x (Analysis Period in Years) x (Average Daily Traffic)]
Critical Crash Rate Factor = Spot Crash Rate / Critical Crash Rate

Sources:
Crash data for 1/1/2004 to 12/31/2006 from KYTC Data and Jeffersontown Police
Critical Crash Rates from KTC Research Report KTC-05-19/KSP2-05-1F, Analysis of Traffic Crash Data in Kentucky (2000 - 2004)

Crash Report Analysis

Because of the number of crashes within the primary study area, an additional crash analysis was conducted to look at severity and crash type.

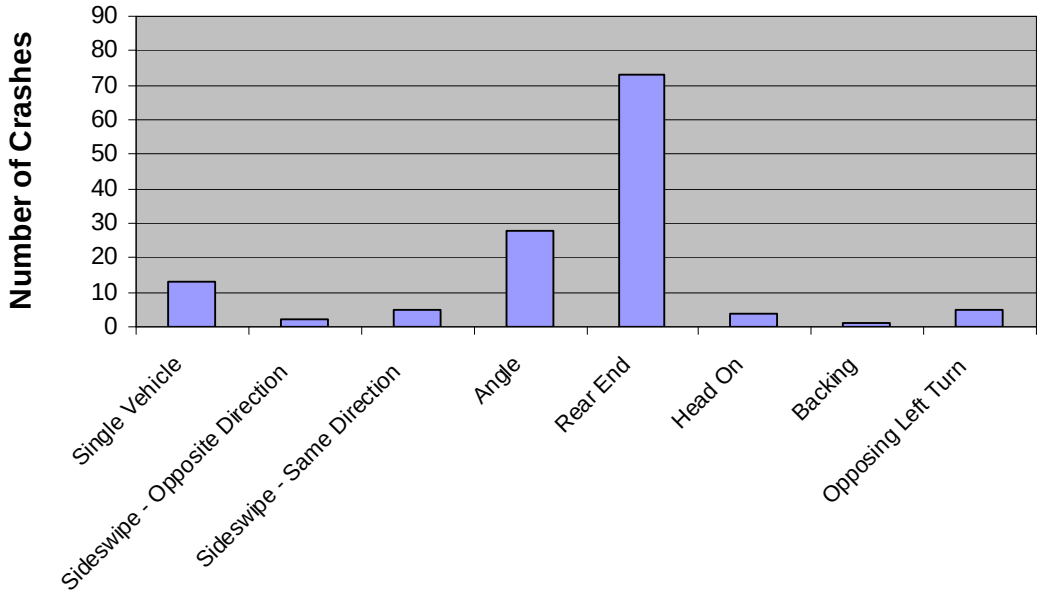
A breakdown of the crash severity along Billtown Road from the I-265 interchange to Ruckriegel Parkway is provided below.

Severity	Number of Crashes	Percentage
Property Damage Only	88	67.2%
Injury	40	30.5%
Fatality	3	2.3%
	131	100%

The majority of crashes were property damage only (88). Over one-third of the crashes involved an injury, and three fatal crashes occurred between 2004 and 2006. The first crash that resulted in a fatality occurred near Gellhaus Lane. The vehicle was entering / leaving an entrance in the afternoon. The second crash that resulted in a fatality occurred near the I-265 Northbound / Eastbound interchange. This was a head on collision with another vehicle. The third crash occurred just north of Saint Rene Road. The vehicle collided with a fixed object in the morning. The weather was not a contributing factor for any of the crashes.

A review of all crash types for the study area was performed to determine the most frequent type. **Figure 15** shows the results.

Figure 15: Crash Types (2004 – 2006)



Rear end crashes were by far the most frequent type of crash on Billtown Road (73 crashes). Given that the majority of the roadway is a two-lane facility without turn lanes, this seems reasonable.

3.8 Multimodal Facilities (Pedestrian, Bicycle, and Transit)

Sidewalks are intermittent along the corridor, with sections occurring primarily bordering neighborhoods and schools. In the south end of the study area at the Gellhaus Lane intersection, there are crosswalks and pedestrian signals, but the sidewalk does not extend to the crosswalks. This is the intersection that leads to the new elementary and middle schools, therefore, good pedestrian access should be provided.

There are no designated bicycle facilities along Billtown Road from I-265 to Ruckriegel Parkway. In fact, the narrow shoulders, limited sight distance and speed of vehicles makes it difficult to safely ride a bicycle along this roadway.

The Transit Authority of River City (TARC) operates the public bus system serving the greater Louisville area. Currently, there are no designated bus routes along Billtown Road. Billtown Road does provide a primary connection between I-265 and Jeffersontown; however, the corridor is composed of mostly residential development and has limited space available in the existing right-of-way for bus stops. The incorporation of transit facilities, such as a bus route, would be difficult given the constraints along the corridor.

3.9 Existing and Future No-Build Traffic and Highway Conditions Summary

Based on the existing transportation conditions analysis, there appear to be a number of key transportation issues in the study area. These include the following:

- Limited right-of-way and narrow shoulders (three feet or less) along the length of the corridor.
- Historic traffic volumes have shown strong growth along Billtown Road with traffic volumes expected to increase by 7.5% per year along the length of Billtown Road; with the exception of the Ruckriegel Parkway intersection which is expected to increase by 8.0% per year.
- A speed study showed that most drivers exceed the speed limit, particularly in the north end of the study area.
- For at least one or more approaches there are current (2006) poor levels of service at each intersection except for the intersections of Easum Road, Shady Acres Lane, and Colonnades Place.
- In 2010, all intersections have at least one or more approaches with a poor level of service.
- At the intersection of Gellhaus Lane and Billtown Road, the queue length for the westbound left turn exceeds the available storage.

- At the intersection of Ruckriegel Parkway and Billtown Road, the queue lengths during peak periods exceed the available storage for the westbound left and the northbound right turn.
- The entire corridor operates at LOS E in 2006 and 2010.
- All sections except the portion of Billtown Road between Shady Acres Lane and Ruckriegel Parkway operate at LOS E in 2030. The Shady Acres Lane to Ruckriegel Parkway section operates at LOS F.
- There is a high crash area between Shady Acres Lane and Ruckriegel Parkway.
- The intersection of Saint Rene Road with Billtown Road is a high crash spot.
- The most frequent crash type was rear end crashes on Billtown Road.
- There are no bicycle or transit facilities along the corridor. Sidewalks are present but intermittent.

4.0 REVIEW OF PREVIOUS REPORTS

A review of previous transportation studies and reports for the study area is necessary to better understand the problems and possible solutions that have already been identified or studied. In this case, there are several previous reports relevant to the current planning study. They include the following:

- Traffic Signal Warrant Analysis for Billtown Road at Shaffer Lane
- Traffic Analysis Study for Billtown Road and Shaffer Lane
- Gellhaus Lane Residential Development Traffic Impact Study
- Tarrance Road Traffic Study

The Traffic Signal Warrant Analysis for Billtown Road at Shaffer Lane was prepared by Jordan, Jones, and Goulding in January 2005 to determine if a traffic signal was warranted at this location. The analysis takes into consideration the impacts of four proposed subdivisions which would lead to the construction of 256 new homes in the area. Even with the addition of traffic generated by these homes, it was determined that traffic signal warrants would not be met, primarily due to low off-peak volumes on Billtown Road.

The Traffic Analysis Study for Billtown Road and Shaffer Lane was prepared in June 2005 by Quest following the results of the previous signal warrant analysis to determine if a left turn lane would be warranted. This analysis also considered the addition of 63 more homes as a result of a proposed development (Willow Springs by Prescott Homes) located along the south side of Shaffer Lane, approximately one mile west of Billtown Road. This study found that a left turn lane is warranted based on the existing traffic only, and storage length changes very little with the additional 256 and 63 homes.

The Gellhaus Lane Residential Development Traffic Impact Study was prepared by Jordan, Jones, and Goulding in July 2006. A new residential development was proposed by WGR Development, LLC and LDG Development on approximately 25.6 acres along Gellhaus Lane. The purpose of the study was to estimate the traffic impacts to the surrounding transportation network and determine if any improvements are necessary as a result of the development. The study concluded that the proposed development will only have modest impacts to intersection delays, but did recommend the installation of a traffic signal at the intersection of Billtown Road and the I-265 Eastbound / Northbound Ramps intersection. This problem was found during the study and exists even without the additional traffic generated by the development. Ultimately, the study recommended that the KYTC reevaluate this intersection for installing a traffic signal based on current conditions.

Another study completed in the area by Jordan, Jones, and Goulding was the Tarrence Road Traffic Study. This study was completed in October 2006 and was performed to determine the need for turning lanes as required for an encroachment permit from the KYTC resulting from the development of 40 patio homes on Tarrence Road just east of

Billtown Road. It was determined that the traffic generated by the proposed development along with the volume of traffic forecasted for the year 2016 would not require the construction of a left turn lane.

While a formal study was not provided to PB, a preliminary plan for a new subdivision was given to PB for traffic impact considerations. The plan shows the layout for construction of 191 new homes located along Lovers Lane and was prepared by Mindel, Scott, and Associates, Inc.

Relevant information from these previous studies was included in this planning study. Of primary interest were the traffic counts performed at several of the key intersections as well as the proposed trip generation and distribution. The new housing developments mentioned above were included in the traffic forecasts for 2010. Any recommendations resulting from the study were also considered during the alternate development and evaluation phase discussed later in this report.

5.0 HUMAN ENVIRONMENT OVERVIEW

An overview was conducted to determine the general characteristics of the human environment in the study area. The analysis addresses: general socioeconomic characteristics, environmental justice, land use characteristics, and cultural / historic and archeological characteristics. The following sections summarize the overview findings.

5.1 Socioeconomic Profile

Population Growth – According to the 2000 Census, the population of Jefferson County was 693,604, the population of the City of Louisville was 256,231 and the population of the City of Jeffersontown was 26,633. The population for Jefferson County has increased by 4.3% from 1990 when the population was 664,937. The population for the City of Louisville actually decreased from 269,063 in 1990. This represents a decrease of 4.7%. The population of the City of Jeffersontown increased from 1990 when the population was 23,221. This represents an increase of 14.6%. By 2030, the population of Jefferson County is expected to grow to 763,393. This represents an increase of 10%.

The trend exhibited in the study area is typical of those observed across the nation. The older central city areas are losing population while the outlying more suburban areas are gaining. The case of the Louisville area is somewhat mixed and interesting as the City of Louisville and Jefferson County merged in 2003 to form Metro Louisville. The old City of Louisville boundary is now known as the urban service district. Therefore, any reference to the City of Louisville for the 2000 Census is now known as the urban service district. The City of Jeffersontown is still a separate jurisdictional area from that of Metro Louisville.

Minority Populations – According to the 2000 Census, minority populations in Jefferson County represented 22.6% of all residents. In the City of Louisville, minority population represents a total of 37.0% of residents. In the City of Jeffersontown, minority residents represent 14.5% of all residents. As a comparison, the total minority population percentage of the entire Commonwealth of Kentucky is 9.9%.

Low – Income Populations – In 2000, approximately 12.4% of the Jefferson County population was below the poverty line. In Louisville, approximately 21.6% was below the poverty line. In the City of Jeffersontown, 12.4% were below the poverty line. The numbers for the City of Louisville exceed the statewide average of 15.8%, while those for Jefferson County and the City of Jeffersontown are both below the statewide average.

Age of Population – The City of Louisville and Jefferson County both have a higher percentage of residents age 60 and over (18.3% and 17.5% respectively) compared to

the statewide average (17.0%). The City of Jeffersontown has a lower percentage of residents age 60 and over with 14.5% of its residents falling into this category.

Local Economy – In 2000, Jefferson County's unemployment rate was 3.3%. This is lower than the 2000 unemployment rates for Kentucky and the U.S., which were 3.5% and 4.0%, respectively. In the City of Louisville and the City of Jeffersontown the rates were 4.5% and 1.9% respectively.

The highest percentage of employees in all jurisdictions is in the field of management, professional and related occupations. This is accounted for by the service-based economy and the presence of healthcare, government, banking and insurance companies. Sales and office occupations also account for a high percentage of the local workforce. Manufacturing is also important in the Louisville area. Large employers in the area include: Ford, GE Appliances, Jefferson County Public Schools, UPS, and Humana.

Commuting – Approximately 92.3% of employed Jefferson County residents work in the county, with the remaining 7.7% commuting to other nearby counties such as Bullitt, Hardin, Oldham and Shelby counties respectively. In 2000, the average travel time to work was 21.9 minutes. In 1990, the average travel time to work was 20.8 minutes. The increase in time from 1990 to 2000 represents an increase of 5.3%. The dominant mode in both 1990 and 2000 was the single occupant vehicle (SOV) which accounted for 79% and 80.8%, respectively.

Community Facilities and Development Patterns – The study area is primarily residential, with some pockets of commercial and business development near the northern end where Billtown Road intersects with Ruckriegel Parkway near Jeffersontown. Schools, churches, cemeteries and other community facilities including parks, a golf course and some convenience retail are along Billtown Road within the study area limits. Towards the southern end of the study area, there is an emerging school complex along Gelhaus Lane where Jefferson County Public Schools (JCPS) is building an elementary school and middle school. A school bus compound has already been completed at this location.

5.2 Environmental Justice

The Environmental Justice (EJ) assessment examined potential disproportionate adverse community impacts of selected groups (minority, low income and elderly) within the defined project study area for the proposed transportation improvement(s) in the Billtown Road (KY 1819) corridor from Ruckreigel Parkway to I-265 in Jefferson County, Kentucky. The assessment was prepared by the Kentuckiana Regional Planning and Development Agency (KIPDA) in support of the KYTC's project to identify improvements that will enhance safety and reduce congestion in the rapidly developing area surrounding the study corridor. A summary of the assessment is provided below. For a more in-depth analysis, refer to **Appendix B** which contains the entire report.

The purpose of the assessment is to:

- assist the Kentucky Transportation Cabinet in carrying out the Division of Planning's mission "… to collect, maintain, analyze and report accurate data for making sound fiscally responsible recommendations regarding the maintenance, operation and improvement of our transportation network";
- fulfill applicable federal Environmental Justice commitments; and
- further the goals and objectives and cooperative nature of the metropolitan transportation planning process.

The assessment focused on identifying, through a demographic analysis, the extent to which EJ populations and other groups of concern reside in or near the study area and may be impacted by the proposed project. Subsequent actions (determination of disproportionately high and adverse effects; proposing measures to avoid, minimize, and/or mitigate such effects; and providing specific opportunities for public involvement) may be undertaken, as appropriate, contingent upon the results of the demographic analysis.

The KIPDA staff assessment of demographic data from the 2000 Census, consideration of information from other sources, and conversations with individuals familiar with the area indicate the following:

- Resident minority populations do not appear to be concentrated in any one area within the study area; nor do they occur in any greater proportions than that expected within the general resident population for the United States, Kentucky, or Jefferson County. In fact, the average minority concentrations were most similar to that of the state level.

- For the most part, resident low-income populations within the study corridor exist in much lower proportions than those seen in the general population of the nation, state, and county; one block group had a low-income resident concentration close to, but slightly less than, the national and county averages.

- For most of the study corridor, elderly residents are present in concentrations similar to or less than those of the general population of the county, state, and nation; one block group was an exception and had an elderly proportion slightly higher than that found in the population-at large.

- Persons with disabilities are not present in significantly different proportions from the county, state, or national percentages within the study area.

Given the level of detail of the available information, the community impact assessment did not uncover any significant concentrations of EJ populations, elderly, or persons with disabilities within the study area. Further, the information suggests that these persons are largely present within the general resident population of the study corridor in proportions similar to or less than county, state, and national levels. An exception to

this pattern is the elderly population concentration of Tract 111.10 Block Group 3, which is slightly higher than that of the population-at-large. This section is located in the vicinity of Fairground Road between Billtown Road and Bardstown Road.

5.3 Previously Documented Cultural Historic and Archeological Sites

A records search and windshield survey were performed by KYTC to determine the existence of any cultural resources. Three recorded individually listed National Register sites were found within the project area and are listed below.

- *Leatherman House*, 3606 College Drive, listed in 1980.
- *Confederate Martyrs Monument*, City Cemetery, corner of Billtown and Maple, listed in 1997.
- *Omer / Pound House*, 6609 Billtown Road, listed in 1983.

Upon further review of the location, these sites are located in the northern portion of the corridor in the Jeffersontown vicinity and will likely not be impacted.

Based on the windshield survey conducted on November 22, 2006, there are numerous houses over 50 years old within the project area. In addition, two existing cemeteries exist at the western portion of the project study area. Most likely these cemeteries will be eligible. If the project advances using federal funds, a historical baseline analysis will be required.

If there are adverse impacts to historic resources, Section 106 initiation would begin once the environmental documentation and design of any future project started. Should proposed roadway improvements require the use of historic resources, then a Section 4(f) evaluation will be necessary.

As for archeological sites, there are no known archeological resources within the project area. Because the area is largely residential, it is likely that any archaeological resources have already been disturbed due to utilities in the area. There is potential for sites surrounding older standing structures in the area. Also, from the windshield survey, several farmhouses with structures were identified.

For additional information about the cultural historic and archeological overview, refer to the full report completed as part of the Environmental Overview prepared by KYTC which is included in **Appendix C**.

6.0 NATURAL ENVIRONMENT OVERVIEW

An overview was conducted by the Kentucky Transportation Cabinet to determine the characteristics of the natural environment in the study area. Resources addressed in this section include: aquatic ecosystems (surface waters, wetlands, ponds, and 100-year floodplains) and terrestrial ecosystems (nature preserves and wildlife management areas, threatened and endangered species, floral communities, and faunal communities). Below is a summary of key points from the overview. Refer to **Appendix C** for the entire document.

6.1 Aquatic Ecosystems

Surface Water – Within the project corridor, blue line streams do not directly cross Billtown Road. If a project is implemented with a disturbance of greater than 1 acre, a Notice of Intent for Stormwater Discharges (KPDES) will need to be filed with the Division of Water. As for Wild and Scenic Rivers, none are located within the project corridor.

Wetlands and Ponds – Several areas of hydric soils exist on the western side of the project area. These areas should be evaluated for the presence of hydrology and hydrophytic vegetation. If it is determined these are jurisdictional, mitigation may be required for impacts over 0.1 acres.

Floodplains – According to FEMA Q3 floodplain maps, any improvements to Billtown Road will not cross any floodplains.

6.2 Terrestrial Ecosystems

Nature Preserves and Wildlife Management Areas – There are none in the study area.

Threatened and Endangered Species – There are several federally protected species known to exist within Jefferson County. These include two types of bats, seven species of mussels, and one bird species. Any improvement project implemented will require a Habitat Assessment.

Floral and Faunal Communities – Only one type of plant that is federally projected is known to occur in Jefferson County. This is the running buffalo clover.

7.0 GEOTECHNICAL OVERVIEW

Based on comments received from the Kentucky Geological Survey, there are no major geologic concerns in the Billtown Road improvement corridor. It should be noted that the study area might encounter karst features such as sinkholes, but would not encounter units prone to landslides or unconsolidated sediments in drainage areas. Rocks suitable for construction stone are possible within the corridor such as rocks from the upper part of the Laurel Dolomite.

For additional information about geologic features / concerns, refer to the letter provided by the Kentucky Geological Survey attached in **Appendix D** as part of the public involvement / agency coordination for this study.

8.0 PUBLIC INVOLVEMENT

The Public Involvement Program for the Billtown Road Scoping Study was comprised of several key elements designed to encourage participation and obtain feedback from the greatest number of the affected populace as possible. The key aspects include: a local officials meeting, stakeholder meetings, public workshops/meetings, and agency correspondence. The process and methods for public involvement are outlined in this chapter. The results and feedback from implementation of the Public Involvement Program are provided throughout the entire report as it was particularly beneficial in the development and evaluation of alternates. Copies of the public involvement meeting summaries are included in **Appendix E** for reference including summaries of the input received at the public workshops/meetings.

Local Officials Meeting – A meeting was held on December 14, 2006 with local elected officials including Metro Council Members, state legislators, and heads of local agencies. The purpose of this meeting was to brief the officials about the project and to gather any feedback about issues and concerns. Those in attendance provided insight on the key issues related to the study and provided some feedback as to what they have heard regarding the need for improvements. Some in attendance also filled out survey forms for written documentation of project needs. Meeting minutes are provided at the end of the report in **Appendix E.**

Stakeholder Meetings – Stakeholder meetings were held during the course of the study with selected key stakeholders representing a wide variety of interests. The purpose of the meetings was to inform them about the project and receive input on issues and concerns about the project. Of note was a meeting held with the Jeffersontown Planning and Design Department. This meeting was particularly helpful in that the improvement projects currently being pursued by Jeffersontown were discussed along with how they affect and could be incorporated into this study. Meeting minutes are provided at the end of the report in **Appendix E.**

Public Meetings – Two public meetings were held during the course of this study. The first public meeting was actually held as part of the 2006 Jeffersontown Gaslight Festival. The second meeting was held in Jeffersontown in a more traditional open house style format. Key goals for these meetings were to gather input on the issues and alternates to be considered and then to obtain feedback on the preliminary recommendation before a final recommendation was made. Each of these meetings is described in more detail below.

- Public Meeting #1 – This meeting was held on September 16 and 17 as part of the 2006 Jeffersontown Gaslight Festival. The purpose of the first public information meeting was to inform the public of the study, present the existing conditions documentation, gather input on the project issues and goals, and begin the process of alternate development. Informational materials were available at a booth both days of the festival which was staffed with both KYTC

and PB personnel. In addition to engaging passersby in discussion about the study, survey forms were distributed. A summary of this informational event and the resulting survey information is provided in **Appendix E**.

- Public Meeting #2 – This meeting was held on February 27, 2007 at the Jeffersontown Community Center. The purpose of the meeting was to present to the public all of the analysis work completed up to that time, and to present and request feedback on the various improvement alternates developed prior to KYTC making a final decision on the project. A brief presentation was given to familiarize the public with the study and the open house format. The meeting featured display stations staffed with project team members to answer questions about the various alternates and recommendations. All attendees were encouraged to provide their thoughts and opinions on the comment forms provided at the meeting. A summary of this meeting as well as the comment form responses can also be found in **Appendix E**.

Agency Correspondence – An agency mailing was prepared during the initial stages of this study and sent to various local, state, and federal agencies to obtain input in the study process. The list of recipients includes:

- The Kentucky Department of Military Affairs
- Kentucky Division of Forestry
- Kentucky Vehicle Enforcement
- Kentucky Geological Survey
- Kentucky Department for Environmental Protection Division for Air Quality
- Kentucky Department of Agriculture
- The Kentuckiana Regional Planning and Development Agency (KIPDA)
- Kentucky Cabinet for Health and Family Services Facilities Management Division
- Kentucky Division of Water
- Kentucky Division of Waste Management
- Kentucky Department of Fish and Wildlife Resources Commerce Cabinet
- State Historic Preservation Office

The review by the State Historic Preservation Office (SHPO) indicated that there are many cultural resources and previously recorded archeological sites within the project area, many of which have not been evaluated. A Section 106 Review Process may need to be completed depending on the funding source for improvements to Billtown Road. A full survey of both cultural and archeological resources would need to be completed and submitted to the SHPO via the KYTC Central Office Division of Environmental Analysis for review.

Overall, there were no additional significant comments that would require avoidance or mitigation related to potential improvements along the Billtown Road corridor. The following are some considerations mentioned in the response letters that could be included in future phases of this project.

- The Division of Forestry did express concern regarding existing trees and requested that care be taken during any construction and replanting be considered where applicable.
- The Kentucky Department for Environmental Protection Division for Air Quality response stated that the project must meet the conformity requirements of the Clean Air Act as amended and the transportation planning provisions of Title 23 and Title 49 of United States Code.
- The Kentucky Division of Waste Management noted that if underground storage tanks are encountered, they must be addressed properly and that any solid waste generated by this project must be disposed of at a permitted facility.
- Based on comments provided by the Kentucky Department of Fish and Wildlife Resources Commerce Cabinet, the federally endangered gray bat, *Myotis grisescens*, and Indiana bat, *Myotis sodalist* are known to occur within close proximity to the project area. Any impact to trees during construction should be completed within a specific time frame to avoid any harm to the bats.

A copy of the responses can be found in **Appendix D** for reference.

Project Team Meetings – Several meetings were also held with the KYTC to discuss project issues including the development of alternates and the presentation of these alternates to the public, the results of the second public meeting, and a meeting to discuss project recommendations. The meeting minutes from these meetings are included in **Appendix E** for reference.

9.0 ALTERNATES DEVELOPMENT AND EVALUATION

The development, evaluation, and recommendation for improvements to Billtown Road have been subdivided into two categories – short-term projects and long-term projects. Short-term refers to projects that could be completed in the near future (year 2010) and would generally consist of improvements that could be implemented at an intersection level such as new and/or additional traffic signals, signal system optimization, turn pockets or lanes, storage lanes and/or extended turn lanes. Long-term projects refer to projects that are broader in scope and apply to the entire corridor by looking at what the ultimate vision is for improvements. This includes determining if additional lanes are necessary in the future to meet increased traffic demand and if so, how many. The long- term design year for this project is 2030.

As the alternates and the evaluation criteria are specific to improvement type, the development and analysis of alternates is presented below in two separate sections. Alternate recommendations follow in the next chapter.

9.1 Short-Term Project Development and Evaluation

9.1.1 Alternates Development

As mentioned above, the primary focus for alternates development in the short-term is at the intersection level. As there are fourteen intersections that are part of this study, multiple alternates were developed for each intersection. These were based on the following:

- Project purpose and need
- Existing / future conditions and problem definition and analysis
- Recommendations and alternates from any past and concurrent studies
- Project Team suggestions
- Feedback from the public involvement process including stakeholder interviews, the elected officials briefing, and public open houses.

Figures 16 – 29 depict the list of alternate improvements developed for this study.

Also considered was the potential for construction of roundabouts at all study area intersections. An analysis of traffic volumes on Billtown Road compared to standard guidelines (FHWA Roundabout Guide) for the installation of a roundabout showed that there were no locations where a roundabout would be feasible along this corridor. The through traffic volumes on Billtown Road contributed to a high circulatory flow causing the roundabouts to operate at or above capacity. Therefore, while the installation of roundabouts was initially examined, they were not included on the full list of alternates following the results of the initial feasibility analysis.

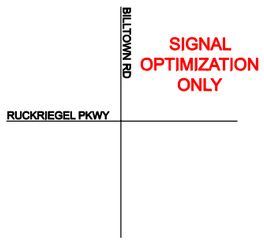
FIGURE 16: BILLTOWN ROAD & RUCKRIEGEL PARKWAY INTERSECTION

2010 AM (PM) PEAK HOUR VOLUMES

2010 NO BUILD LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	D	55.0	F	326.5
WB	F	85.5	F	144.8
NB	F	185.8	E	65.5
SB	E	63.1	F	540.0
WHOLE INT.	F	129.1	F	277.8

ALTERNATE 1

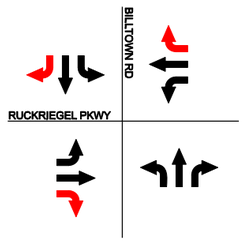


2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	F	168.0	F	418.4
WB	F	120.7	F	386.0
NB	E	71.0	D	48.9
SB	E	56.1	F	145.8
WHOLE INT.	F	92.7	F	236.0

ESTIMATED CONSTRUCTION COST*: MINIMAL

ALTERNATE 2

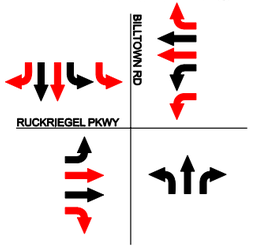


2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	D	48.9	F	126.9
WB	D	45.9	F	267.6
NB	D	39.6	D	35.8
SB	B	17.6	F	155.2
WHOLE INT.	D	38.6	F	150.2

ESTIMATED CONSTRUCTION COST*: $240,000

ALTERNATE 3



2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	D	39.7	D	35.7
WB	D	37.2	C	25.6
NB	C	31.8	C	27.2
SB	B	15.1	C	21.7
WHOLE INT.	C	31.3	C	26.5

ESTIMATED CONSTRUCTION COST*: $1,030,000

Key Issues / Deficiencies

- Poor LOS for all approaches.
- Intersection of Ruckriegel Parkway / Billtown Road is located in a high crash rate section, although the intersection is not specifically a high crash rate spot.
- Queue lengths for the WB left turn lane and NB right turn lane exceed available storage during peak periods.

Alternates

- Alt. 1 – Signal Optimization:
  Minimal reduction in delay – intersection still operates below desirable LOS threshold.
- Alt. 2 – Add Exclusive Right Turn Bays:
  Reduced delay; however intersection still operates below desirable LOS threshold.
- Alt. 3 – Add Exclusive Turn Lanes and Thru Lanes:
  The entire intersection as well as all approaches operates at an acceptable LOS.

*CONSTRUCTION COST ONLY - EXCLUDES RIGHT-OF-WAY AND UTILITIES

LEGEND

EXISTING RIGHT OF WAY

SIGNALIZED INTERSECTION

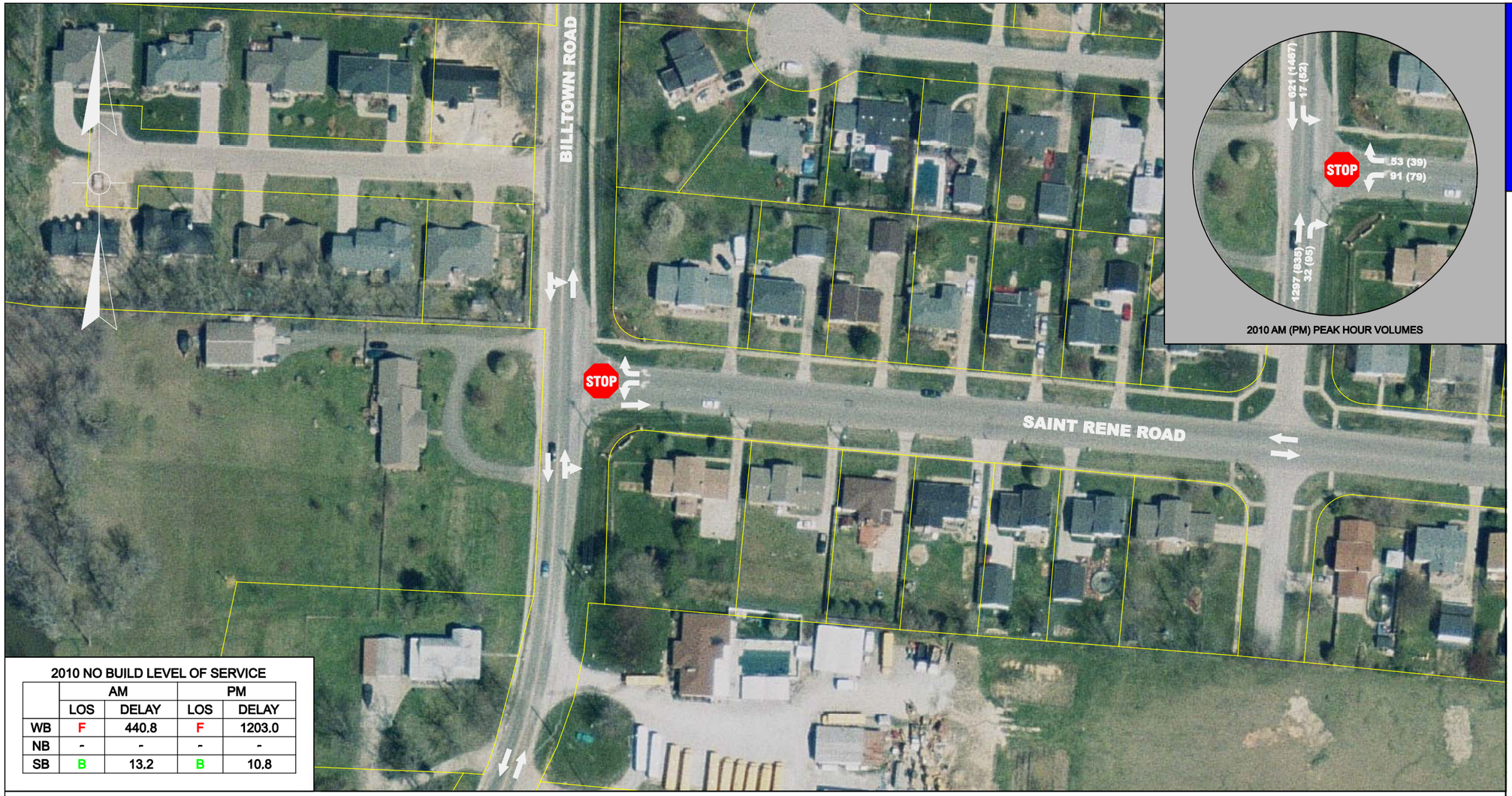
STOP-CONTROLLED INTERSECTION

980 (1080) 2010 AM (PM) PEAK HOUR VOLUMES

50 0 50 100 150

GRAPHIC SCALE IN FEET

FIGURE 17: BILLTOWN ROAD & SAINT RENE ROAD INTERSECTION



2010 NO BUILD LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
WB	F	440.8	F	1203.0
NB	-	-	-	-
SB	B	13.2	B	10.8

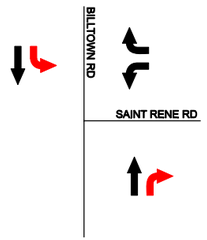
Key Issues / Deficiencies

- Poor LOS for WB approach.
- No separate turn lanes on Billtown Road.
- Intersection of St. Rene Road / Billtown Road is located in a high crash rate section, and is a high crash rate spot.
- A fatal crash occurred just north of the intersection and involved one vehicle colliding with a fixed object.
- Most crashes occurring in the vicinity of St. Rene Road were rear-end crashes on Billtown Road.

Alternates

- Alt. 1 – Separate Turn Lanes on Billtown Road:
  Minor traffic operation improvements. Increases safety on Billtown Road.
- Alt. 2 – Signalization:
  Does not meet Warrant 2, four-hour vehicular volume or Warrant 3, peak hour based on 2006 volumes.
- Alt. 3 – Signalization with SB Left Turn Lane:
  The entire intersection as well as all approaches operates at an acceptable LOS.

ALTERNATE 1

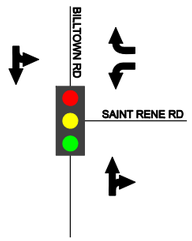


2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
WB	F	427.2	F	1076.0
NB	-	-	-	-
SB	B	13.2	B	10.8

ESTIMATED CONSTRUCTION COST*: $270,000

ALTERNATE 2

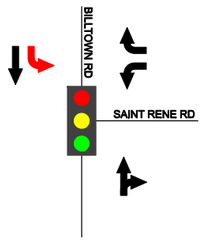


2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
WB	D	40.4	E	70.6
NB	C	34.2	A	4.1
SB	A	3.8	E	77.9
WHOLE INT.	C	25.3	D	50.8

ESTIMATED CONSTRUCTION COST*: $130,000

ALTERNATE 3



2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
WB	D	40.4	D	46.2
NB	C	34.2	A	5.4
SB	A	3.5	D	51.9
WHOLE INT.	C	25.3	C	34.8

ESTIMATED CONSTRUCTION COST*: $330,000

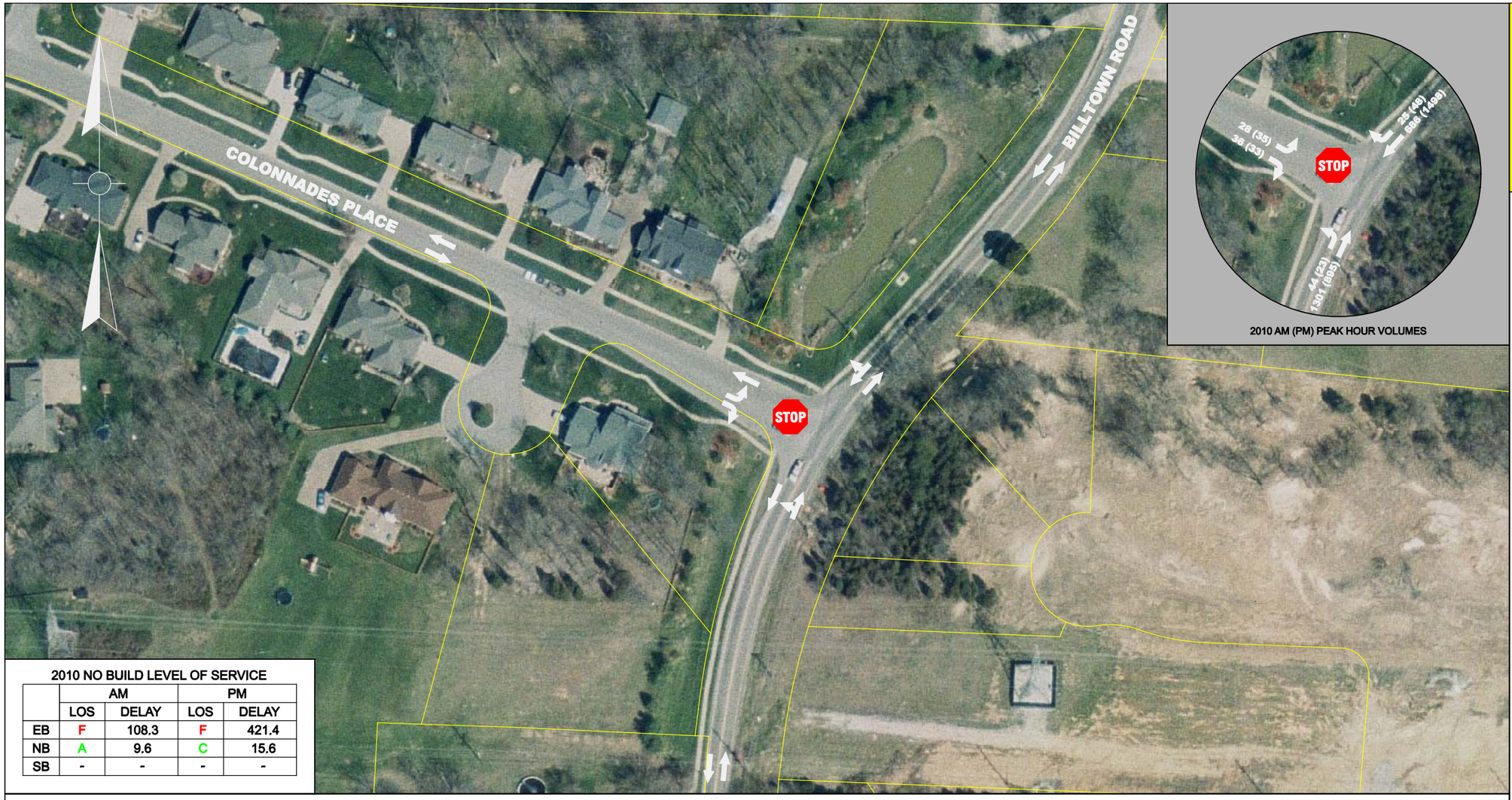
*CONSTRUCTION COST ONLY - EXCLUDES RIGHT-OF-WAY AND UTILITIES

LEGEND

- EXISTING RIGHT OF WAY
- SIGNALIZED INTERSECTION
- STOP-CONTROLLED INTERSECTION
- 980 (1080) 2010 AM (PM) PEAK HOUR VOLUMES

50 0 50 100 150
GRAPHIC SCALE IN FEET

FIGURE 18: BILLTOWN ROAD & COLONNADES PLACE INTERSECTION



2010 AM (PM) PEAK HOUR VOLUMES

2010 NO BUILD LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	F	108.3	F	421.4
NB	A	9.6	C	15.6
SB	-	-	-	-

Key Issues / Deficiencies

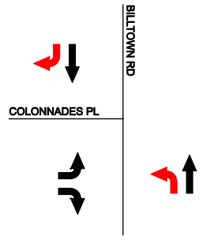
- Poor LOS for EB approach.
- No separate turn lanes on Billtown Road.
- Intersection of Colonnades Place / Billtown Road is located in a high crash rate section, although the intersection is not specifically a high crash rate spot.
- In the NB direction, there is a tree blocking sight distance for turning vehicles from Colonnades Place.

Alternates

- Alt. 1 – Separate Turn Lanes on Billtown Road:
  Minor traffic operation improvements. Increases safety on Billtown Road.
- Alt. 2 – Signalization:
  Does not meet Warrant 3, peak hour based on 2006 volumes.
- Alt. 3 – Signalization with SB Right Turn Lane:
  The entire intersection as well as all approaches operates at an acceptable LOS.
- Alt. 4 – Two-Way Left-Turn Lane Between Vintage Creek Drive and Colonnades Place:
  This would help reduce the high number of rear-end crashes on Billtown Road at this location.
  (Estimated Construction Cost: $180,000)

*CONSTRUCTION COST ONLY - EXCLUDES RIGHT-OF-WAY AND UTILITIES

ALTERNATE 1

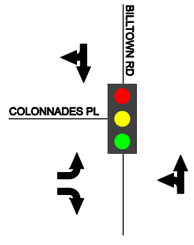


2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	F	104.1	F	394.9
NB	A	9.6	C	15.6
SB	-	-	-	-

ESTIMATED CONSTRUCTION COST*: $270,000

ALTERNATE 2

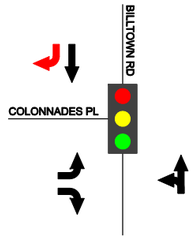


2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	D	47.9	D	53.4
NB	C	34.5	A	4.9
SB	A	3.3	D	54.7
WHOLE INT.	C	24.3	D	36.5

ESTIMATED CONSTRUCTION COST*: $130,000

ALTERNATE 3



2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	D	48.0	D	53.5
NB	D	41.8	A	5.1
SB	A	3.9	D	42.3
WHOLE INT.	C	29.2	C	29.1

ESTIMATED CONSTRUCTION COST*: $200,000

ALTERNATE 4

TWO-WAY LEFT-TURN LANE BETWEEN VINTAGE CREEK DRIVE AND COLONNADES PLACE
(ESTIMATED CONSTRUCTION COST*: $180,000)

LEGEND

EXISTING RIGHT OF WAY

SIGNALIZED INTERSECTION

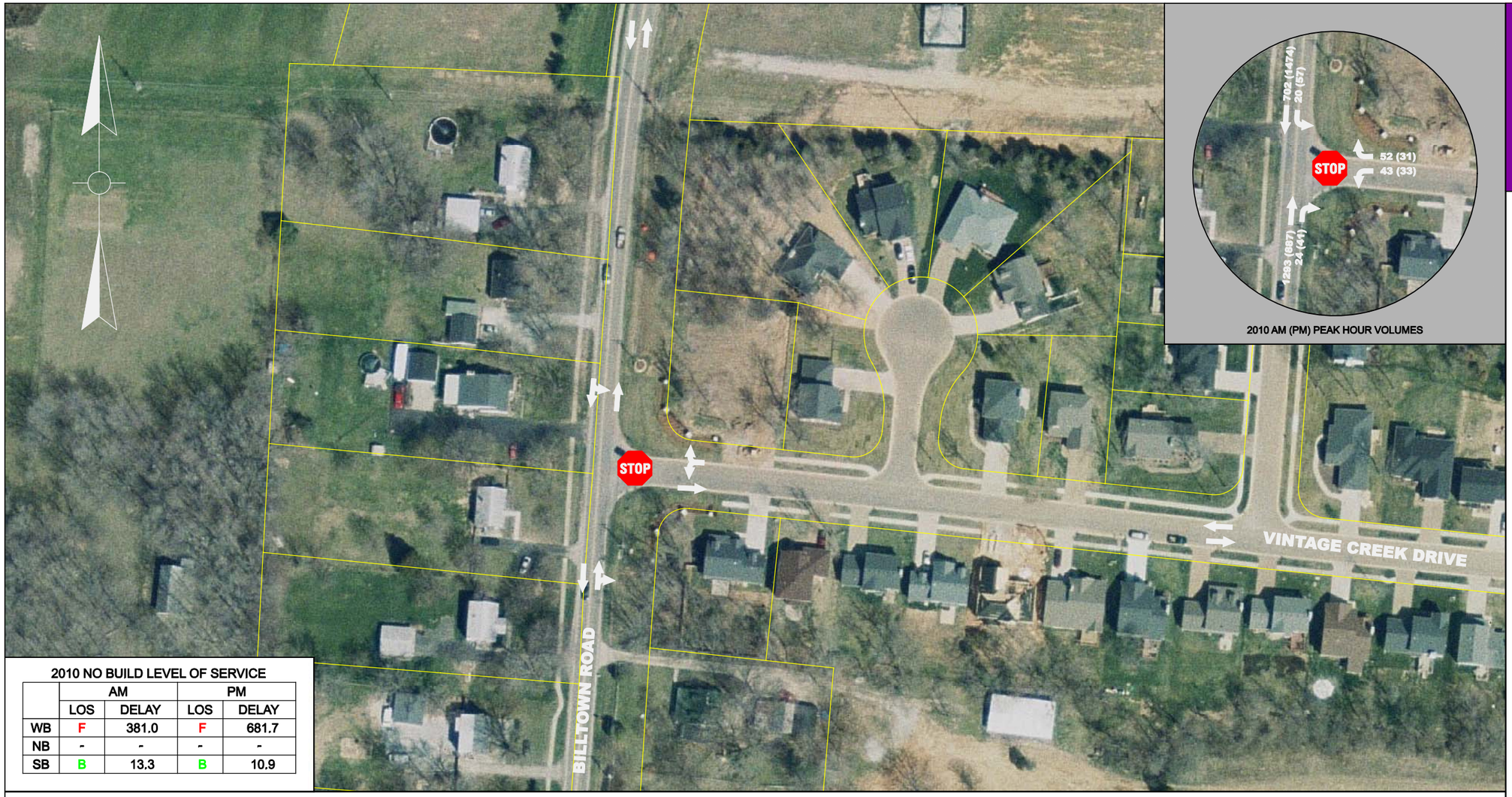
STOP-CONTROLLED INTERSECTION

980 (1080) 2010 AM (PM) PEAK HOUR VOLUMES

50 0 50 100 150

GRAPHIC SCALE IN FEET

FIGURE 19: BILLTOWN ROAD & VINTAGE CREEK DRIVE INTERSECTION



2010 AM (PM) PEAK HOUR VOLUMES

2010 NO BUILD LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
WB	F	381.0	F	681.7
NB	-	-	-	-
SB	B	13.3	B	10.9

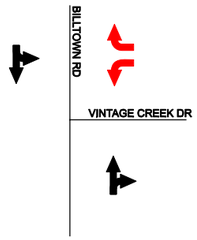
Key Issues / Deficiencies

- Poor LOS for WB approach.
- No separate turn lanes (all movements shared).
- Intersection of Vintage Creek Drive / Billtown Road is located in a high crash rate section, although the intersection is not specifically a high crash rate spot.

Alternates

- Alt. 1 – Separate Turn Lanes for WB Approach:
  Does not fully address problem with WB movements.
- Alt. 2 – Separate Turn Lanes on Billtown Road:
  Minor traffic operation improvements. Increases safety on Billtown Road.
- Alt. 3 – Signalization:
  On threshold of meeting Warrant 3, peak hour based on 2006 volumes.
- Alt. 4 – Signalization with Separate Turn Lanes:
  The entire intersection as well as all approaches operates at an acceptable LOS.

ALTERNATE 1

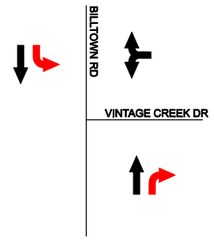


2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
WB	F	169.8	F	414.1
NB	-	-	-	-
SB	B	13.3	B	10.9

ESTIMATED CONSTRUCTION COST*: $60,000

ALTERNATE 2

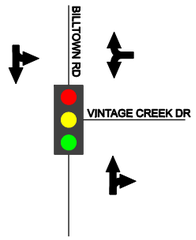


2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
WB	F	361.2	F	653.8
NB	-	-	-	-
SB	B	13.3	B	10.9

ESTIMATED CONSTRUCTION COST*: $270,000

ALTERNATE 3

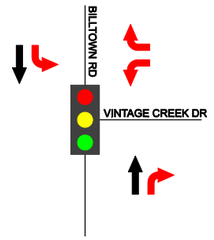


2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
WB	C	34.8	E	74.7
NB	D	50.0	A	3.6
SB	A	6.4	E	76.3
WHOLE INT.	C	34.5	D	49.5

ESTIMATED CONSTRUCTION COST*: $130,000

ALTERNATE 4



2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
WB	D	44.1	D	44.0
NB	D	35.7	B	12.3
SB	A	3.7	D	39.7
WHOLE INT.	C	25.1	C	29.7

ESTIMATED CONSTRUCTION COST*: $460,000

*CONSTRUCTION COST ONLY - EXCLUDES RIGHT-OF-WAY AND UTILITIES

LEGEND

EXISTING RIGHT OF WAY

SIGNALIZED INTERSECTION

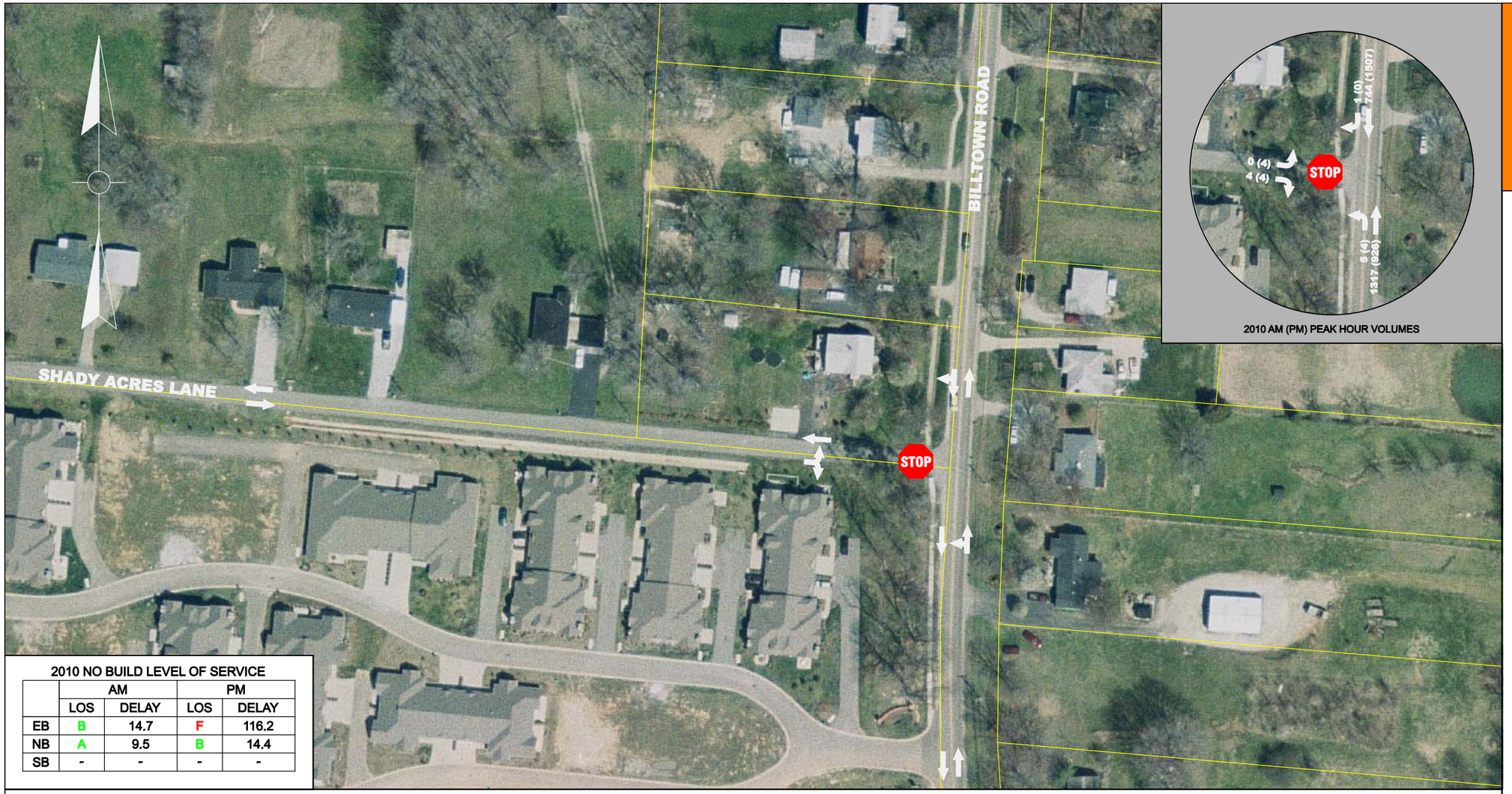
STOP-CONTROLLED INTERSECTION

980 (1080) 2010 AM (PM) PEAK HOUR VOLUMES

50 0 50 100 150

GRAPHIC SCALE IN FEET

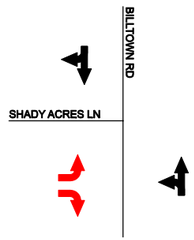
FIGURE 20: BILLTOWN ROAD & SHADY ACRES LANE INTERSECTION



2010 NO BUILD LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	B	14.7	F	116.2
NB	A	9.5	B	14.4
SB	-	-	-	-

ALTERNATE 1



2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	B	14.7	F	109.6
NB	A	9.5	B	14.4
SB	-	-	-	-

ESTIMATED CONSTRUCTION COST*: $60,000

Key Issues / Deficiencies

- Poor LOS for EB approach during PM peak period.
- No separate turn lanes (all movements shared).
- Very few vehicles entering / leaving Shady Acres Lane (5 or less during peak hour).
- Volumes do not meet traffic signal warrants.

Alternates

- Alt. 1 – Separate Turn Lanes for EB Approach:
  Does not fully address problem with EB movements.

*CONSTRUCTION COST ONLY - EXCLUDES RIGHT-OF-WAY AND UTILITIES

LEGEND

- EXISTING RIGHT OF WAY
- SIGNALIZED INTERSECTION
- STOP-CONTROLLED INTERSECTION
- 980 (1080) 2010 AM (PM) PEAK HOUR VOLUMES

50 0 50 100 150

GRAPHIC SCALE IN FEET

FIGURE 21: BILLTOWN ROAD & FAIRGROUND ROAD INTERSECTION

Key Issues / Deficiencies

- Poor LOS for EB approach.
- No separate turn lanes (all movements shared).

Alternates

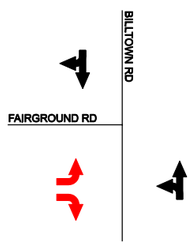
- Alt. 1 – Separate Turn Lanes for EB Approach:
  Does not fully address problem with EB movement.
- Alt. 2 – Separate Turn Lanes on Billtown Road:
  Minor traffic operation improvements. Increased safety on Billtown Road.
- Alt. 3 – Signalization:
  Does meet requirements for Warrant 1, Eight-Hour Vehicular Volume Condition B with 2006 volumes.
- Alt. 4 – Signalization with Separate Turn Lanes:
  Overall the intersection operates at an acceptable LOS; however, the NB left still operates at LOS E during the PM peak period.
- Alt. 5 – Signalization with Separate Turn Lanes and Right-In, Right-Out Access at Michael Edward Drive:
  Intersection operates acceptably in AM peak period, but has some increases in delay during the PM peak period due to the extra traffic from Michael Edward Drive.

*CONSTRUCTION COST ONLY - EXCLUDES RIGHT-OF-WAY AND UTILITIES

2010 NO BUILD LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	F	1160.0	F	3124.0
NB	A	9.7	C	17.5
SB	-	-	-	-

ALTERNATE 1

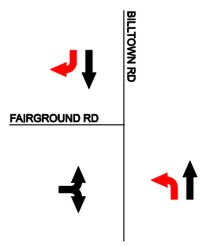


2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	F	844.4	F	1831.0
NB	A	9.7	C	17.5
SB	-	-	-	-

ESTIMATED CONSTRUCTION COST*: $60,000

ALTERNATE 2

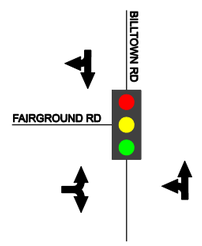


2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	F	1003.0	F	2718.0
NB	A	9.7	C	17.5
SB	-	-	-	-

ESTIMATED CONSTRUCTION COST*: $270,000

ALTERNATE 3

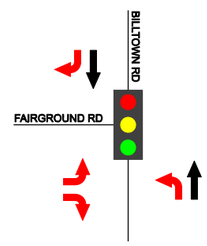


2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	D	47.8	F	176.2
NB	D	53.4	D	43.0
SB	A	8.2	E	79.2
WHOLE INT.	D	37.3	E	74.5

ESTIMATED CONSTRUCTION COST*: $130,000

ALTERNATE 4

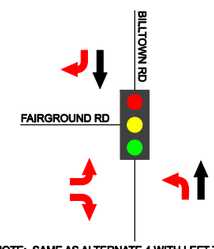


2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	D	40.2	C	30.0
NB	D	39.7	B	12.7
SB	A	7.4	D	47.1
WHOLE INT.	C	28.8	C	33.8

ESTIMATED CONSTRUCTION COST*: $460,000

ALTERNATE 5



NOTE: SAME AS ALTERNATE 4 WITH LEFT TURN TRAFFIC FROM MICHAEL EDWARD DRIVE

2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	D	51.7	E	79.6
NB	D	38.0	B	18.7
SB	A	7.4	E	78.0
WHOLE INT.	C	30.3	E	56.2

ESTIMATED CONSTRUCTION COST*: $460,000

LEGEND

- EXISTING RIGHT OF WAY
- SIGNALIZED INTERSECTION
- STOP-CONTROLLED INTERSECTION
- 980 (1080) 2010 AM (PM) PEAK HOUR VOLUMES

50 0 50 100 150
GRAPHIC SCALE IN FEET

FIGURE 22: BILLTOWN ROAD & MICHAEL EDWARD DRIVE INTERSECTION

2010 AM (PM) PEAK HOUR VOLUMES

2010 NO BUILD LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	F	1024.0	F	2706.0
NB	A	9.5	C	18.8
SB	-	-	-	-

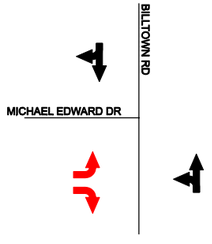
Key Issues / Deficiencies

- Poor LOS for EB approach.
- No separate turn lanes (all movements shared).
- Poor sight distance for turning vehicles from the current stop bar on Michael Edward Drive.

Alternates

- Alt. 1 – Separate Turn Lanes for EB Approach:
  Does not fully address problem with EB movements.
- Alt. 2 – Separate Turn Lanes on Billtown Road:
  Minor traffic operation improvements. Increased safety on Billtown Road.
- Alt. 3 – Signalization:
  Based on Warrant 2, four-hour vehicular volume and Warrant 3, peak hour, 2006 volumes do meet warrants.
- Alt. 4 – Right-In, Right-Out Access:
  Additional access to Michael Edward Drive is provided at Fairground Road. Does reduce overall delay, but still has poor LOS for EB approach during the PM peak period.

ALTERNATE 1

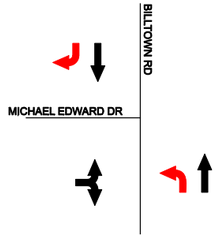


2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	F	418.1	F	869.4
NB	A	9.5	C	18.8
SB	-	-	-	-

ESTIMATED CONSTRUCTION COST*: $60,000

ALTERNATE 2

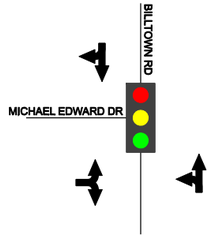


2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	F	944.4	F	2344.0
NB	A	9.5	C	18.8
SB	-	-	-	-

ESTIMATED CONSTRUCTION COST*: $270,000

ALTERNATE 3

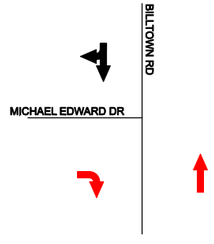


2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	C	22.4	F	389.5
NB	A	6.6	F	117.5
SB	B	11.7	E	77.0
WHOLE INT.	B	13.6	F	122.4

ESTIMATED CONSTRUCTION COST*: $130,000

ALTERNATE 4



2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	C	18.9	F	418.4
NB	-	-	-	-
SB	-	-	-	-

ESTIMATED CONSTRUCTION COST*: $60,000

*CONSTRUCTION COST ONLY - EXCLUDES RIGHT-OF-WAY AND UTILITIES

LEGEND

EXISTING RIGHT OF WAY

SIGNALIZED INTERSECTION

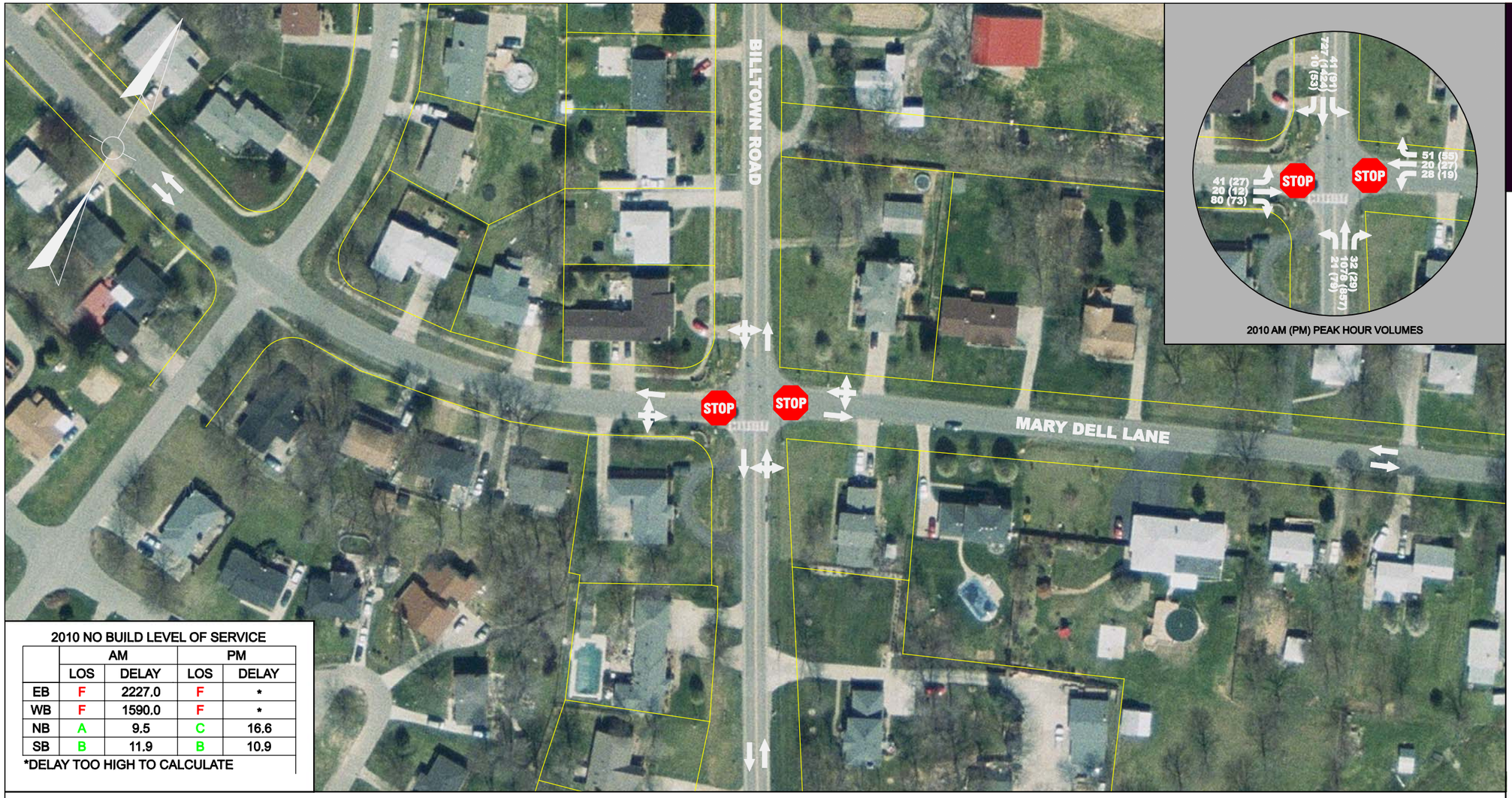
STOP-CONTROLLED INTERSECTION

980 (1080) 2010 AM (PM) PEAK HOUR VOLUMES

50 0 50 100 150

GRAPHIC SCALE IN FEET

FIGURE 23: BILLTOWN ROAD & MARY DELL LANE INTERSECTION



Key Issues / Deficiencies

- Poor LOS for EB/WB approaches.
- No separate turn lanes (all movements shared).
- Mary Dell Lane provides access to Charlie Vettiner Park and Golf Course to the east of Billtown Road and Virginia Wheeler Elementary School to the west of Billtown Road.

Alternates

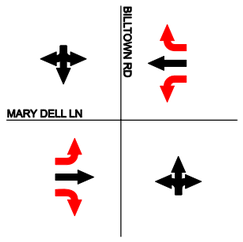
- Alt. 1 – Separate Turn Lanes for EB/WB Approaches:
  Does not fully address LOS problem with EB/WB movements.
- Alt. 2 – Separate Turn Lanes on Billtown Road:
  Minor traffic operation improvements. Increased safety on Billtown Road.
- Alt. 3 – Signalization:
  Based on Warrant 2, four-hour vehicular volume and Warrant 3, peak hour, 2006 volumes do not meet warrants; therefore a signal is currently not warranted at this location.

2010 NO BUILD LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	F	2227.0	F	*
WB	F	1590.0	F	*
NB	A	9.5	C	16.6
SB	B	11.9	B	10.9

*DELAY TOO HIGH TO CALCULATE

ALTERNATE 1

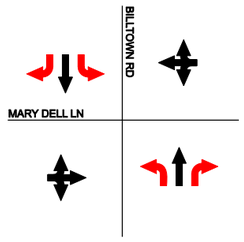


2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	F	712.0	F	*
WB	F	535.5	F	*
NB	A	9.5	C	16.6
SB	B	11.9	B	10.9

ESTIMATED CONSTRUCTION COST**: $240,000

ALTERNATE 2



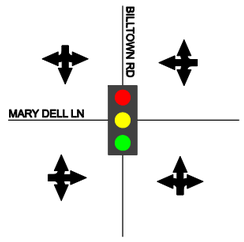
2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	F	1656.0	F	*
WB	F	1192.0	F	*
NB	A	9.5	C	16.6
SB	B	11.9	B	10.9

*DELAY TOO HIGH TO CALCULATE

ESTIMATED CONSTRUCTION COST**: $440,000

ALTERNATE 3



2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	C	34.9	F	142.6
WB	C	32.9	F	92.4
NB	C	34.7	D	36.5
SB	B	11.6	F	151.9
WHOLE INT.	C	26.3	F	108.8

ESTIMATED CONSTRUCTION COST**: $130,000

**CONSTRUCTION COST ONLY - EXCLUDES RIGHT-OF-WAY AND UTILITIES

LEGEND

EXISTING RIGHT OF WAY

SIGNALIZED INTERSECTION

STOP-CONTROLLED INTERSECTION

980 (1080) 2010 AM (PM) PEAK HOUR VOLUMES

50 0 50 100 150

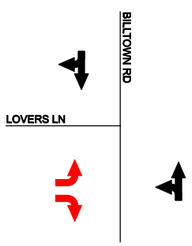
GRAPHIC SCALE IN FEET

FIGURE 24: BILLTOWN ROAD & LOVERS LANE INTERSECTION

2010 NO BUILD LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	F	1063.0	F	1987.0
NB	-	-	-	-
SB	A	10.0	C	16.6

ALTERNATE 1

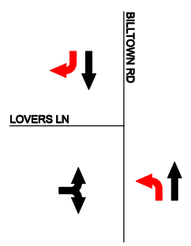


2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	F	830.1	F	1429.0
NB	A	10.0	C	16.6
SB	-	-	-	-

ESTIMATED CONSTRUCTION COST*: $60,000

ALTERNATE 2

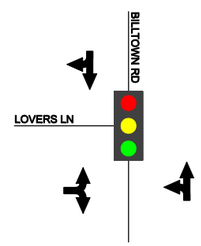


2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	F	1006.0	F	1564.0
NB	A	10.0	C	16.6
SB	-	-	-	-

ESTIMATED CONSTRUCTION COST*: $270,000

ALTERNATE 3

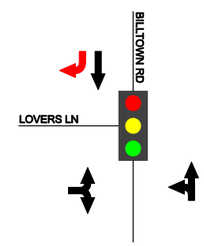


2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	C	34.4	E	72.1
NB	B	19.4	B	14.3
SB	B	11.2	E	72.6
WHOLE INT.	B	17.6	D	51.4

ESTIMATED CONSTRUCTION COST*: $130,000

ALTERNATE 4



2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	C	34.4	C	34.2
NB	B	19.2	B	20.0
SB	A	9.5	D	37.7
WHOLE INT.	B	16.8	C	30.9

ESTIMATED CONSTRUCTION COST*: $200,000

RECOMMENDATION

TRIM LANDSCAPING / TREES
(ESTIMATED CONSTRUCTION COST*: MINIMAL)

Key Issues / Deficiencies

- Poor LOS for EB Approach
- No separate turn lanes (all movements shared).

Alternates

- Alt. 1 – Separate Turn Lanes for EB Approach:
  Does not solve poor LOS for EB left.
- Alt. 2 – Separate Turn Lanes on Billtown Road:
  Minor traffic operation improvements. Increased safety on Billtown Road.
- Alt. 3 – Signalization:
  Based on Warrant 2, four-hour vehicular volume and Warrant 3, peak hour, 2006 volumes meet these warrants.
- Alt. 4 – Signalization with Separate SB Right Turn Lane:
  The entire intersection as well as all approaches operates at an acceptable LOS.

Recommendation

- Trim Landscaping / Trees:
  This will improve sight distance for traffic turning onto Billtown Road from Lovers Lane.
  (Estimated Construction Cost: Minimal)

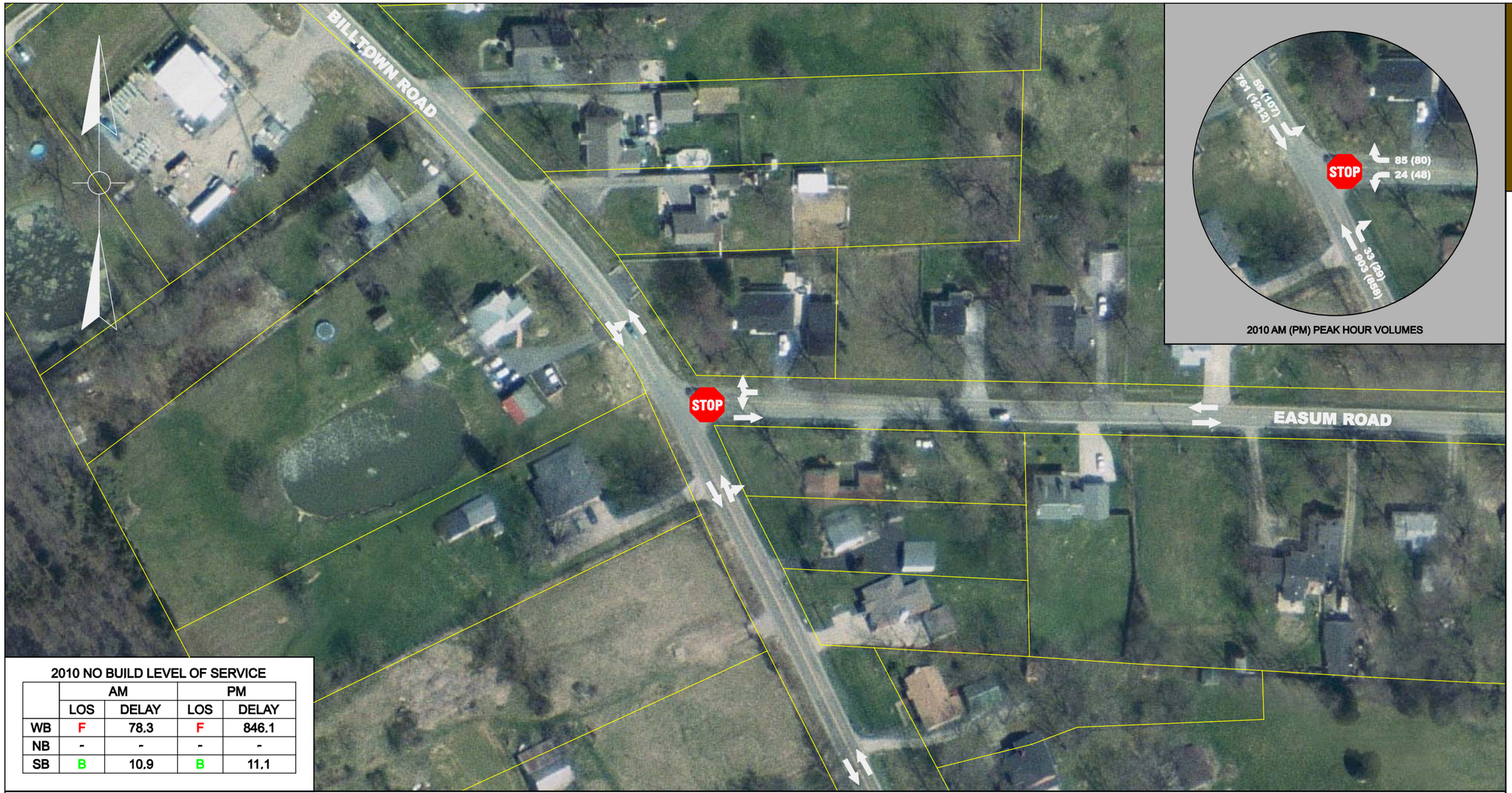
*CONSTRUCTION COST ONLY - EXCLUDES RIGHT-OF-WAY AND UTILITIES

LEGEND

- EXISTING RIGHT OF WAY
- SIGNALIZED INTERSECTION
- STOP-CONTROLLED INTERSECTION
- 980 (1080) 2010 AM (PM) PEAK HOUR VOLUMES

50 0 50 100 150
GRAPHIC SCALE IN FEET

FIGURE 25: BILLTOWN ROAD & EASUM ROAD INTERSECTION



2010 NO BUILD LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
WB	F	78.3	F	846.1
NB	-	-	-	-
SB	B	10.9	B	11.1

Key Issues / Deficiencies

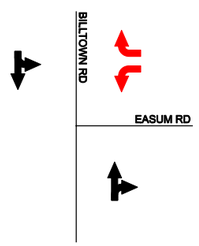
- Poor LOS for WB Approach
- Poor sight distance, intersection located in a curve.
- No separate turn lanes (all movements shared).

Alternates

- Alt. 1 – Separate Turn Lanes for WB Approach:
  Does not solve poor LOS for WB left.
- Alt. 2 – Separate Turn Lanes on Billtown Road:
  Minor traffic operation improvements. Increased safety on Billtown Road.
- Alt. 3 – Signalization:
  Based on Warrant 2, four-hour vehicular volume and Warrant 3, peak hour, 2006 volumes are on the threshold of meeting warrants.
- Alt. 4 – Signalization with Separate SB Left Turn Lane:
  The entire intersection as well as all approaches operates at an acceptable LOS.
- Alt. 5 – Straighten Curve
  (Estimated Construction Cost: $480,000)
- Alt. 6 – Install Additional Warning Signs and Retro-reflective Markings.
  (Estimated Construction Cost: $10,000)

*CONSTRUCTION COST ONLY - EXCLUDES RIGHT-OF-WAY AND UTILITIES

ALTERNATE 1

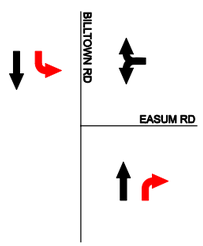


2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
WB	E	41.2	F	351.3
NB	-	-	-	-
SB	B	10.9	B	11.1

ESTIMATED CONSTRUCTION COST*: $60,000

ALTERNATE 2

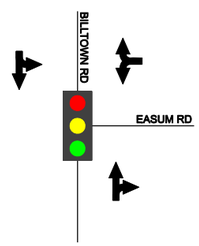


2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
WB	F	73.9	F	783.0
NB	-	-	-	-
SB	B	10.9	B	11.1

ESTIMATED CONSTRUCTION COST*: $270,000

ALTERNATE 3

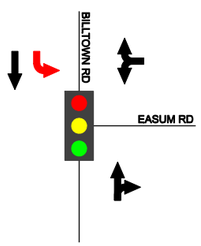


2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
WB	C	33.4	F	92.6
NB	B	12.6	A	5.0
SB	B	13.4	E	78.1
WHOLE INT.	B	14.2	D	51.1

ESTIMATED CONSTRUCTION COST*: $130,000

ALTERNATE 4



2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
WB	C	33.4	C	34.5
NB	B	12.6	A	9.9
SB	A	8.4	C	34.1
WHOLE INT.	B	12.0	C	25.0

ESTIMATED CONSTRUCTION COST*: $330,000

ALTERNATE 5

STRAIGHTEN CURVE
(ESTIMATED CONSTRUCTION COST*: $480,000)

ALTERNATE 6

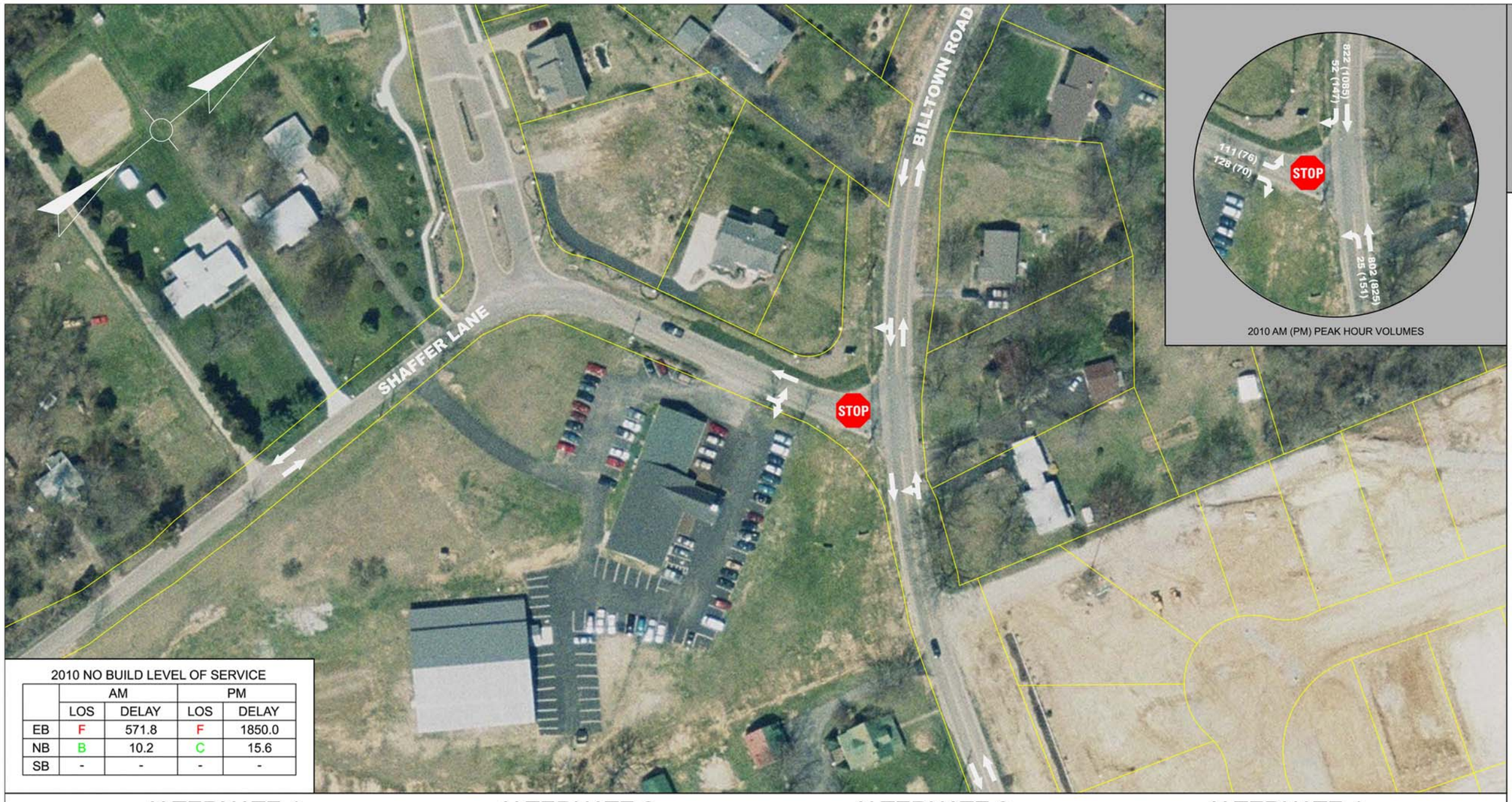
INSTALL ADDITIONAL WARNING SIGNS AND RETRO-REFLECTIVE MARKINGS
(ESTIMATED CONSTRUCTION COST*: $10,000)

LEGEND

EXISTING RIGHT OF WAY
SIGNALIZED INTERSECTION
STOP-CONTROLLED INTERSECTION
980 (1080) 2010 AM (PM) PEAK HOUR VOLUMES

50 0 50 100 150
GRAPHIC SCALE IN FEET

FIGURE 26: BILLTOWN ROAD & SHAFFER LANE INTERSECTION



2010 AM (PM) PEAK HOUR VOLUMES

Key Issues / Deficiencies

- Poor LOS for EB approach.
- No separate turn lanes (all movements shared).

Alternates

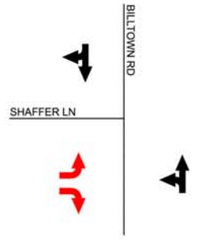
- Alt. 1 – Separate Turn Lanes for EB Approach:
  This improves traffic operations for WB right, but does not improve traffic operations to an acceptable level for the WB left.
- Alt. 2 – Separate Turn Lanes on Billtown Road:
  Minor traffic operation improvements. Increased safety on Billtown Road.
- Alt. 3 – Signalization:
  Does not meet warrant 1, eight hour vehicular volume, however signalization does improve intersection operation. With significant development planned for the near future, a signal could be warranted by 2010.
- Alt. 4 – Signalization with Separate EB Left and Right Turns and Separate NB Left:
  The entire intersection as well as all approaches operates at an acceptable LOS.

*CONSTRUCTION COST ONLY - EXCLUDES RIGHT-OF-WAY AND UTILITIES

2010 NO BUILD LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	F	571.8	F	1850.0
NB	B	10.2	C	15.6
SB	-	-	-	-

ALTERNATE 1

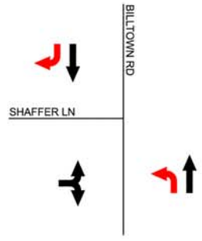


2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	F	214.8	F	971.6
NB	B	10.2	C	15.6
SB	-	-	-	-

ESTIMATED CONSTRUCTION COST*: $60,000

ALTERNATE 2

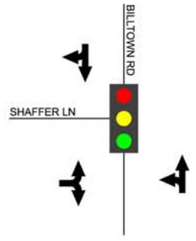


2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	F	534.7	F	1567.0
NB	B	10.2	C	15.6
SB	-	-	-	-

ESTIMATED CONSTRUCTION COST*: $270,000

ALTERNATE 3

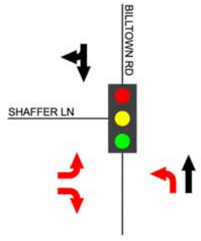


2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	C	34.6	F	108.9
NB	B	12.5	F	125.9
SB	B	13.0	B	15.7
WHOLE INT.	B	15.4	E	67.2

ESTIMATED CONSTRUCTION COST*: $130,000

ALTERNATE 4



2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	C	26.2	C	34.7
NB	B	10.5	A	8.7
SB	B	13.0	C	28.7
WHOLE INT.	B	13.5	C	20.5

ESTIMATED CONSTRUCTION COST*: $390,000

LEGEND

- EXISTING RIGHT OF WAY
- SIGNALIZED INTERSECTION
- STOP-CONTROLLED INTERSECTION
- 980 (1080) 2010 AM (PM) PEAK HOUR VOLUMES

50 0 50 100 150

GRAPHIC SCALE IN FEET

FIGURE 27: BILLTOWN ROAD & GELLHAUS LANE INTERSECTION

2010 AM (PM) PEAK HOUR VOLUMES

Key Issues / Deficiencies

- Poor LOS for NB Thru and Right Turn movement.
- Poor LOS for WB Left Turn during PM peak period.
- Crosswalks and pedestrian signals are present across the NB and WB approaches but do not connect to existing sidewalks.
- Queue length for WB Left Turn exceeds available storage.

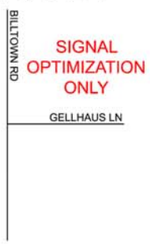
Alternates

- Alt. 1 – Signal Optimization:
  Improves overall intersection operations and delay, but still operates below the desirable level of service threshold.
- Alt. 2 – Add NB Right Turn Lane:
  In combination with signal optimization, this causes the intersection to operate at an acceptable level of service or better.
- Alt. 3 – Connect Sidewalks and Approaches
  (Estimated Construction Cost: $11,000)
- Alt. 4 – Extend WB Left Turn Lane:
  Need to extend lane as far back as possible to accommodate PM queues.
  (Estimated Construction Cost: $150,000)

2010 NO BUILD LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
WB	D	40.4	E	72.5
NB	F	340.9	F	276.5
SB	C	21.6	C	26.5
WHOLE INT.	F	164.2	F	134.3

ALTERNATE 1

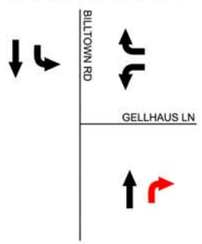


2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
WB	E	60.6	F	121.5
NB	F	132.3	F	121.6
SB	C	21.2	C	22.0
WHOLE INT.	E	77.1	F	82.2

ESTIMATED CONSTRUCTION COST*: MINIMAL

ALTERNATE 2



2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
WB	C	33.4	E	67.6
NB	C	22.4	E	62.0
SB	C	21.3	D	38.0
WHOLE INT.	C	24.0	D	53.5

ESTIMATED CONSTRUCTION COST*: $140,000

ALTERNATE 3

CONNECT SIDEWALKS AND APPROACHES
(ESTIMATED CONSTRUCTION COST*: $11,000)

ALTERNATE 4

EXTEND WB LEFT TURN LANE
(ESTIMATED CONSTRUCTION COST*: $150,000)

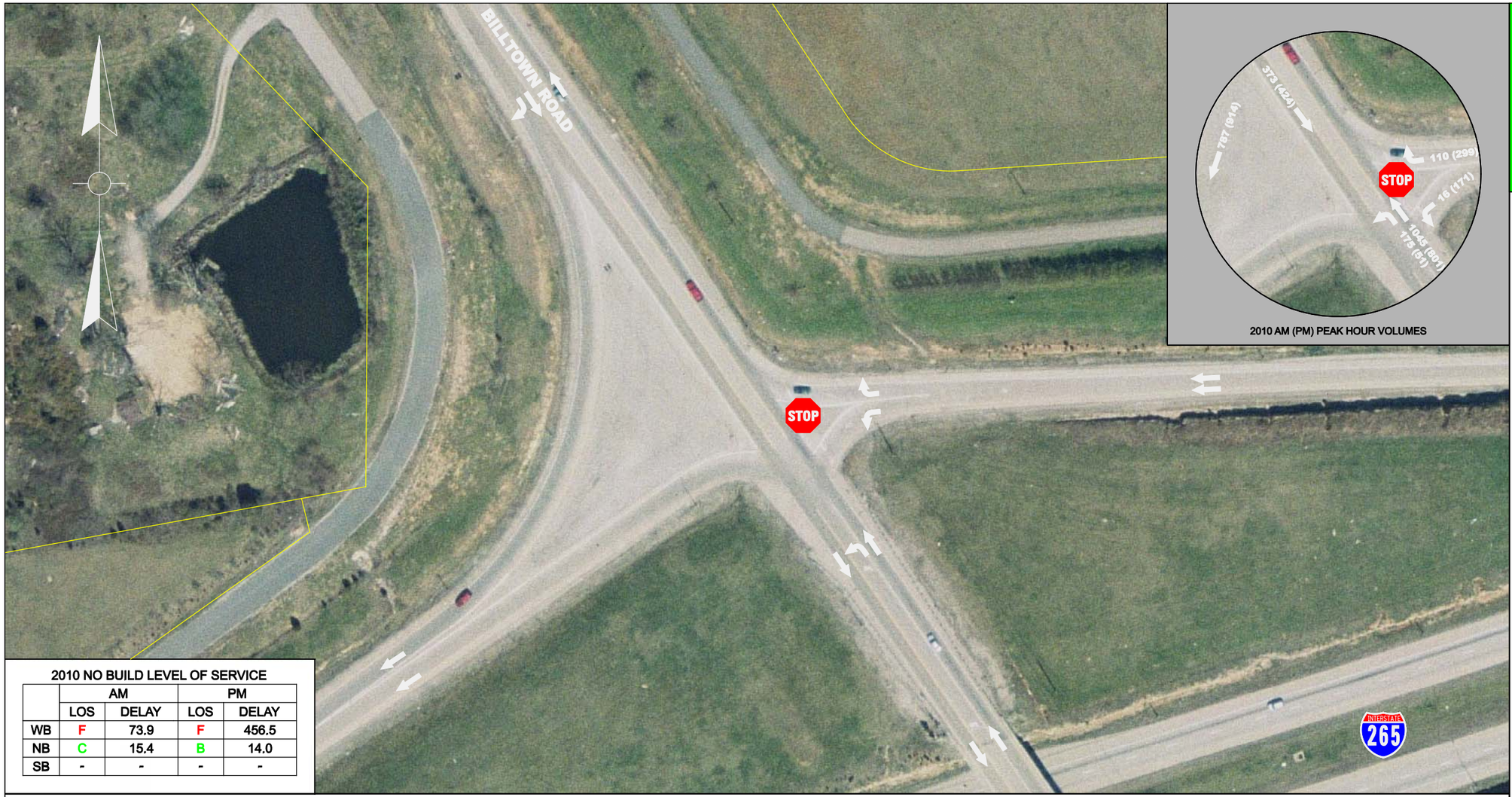
*CONSTRUCTION COST ONLY - EXCLUDES RIGHT-OF-WAY AND UTILITIES

LEGEND

- EXISTING RIGHT OF WAY
- SIGNALIZED INTERSECTION
- STOP-CONTROLLED INTERSECTION
- 980 (1080) 2010 AM (PM) PEAK HOUR VOLUMES

50 0 50 100 150
GRAPHIC SCALE IN FEET

FIGURE 28: BILLTOWN ROAD & I-265 WB/SB RAMPS INTERSECTION



Key Issues / Deficiencies

- Poor LOS for WB Approach

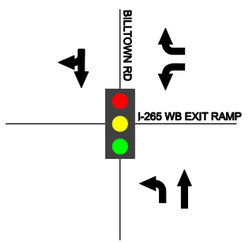
Alternates

- Alt. 1 – Signalization:
  Based on Warrant 2, four-hour vehicular volume and Warrant 3, peak hour, 2006 volumes do not meet warrants; therefore a signal is currently not warranted at this location. However, the traffic signal proposed for the intersection to the south should provide some improvement for the operation of this intersection.

2010 NO BUILD LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
WB	F	73.9	F	456.5
NB	C	15.4	B	14.0
SB	-	-	-	-

ALTERNATE 1



2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
WB	C	34.3	C	24.3
NB	B	11.1	B	12.2
SB	B	13.9	B	14.2
WHOLE INT.	B	13.1	B	15.6

ESTIMATED CONSTRUCTION COST*: $130,000

*CONSTRUCTION COST ONLY - EXCLUDES RIGHT-OF-WAY AND UTILITIES

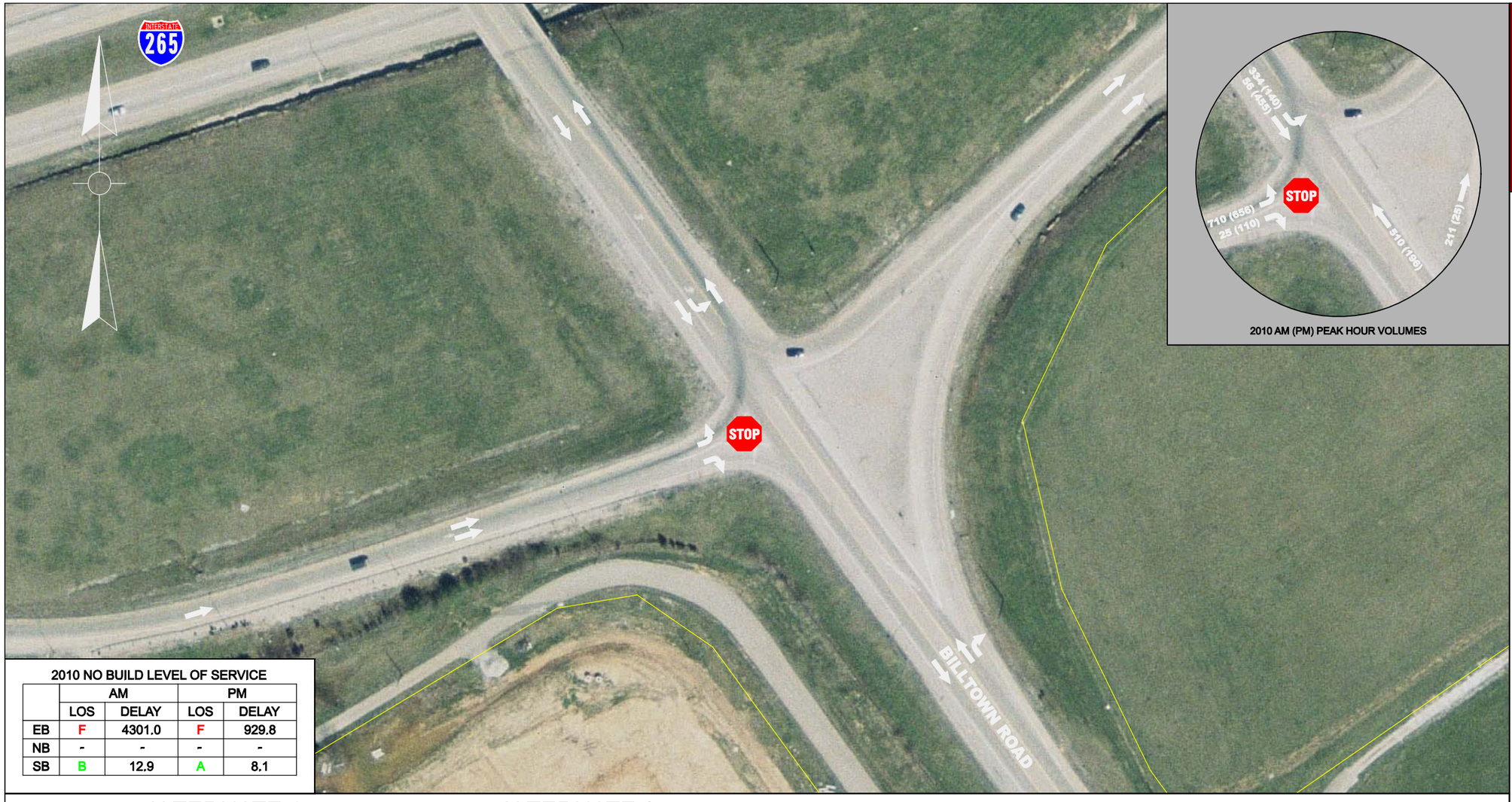
LEGEND

- EXISTING RIGHT OF WAY
- SIGNALIZED INTERSECTION
- STOP-CONTROLLED INTERSECTION
- 980 (1080) 2010 AM (PM) PEAK HOUR VOLUMES

50 0 50 100 150

GRAPHIC SCALE IN FEET

FIGURE 29: BILLTOWN ROAD & I-265 EB/NB RAMPS INTERSECTION



2010 AM (PM) PEAK HOUR VOLUMES

2010 NO BUILD LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	F	4301.0	F	929.8
NB	-	-	-	-
SB	B	12.9	A	8.1

Key Issues / Deficiencies

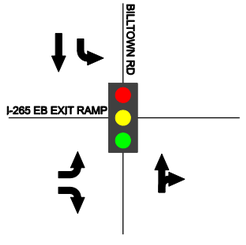
- Poor LOS for EB Approach

Alternates

- Alt. 1 – Signalization:
  Based on Warrant 2, four-hour vehicular volume and Warrant 3, peak hour, 2006 volumes are on the threshold of meeting warrants. Future volumes may meet warrants in 2010 given projected traffic volumes.

- Alt. 2 – Signalization with 2nd EB Left Turn Lane:
  Improves LOS to acceptable LOS D, but would require widening of I-265 overpass bridge to accommodate 2nd turn lane.

ALTERNATE 1

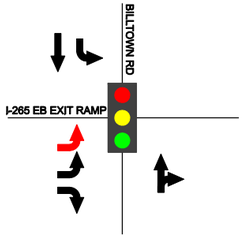


2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	F	93.1	C	23.6
NB	F	98.8	C	33.0
SB	F	142.3	C	25.0
WHOLE INT.	F	106.7	C	25.3

ESTIMATED CONSTRUCTION COST*: $130,000

ALTERNATE 2



2010 LEVEL OF SERVICE

	AM		PM	
	LOS	DELAY	LOS	DELAY
EB	C	33.6	B	10.6
NB	D	42.5	C	31.7
SB	D	48.1	C	25.0
WHOLE INT.	D	39.9	B	19.0

ESTIMATED CONSTRUCTION COST*: $1,000,000

*CONSTRUCTION COST ONLY - EXCLUDES RIGHT-OF-WAY AND UTILITIES

LEGEND

EXISTING RIGHT OF WAY

SIGNALIZED INTERSECTION

STOP-CONTROLLED INTERSECTION

980 (1080) 2010 AM (PM) PEAK HOUR VOLUMES

50 0 50 100 150

GRAPHIC SCALE IN FEET

9.1.2 Alternates Evaluation

The analysis procedure used to evaluate each alternate is a comparative process that considers multiple evaluation criteria and enables the best alternate of the set to be recommended for implementation. A matrix consisting of the evaluation criteria was developed for each intersection to be used as an evaluation tool. A list of the matrix criterion is provided below along with a description of each.

Level of Service / Delay – For intersection improvements such as signalization and / or adding turn lanes, a level of service analysis was performed using the HCS+ software package and 2010 volumes. No-Build levels of service and delay for the same year (2010) were calculated and used to compare to values resulting from intersection improvements to determine the extent to which they improve intersection operations.

For signalized intersections, the overall intersection level of service and delay (in seconds) is listed for the worst peak period. For the unsignalized intersections, the approach with the worst level of service and delay was selected for the worst peak period. Therefore, the poorest levels of service and delay for each intersection are shown in the table.

Signal Warrants – A traffic signal warrant evaluation was performed to determine if the intersection meets or exceeds any of the signal warrants as outlined in the Manual of Uniform Traffic Control Devices (MUTCD). According to the MUTCD, there are eight warrants used to justify the installation of a traffic signal, seven of which are most relevant to intersections analyzed as part of this study. These seven warrants are listed below along with a brief definition.

- Warrant 1: Eight-Hour Vehicular Volume – To satisfy this warrant, a minimum hourly volume must be exceeded for eight hours during an average day.
- Warrant 2: Four-Hour Vehicular Volume – For this warrant, traffic volumes for each of any 4 hours of an average day must be above the applicable curve in Figure 4C-1 or 4C-2 in the MUTCD manual.
- Warrant 3: Peak Hour – For this warrant, traffic volumes during one hour must be such that they exceed the given threshold as shown on either Figure 4C-3 or 4C-4 in the MUTCD.
- Warrant 5: School Crossing – This warrant is used when the primary reason for considering installation of a traffic signal is due to school children crossing the major street.
- Warrant 6: Coordinated Signal System – To ensure proper platooning of vehicles, this warrant may be used at an intersection to justify the installation of a traffic signal where otherwise it would not be needed.
- Warrant 7: Crash Experience – This warrant is used when the primary reason for installing a signal is due to a history of severe and frequent crashes in the vicinity of the intersection.

- Warrant 8: Roadway Network – This warrant can be used to justify installation of a traffic signal to encourage concentration and organization of traffic flow on a roadway network.

The remaining warrant (Warrant 4) was not applicable to this study as it pertains to pedestrian volumes, of which there are no intersections with sufficient pedestrian volumes to meet this warrant.

Intersections that are part of the study area and not currently signalized were evaluated to determine if any of the seven warrants discussed above apply. In some instances, more information including turning movement counts are necessary to determine if warrants are met. Overall, it should be noted that simply meeting a warrant does not mean that a traffic signal must be installed at that location. Engineering judgment must also be used to make sure that the installation of a traffic signal would be the best method for improving traffic operations and safety at that location.

Safety – Based on the crash analysis performed as part of the existing conditions analysis, it was noted if the intersection is located in a high crash rate section or is a high crash rate spot. Other, more qualitative discussion is also included where an improvement may lead to a reduction in certain crash types.

Environment Impacts – This evaluation criterion is subdivided into two categories – human and natural. The human environmental impacts relates to issues that would impact populations of people who live along the corridor or infrastructure that has specific value to the community such as historical or archaeological value. An assessment of environmental justice issues such as adverse impacts to minority, low-income, or elderly populations was performed to determine if there are any locations along the corridor where these occur. The full discussion on environmental justice issues is included as **Appendix B** at the end of this report.

The natural environmental impacts refer to impacts to floodplains, wetlands, and threatened / rare / endangered species. As this is a fairly urban / suburban area, these types of impacts are minimal.

Public Input – Results from the second public meeting held on February 27, 2007 were used to populate the evaluation criteria. Specifically, attendees were asked to select the alternate they thought would best improve any operational or safety deficiencies at the intersection on a comment form. These forms were collected at the meeting as well as via mail and fax following the meeting and compiled to determine the preferred alternate for each intersection as chosen by the public. The ranking of alternates is listed in the evaluation matrix.

Property Impacts – For the improvement alternates that require physical improvements such as turn lane construction, an assessment of the number of properties impacted by this construction was performed. The results are noted in the matrix.

Cost – Construction costs were developed for each alternate. The costs are in 2007 dollars and are for planning level purposes only. They do not include any costs for right-of-way or utilities.

The individual matrices for each intersection are shown as **Tables 17 – 30** on the following pages. The green shading indicates that an alternate has the best performance in a category while the red shading indicates the poorest performance. A summary of key evaluation points for each intersection is provided below.

Billtown Road / Ruckriegel Parkway – This intersection is very constrained by the surrounding development including a commercial development in the northeast corner, a post office in the southeast corner, and a cemetery in the northwest corner as well as just south of the post office. This intersection is also one of the primary entry points for Jeffersontown which, according to discussions with the city representative, major changes are not desired in order to preserve the character of the community. From a traffic perspective, the intersection currently operates poorly, and in order to achieve a good level of service, major reconstruction (Alternate 3) would need to occur including additional turn lanes as well as through lanes. This results in the highest cost of the alternates as well as the highest number of property impacts. However, based on public input, Alternate 3 was the preferred alternate.

Billtown Road / Saint Rene Road – This intersection is currently not signalized; however, installing a signal would improve the intersection operations to an acceptable level. A review of traffic warrants showed that neither Warrant 2 (Four-Hour Vehicular Volume) nor Warrant 3 (Peak Hour) is met based on 2006 volumes. Given the projections in traffic, it is possible that signal warrants may be met by the year 2010. Traffic signals can also be justified given a high crash history at an intersection which applies to this intersection. Warrant 7 is the traffic signal warrant for crash experience and further evaluation of the detailed crash reports at this intersection should be consulted to determine if this warrant is met. Overall, signalization with a separate southbound left turn lane was the preferred alternate by the public, and this alternate (Alternate 3) also had the best level of service as well as provided some measure to address the safety issue at this intersection.

Billtown Road / Colonnades Place – This intersection leads to a more residential neighborhood area and is not used as a major through route for vehicles. Based on the 2010 No-Build level of service analysis, the intersection has a poor level of service for the stop controlled approach. While signalization would improve the level of service to an acceptable level, an evaluation of signal warrants showed that Warrant 3 (Peak Hour) is not met. Additional volume information was not available to determine if any other signal warrants are met.

Table 17: Billtown Road / Ruckriegel Parkway Evaluation Matrix

Alternate	Description	Traffic			Environment Impacts		Public Input	Property Impacts	Cost*
		Delay (sec) / LOS	Signal Warrants	Safety	Human	Natural			
0	Do Nothing	277.8 / F	N/A	High Crash Rate Section	None	None	No response	0	$0
1	Signal Optimization	236 / F	N/A	High Crash Rate Section	None	None	2nd	0	Minimal
2	Add Exclusive Right Turn Bays	150.2 / F	N/A	High Crash Rate Section	1 cemetery	None	No response	3	$240,000
3	Add Exclusive Turn Lanes and Through Lanes	31.3 / C	N/A	High Crash Rate Section	1 cemetery	None	1st	5	$1,030,000

* Planning level cost estimate in 2007 dollars. Does not include utilities or right-of-way costs.

Table 18: Billtown Road / Saint Rene Road Evaluation Matrix

Alternate	Description	Traffic			Environment Impacts		Public Input	Property Impacts	Cost*
		Delay (sec) / LOS	Signal Warrants	Safety	Human	Natural			
0	Do Nothing	1203.0 / F	N/A	High Crash Rate Spot	None	None	No response	0	$0
1	Separate Turn Lanes on Billtown Rd	1076.0 / F	N/A	High Crash Rate Spot	None	None	2nd - Tied	3	$270,000
2	Signalization	50.8 / D	Does not meet warrants	High Crash Rate Spot	None	None	2nd - Tied	0	$130,000
3	Signalization with SB Left Turn Lane from Billtown Rd to Saint Rene Rd	34.8 / C	Does not meet warrants	High Crash Rate Spot	None	None	1st	2	$330,000

* Planning level cost estimate in 2007 dollars. Does not include utilities or right-of-way costs.

Table 19: Billtown Road / Colonnades Place Evaluation Matrix

Alternate	Description	Traffic			Environment Impacts		Public Input	Property Impacts	Cost*
		Delay (sec) / LOS	Signal Warrants	Safety	Human	Natural			
0	Do Nothing	451.4 / F	N/A	High Crash Rate Section	None	None	No response	0	$0
1	Separate Turn Lanes on Billtown Rd	394.9 / F	N/A	High Crash Rate Section	None	None	1st	5	$270,000
2	Signalization	36.5 / D	Does not meet warrants	High Crash Rate Section	None	None	2nd	0	$130,000
3	Signalization with SB Right Turn Lane from Billtown Rd to Colonnades Place	29.2 / C	Does not meet warrants	High Crash Rate Section	None	None	No response	0	$200,000
4	Two-Way Left-Turn Lane b/w Vintage Creek Dr and Colonnades Place	N/A	N/A	High Crash Rate Section	None	None	No response	9	$180,000

* Planning level cost estimate in 2007 dollars. Does not include utilities or right-of-way costs.

Table 20: Billtown Road / Vintage Creek Drive Evaluation Matrix

Alternate	Description	Traffic			Environment Impacts		Public Input	Property Impacts	Cost*
		Delay (sec) / LOS	Signal Warrants	Safety	Human	Natural			
0	Do Nothing	681.7 / F	N/A	High Crash Rate Section	None	None	1st - Tied	0	$0
1	Separate Turn Lanes for WB Approach (Vintage Creek Dr)	414.1 / F	N/A	High Crash Rate Section	None	None	No response	4	$60,000
2	Separate Turn Lanes on Billtown Road	653.8 / D	N/A	High Crash Rate Section	None	None	No response	7	$270,000
3	Signalization	49.5 / D	On threshold of meeting Warrant 3	High Crash Rate Section	None	None	No response	0	$130,000
4	Signalization with Separate Turn Lanes	29.7 / C	On threshold of meeting Warrant 3	High Crash Rate Section	None	None	1st - Tied	11	$460,000

* Planning level cost estimate in 2007 dollars. Does not include utilities or right-of-way costs.

Table 21: Billtown Road / Shady Acres Lane Evaluation Matrix

Alternate	Description	Traffic			Environment Impacts		Public Input	Property Impacts	Cost*
		Delay (sec) / LOS	Signal Warrants	Safety	Human	Natural			
0	Do Nothing	116.2 / F	N/A	High Crash Rate Section	None	None	No response	0	$0
1	Separate Turn Lanes for EB Approach (Shady Acres Ln)	109.6 / F	N/A	High Crash Rate Section	None	None	1st - Tied	3	$60,000

* Planning level cost estimate in 2007 dollars. Does not include utilities or right-of-way costs.

Table 22: Billtown Road / Fairground Road Evaluation Matrix

Alternate	Description	Traffic			Environment Impacts		Public Input	Property Impacts	Cost*
		Delay (sec) / LOS	Signal Warrants	Safety	Human	Natural			
0	Do Nothing	3124 / F	N/A	-	None	None	6th	0	$0
1	Separate Turn Lanes for EB Approach (Fairground Rd)	1831.0 / F	N/A	-	None	None	5th	2	$60,000
2	Separate Turn Lanes on Billtown Rd	2718.0 / F	N/A	Could reduce rear end crashes	None	None	4th	10	$270,000
3	Signalization	74.5 / E	Meets Warrant 1	-	None	None	2nd	0	$130,000
4	Signalization with Separate Turn Lanes	33.8 / C	Meets Warrant 1	Could reduce rear end crashes	None	None	1st	12	$460,000
5	Signalization with Separate Turn Lanes and Right-in, Right-out Access at Michael Edward Dr	56.2 / E	Meets Warrant 1	Could reduce rear end crashes	None	None	3rd	12	$460,000

* Planning level cost estimate in 2007 dollars. Does not include utilities or right-of-way costs.

Table 23: Billtown Road / Michael Edward Drive Evaluation Matrix

Alternate	Description	Traffic			Environment Impacts		Public Input	Property Impacts	Cost*
		Delay (sec) / LOS	Signal Warrants	Safety	Human	Natural			
0	Do Nothing	2706.0 / F	N/A	-	None	None	3rd - Tied	0	$0
1	Separate Turn Lanes for Eastbound Approach (Michael Edward Dr)	869.4 / F	N/A	-	None	None	3rd - Tied	3	$60,000
2	Separate Turn Lanes on Billtown Rd	2344.0 / F	N/A	Could reduce rear end crashes	None	None	1st - Tied	6	$270,000
3	Signalization	122.4 / F	Meets Warrant 2 and 3	-	None	None	1st - Tied	0	$130,000
4	Right-in, Right-out Access for Michael Edward Dr	418.4 / F	N/A	Could reduce rear end crashes	Reduces access to corner business	None	5th	0	$60,000

* Planning level cost estimate in 2007 dollars. Does not include utilities or right-of-way costs.

Table 24: Billtown Road / Mary Dell Lane Evaluation Matrix

Alternate	Description	Traffic			Environment Impacts		Public Input	Property Impacts	Cost*
		Delay (sec) / LOS	Signal Warrants	Safety	Human	Natural			
0	Do Nothing	2227.0 / F	N/A	-	None	None	3rd - Tied	0	$0
1	Separate Turn Lanes for Eastbound / Westbound Approaches (Mary Dell Lane)	712.0 / F	N/A	-	None	None	3rd - Tied	8	$240,000
2	Separate Turn Lanes on Billtown Road	1656.0 / F	N/A	Could reduce rear end crashes	None	None	2nd	8	$440,000
3	Signalization	108.8 / F	Does not meet warrants	-	None	None	1st	0	$130,000

* Planning level cost estimate in 2007 dollars. Does not include utilities or right-of-way costs.

Table 25: Billtown Road / Lovers Lane Evaluation Matrix

Alternate	Description	Traffic			Environment Impacts		Public Input	Property Impacts	Cost*
		Delay (sec) / LOS	Signal Warrants	Safety	Human	Natural			
0	Do Nothing	1987.0 / F	N/A	-	None	None	5th	0	$0
1	Separate Turn Lanes for Eastbound Approach (Lovers Lane)	1429.0 / F	N/A	-	None	None	1st	2	$60,000
2	Separate Turn Lanes on Billtown Road	1564.0 / F	N/A	Could reduce rear end crashes	None	None	2nd - Tied	6	$270,000
3	Signalization	51.4 / D	Meets Warrant 2 and 3	-	None	None	4th	0	$130,000
4	Signalization with Separate Southbound Right Turn Lane from Billtown Road to Lovers Lane	30.9 / C	Meets Warrant 2 and 3	Could reduce rear end crashes	None	None	2nd - Tied	3	$200,000

* Planning level cost estimate in 2007 dollars. Does not include utilities or right-of-way costs.

Table 26: Billtown Road / Easum Road Evaluation Matrix

Alternate	Description	Traffic			Environment Impacts		Public Input	Property Impacts	Cost*
		Delay (sec) / LOS	Signal Warrants	Safety	Human	Natural			
0	Do Nothing	846.1 / F	N/A	-	None	None	3rd - Tied	0	$0
1	Separate Turn Lanes for Westbound Approach (Easum Road)	351.3 / F	N/A	-	None	None	5th - Tied	3	$60,000
2	Separate Turn Lanes on Billtown Road	783.0 / F	N/A	Could reduce rear end crashes	None	None	2nd	8	$270,000
3	Signalization	51.1 / D	On threshold of Meeting Warrants 2 and 3	-	None	None	3rd - Tied	0	$130,000
4	Signalization with Separate Southbound Left Turn Lane from Billtown Road to Easum Road	25.0 / C	On threshold of Meeting Warrants 2 and 3	Could reduce rear end crashes	None	None	1st	3	$330,000
5	Straighten Curve	N/A	N/A	Could improve sight distance and reduce crashes	None	None	5th - Tied	14	$480,000
6	Install Additional Warning Signs and Retro-reflective Markings	N/A	N/A	Could slow down vehicles and make curve more visible	None	None	5th - Tied	0	$10,000

* Planning level cost estimate in 2007 dollars. Does not include utilities or right-of-way costs.

Table 27: Billtown Road / Shaffer Lane Evaluation Matrix

Alternate	Description	Traffic			Environment Impacts		Public Input	Property Impacts	Cost*
		Delay (sec) / LOS	Signal Warrants	Safety	Human	Natural			
0	Do Nothing	1850.0 / F	N/A	-	None	None	3rd - Tied	0	$0
1	Separate Turn Lanes for Eastbound Approach (Shaffer Lane)	971.6 / F	N/A	-	None	None	3rd - Tied	4	$60,000
2	Separate Turn Lanes on Billtown Road	1567.0 / F	N/A	Could reduce rear end crashes	None	None	3rd - Tied	8	$270,000
3	Signalization	67.2 / E	Does not meet warrants	-	None	None	2nd	0	$130,000
4	Signalization with Separate EB Left and Right Turn Lanes from Shaffer Ln to Billtown Rd and Separate NB Left Turn Lane from Billtown Rd to Shaffer Ln	20.5 / C	Does not meet warrants	Could reduce rear end crashes	None	None	1st	8	$390,000

* Planning level cost estimate in 2007 dollars. Does not include utilities or right-of-way costs.

Table 28: Billtown Road / Gellhaus Lane Evaluation Matrix

Alternate	Description	Traffic			Environment Impacts		Public Input	Property Impacts	Cost*
		Delay (sec) / LOS	Signal Warrants	Safety	Human	Natural			
0	Do Nothing	164.2 / F	N/A	-	None	None	5th	0	$0
1	Signal Optimization	82.2 / F	N/A	-	None	None	1st - Tied	0	Minimal
2	Add NB Right Turn Lane from Billtown Rd to Gellhaus Ln	53.5 / D	N/A	Could reduce rear end crashes	None	None	1st - Tied	1	$140,000
3	Connect Sidewalks and Approaches	N/A	N/A	Would improve pedestrian safety	None	None	3rd - Tied	0	$11,000
4	Extend WB Left Turn Lane	N/A	N/A	-	None	None	3rd - Tied	3	$150,000

* Planning level cost estimate in 2007 dollars. Does not include utilities or right-of-way costs.

Table 29: Billtown Road / I-265 WB/SB Ramps Evaluation Matrix

Alternate	Description	Traffic			Environment Impacts		Public Input	Property Impacts	Cost*
		Delay (sec) / LOS	Signal Warrants	Safety	Human	Natural			
0	Do Nothing	456.5 / F	N/A	-	None	None	No response	0	$0
1	Signalization	15.6 / B	Does not meet warrants	-	None	None	1st	0	$130,000

* Planning level cost estimate in 2007 dollars. Does not include utilities or right-of-way costs.

Table 30: Billtown Road / I-265 EB/NB Ramps Evaluation Matrix

Alternate	Description	Traffic			Environment Impacts		Public Input	Property Impacts	Cost*
		Delay (sec) / LOS	Signal Warrants	Safety	Human	Natural			
0	Do Nothing	4301.0 / F	N/A	-	None	None	No response	0	$0
1	Signalization	106.7 / F	On threshold of Meeting Warrants 2 and 3	-	None	None	No response	0	$130,000
2	Signalization with 2nd EB Left Turn Lane from the I-265 EB Exit Ramp to Billtown Rd	39.9 / D	On threshold of Meeting Warrants 2 and 3	-	None	None	1st	0	$1,000,000

* Planning level cost estimate in 2007 dollars. Does not include utilities or right-of-way costs.

Billtown Road / Vintage Creek Drive – This intersection also leads to a more residential neighborhood area and is not used as a major through route for vehicles. Similar to the traffic operations at Colonnades Place, this intersection has a poor level of service for the stop controlled approach. An evaluation of signal warrants showed that Warrant 3 (Peak Hour) is on the threshold of being met. Additional volume information was not available to determine if any other signal warrants are currently met. While signalization would improve the level of service, to effectively improve the level of service on all approaches, additional turn lanes would need to be constructed on both the side street (Vintage Creek Drive) and Billtown Road.

Billtown Road / Shady Acres Lane – Shady Acres Lane is a residential neighborhood street that has no outlet at the end. The delay and level of service are poor for the Shady Acres Lane approach; however, traffic volumes are so low that it may be hard to justify any improvement at this intersection. Only one person commented on this intersection at the second public meeting, selecting the alternate with the addition of turn lanes on Shady Acres Lane as their preferred alternate.

Billtown Road / Fairground Road – This intersection received the most response at the second public meeting, with 44 comment forms returned. Overall, signalization with separate turn lanes on both Fairground Road and Billtown Road (Alternate 4) was selected as the preferred alternate by the public. Based on 2006 traffic volumes, the requirements for Warrant 1 (Eight-Hour Vehicular Volume Condition B) are met. Installation of a traffic signal with the separate turn lanes is not only warranted, but these improvements would also provide the greatest improvement in level of service and delay of all the alternates, thereby improving intersection operations to an acceptable level. The only drawback to this alternate is that it has the highest estimated construction cost, though not significantly higher than the cost estimates for the other alternates.

Also included as a potential alternate was combining signalization and separate turn lanes at Fairground Road with limited access at Michael Edward Drive (Alternate 5). Only right turns in and out of Michael Edward Drive would be allowed, thereby redirecting any left turns through the now signalized intersection at Fairground Road. An analysis of traffic operations showed that with this additional traffic through the Fairground Road intersection, the level of service would drop to LOS E for several approaches and the overall intersection during the PM peak period. While this is below a desirable level of service threshold, it is an improvement over the 2010 level of service and delay for no improvements. There was also good public response for this alternate (rated 3rd by the public – signalization only of Fairground Road was rated second).

Billtown Road / Michael Edward Drive – Similar to most intersections along Billtown Road, the side street (Michael Edward Drive) has poor intersection operations (LOS F). Signal Warrants 2 (Four-Hour Vehicular Volumes) and 3 (Peak Hour) are met using 2006 volumes; however, signalization alone does not solve the poor intersection operations during the PM peak period. Another alternate that was developed to provide an option for improvements in addition to signalization was limiting access at this

location to right-in, right-out traffic only. This still causes a poor level of service (LOS F) in the PM peak period, but significantly reduces delay compared to the No-Build Alternate and is not much higher than the delay for the same approach as adding a signal. The cost for completing the access restrictions is also less ($60,000) compared to installation of a signal ($130,000). The drawback for this alternate is that the public did not have a high response based on returned comment forms. They selected either signalization or separate turn lanes on Billtown Road as their preferred alternate. Some of the lack of response for the limited access alternate could be due to uncertainty about how this alternate would actually operate. At the public meeting when the alternate was discussed, some people were confused about how this would work in conjunction with improvements at Fairground Road. The public did not have a significant reaction either way to leaving access open at this road, even given the business located at the corner.

Billtown Road / Mary Dell Lane – Mary Dell Lane has four approaches, with the two on the side street (Mary Dell Lane) stop-controlled. Poor level of service (LOS F) and very high delays are experienced on Mary Dell Lane according to the HCS+ analysis. The intersection is also unique in the fact that Mary Dell Lane provides access to a school to the west and a park and golf course to the east. Therefore, in addition to poor traffic operations, there are concerns about access to these locations as well as the need for pedestrian provisions given a high pedestrian concentration at this intersection compared to other locations in the study area. The traffic volumes are so high on Billtown Road that signalization of the intersection still results in poor traffic operations and in fact the addition of turn lanes on all approaches only moderately improves this. Also, neither Warrant 2 (Four-Hour Vehicular Volumes) nor 3 (Peak Hour) are met. There is the possibility that a third warrant could be met – Warrant 5 (School Crossing). A signal could be considered due to the school if there are sufficiently high pedestrian volumes crossing Billtown Road at this location. Further evaluation would need to be performed, including pedestrian counts, to justify a signal based on this warrant. While the public seemed to think that signalization would be the best improvement alternate at this location, there are several factors that indicate this may not be the case.

Given that traditional methods such as signal installation and turn lane additions do not solve the problem at this location, additional improvement alternates were developed and considered to provide some measure of relief including pedestrian improvements. An experimental pedestrian signal is available currently that employs new technology that is more responsive to pedestrians – it provides enhanced warning for vehicles prior to the pedestrian crossing and lights up the pedestrian with a flashing strobe light. A system like this might be applicable at this location. Further consideration may need to be given to improving the safety at this intersection and focusing on other traffic operational improvements at upstream and downstream intersections that could lead to residual improvements at this location.

Billtown Road / Lovers Lane – Lovers Lane is actually a state designated route (KY 1065) that runs between Billtown Road and Bardstown Road. The stop-controlled approach on Lovers Lane operates at a poor LOS (LOS F), with signalization and the addition of a southbound left turn lane onto Lovers Lane needed to improve the

intersection level of service and all approaches to a LOS D or better. A review of traffic volumes for 2006 compared to signal warrants indicates that two warrants are currently met – Warrant 2 (Four-Hour Vehicular Volumes) and 3 (Peak Hour). While signalization and construction of an additional turn lane provides the greatest improvement in level of service and safety at the intersection, the public selected Alternate 1 (Separate Turn Lanes on Lovers Lane) as the preferred alternate. Based on comments received at the public meeting, there is a perceived problem with accessing Billtown Road and that side street improvements would facilitate this in conjunction with signals at all major intersections.

Billtown Road / Easum Road – There have been several complaints about this intersection by citizens, especially regarding safety concerns. The intersection is located in a slight curve and sight distance is an issue. The crash analysis did not show a crash rate problem at this location, however, several of the crashes mentioned by members of the public such as run-off road type crashes may not have been reported. The side street of Easum Road has a poor level of service and some delay (though not as much as other intersections located throughout the corridor). Ultimately, signalization of the intersection as well as construction of a southbound left turn lane would be necessary to improve intersection operations from a LOS E/F to LOS C. An analysis of traffic signal warrants showed that Warrant 2 (Four-Hour Vehicular Volumes) and 3 (Peak Hour) are not met using 2006 volumes. Since a signal is currently not warranted, safety improvements may need to be the focus of targeted improvements at this location. Other alternates that would improve safety at this location include installation of separate turn lanes on Billtown Road or on Easum Road to reduce rear-end crashes, straightening the curve to improve sight distance, or simply improving the visibility of the intersection through additional retroreflective warning signs and striping. Other improvements at adjacent upstream and downstream intersections may cause intersection operations to improve without any specific operational improvements at this location.

Billtown Road / Shaffer Lane – Shaffer Lane primarily serves residential traffic, however, it also provides a connector between Billtown Road and Seatonville Road. Shaffer Lane is stop-controlled and this results in a poor LOS (LOS F) and high delays on Shaffer Lane. The evaluation of several alternates showed that signalization alone does not solve the LOS problem in the PM peak period and turn lanes on Shaffer Lane and a northbound left turn lane on Billtown Road are needed to improve intersection operations to a LOS C. In fact, this alternate (Alternate 4) was the preferred alternate by the public. However, based on a full day of turning movement counts, Warrant 1 (Eight-Hour Vehicular Volume Condition B) is not met. Given the residential growth projected for this area, this may change in the future. While signalization may not be warranted currently, the installation of turn lanes could be considered from a safety perspective as opposed to an operational improvement perspective.

Billtown Road / Gellhaus Lane – This intersection has recently undergone some major changes as a result of the on-going construction for a new elementary and middle school and the completed bus compound. The intersection was realigned to form a “T”

intersection and a signal was installed. Separate turn lanes are provided on all approaches with the exception of the northbound direction (no northbound right turn lane). With the additional traffic generated by the schools and a potential new residential development on Gellhaus Lane, the intersection volumes increase sufficiently that without improvements the intersection operates at a LOS F in the year 2010. Optimizing the signal timing improves the delay slightly, but the intersection still remains at a LOS F. If a northbound right turn lane is added along with signal optimization, the intersection operations improve to a LOS D. Based on public input, signal optimization and the construction of a northbound right turn lane are the favorable alternates (Alternate 1 and 2). If the right turn lane was constructed, there might be additional cost in moving the existing traffic signal controller box and pole since they are located in the right-of-way where the new turn lane would be constructed.

In addition to traffic operations, pedestrian needs were considered at this location in particular given the construction of the new schools. Based on a field visit, there are some new sections of sidewalk and striped crossings through the intersection; however, these are not connected currently. Therefore an alternate was proposed to connect the sidewalks to the intersection crossings thereby improving the safety and connectivity of the intersection for pedestrians.

Billtown Road / I-265 Westbound/Southbound Ramps – This intersection forms the northern half of a diamond interchange of Billtown Road with I-265. Traffic volumes coming from I-265 in the PM peak period are higher than the AM peak period. This is shown by the higher delay (456.5 seconds) during the PM peak period as opposed to the AM peak period (73.9 seconds) although the westbound approach level of service is LOS F for both peak periods. Installation of a traffic signal was the primary alternate considered for improvements at this intersection since there are already separate turn lanes in all directions. Based on current (2006) volumes, a signal is not justified from either Warrant 2 (Four-Hour Vehicular Volume) or Warrant 3 (Peak Hour). However, an additional signal warrant could be used to justify installation of a signal at this location if it was determined to be appropriate. Warrant 6 (Coordinated Signal System) is used when there are signals located nearby such that to maintain proper platooning of vehicles, a signal is needed at the location that normally would not be justified. If a traffic signal is installed at the southern ramp intersection, a signal may be needed at this intersection and coordinated with both the other interchange signal and the one at Gellhaus to ensure optimum traffic flow.

Billtown Road / I-265 Eastbound/Northbound Ramps – For this intersection, traffic flow is heavier from I-265 during the AM peak period. This is shown by the higher delay on the eastbound approach (4301.0 seconds) during the AM peak period as opposed to the lower delay (929.8 seconds) during the PM peak period. Installation of a traffic signal would improve the delay dramatically for the entire intersection; however it would still operate at LOS F. Current (2006) traffic volumes are on the threshold for meeting Warrant 2 (Four-Hour Vehicular Volume) and Warrant 3 (Peak Hour). Installing a second northbound left turn lane along with a new traffic signal would improve the overall intersection level of service to a LOS D with all approaches operating at LOS D

or better. However, this would be a costly project as the bridge over I-265 would need to be widened to accommodate the receiving lane for the second left turn lane from the ramp.

System Intersection Improvements – While it is useful to evaluate individual intersections, given the close proximity of several of the intersections along Billtown Road, an additional analysis of intersection improvements was considered from a system perspective (how well the individual improvements work together to form an optimal network). This analysis was done using the Synchro / SimTraffic software package.

A base scenario was created initially using 2010 traffic volumes and existing traffic signal timings. Then, various combinations of intersection improvements were tested. Based on these simulation runs, the following issues were identified.

- The addition of a traffic signal at the intersection of Billtown Road / I-265 NB/EB ramps has a negative impact on the Billtown Road / I-265 SB/WB intersection. The green time provided to the left turn traffic from the I-265 NB/EB ramps reduces gaps to the right turn vehicles at the other intersection.
- The increased traffic at the Billtown Road / Gellhaus intersection also has an impact on the Billtown Road / I-265 SB/WB intersection due to long queues.
- The southbound left turn lane from Billtown Road onto I-265 NB/EB should be extended and the northbound left turn lane from Billtown Road onto I-265 SB/WB reduced to accommodate the higher left turn traffic volumes.

The best combination of improvements was found to be the following:

- Traffic signals and separate left turn lanes at:
    - St. Rene Road
    - Fairground Road
    - Lovers Lane
- Traffic signals only:
    - I-265 SB / WB Ramp
    - I-265 NB / EB Ramp
- Separate left turn lanes only (no signals) at:
    - Mary Dell Lane
    - Easum Road
    - Shaffer Lane
- Separate right turn lane only at Gellhaus Lane (NB)
- Right In – Right Out at Michael Edward

It should be noted that this combination does not include improvements at the Billtown / Ruckriegel Parkway intersection. Without major reconstruction of the intersection, there were no improvement options that significantly improved traffic flow.

9.2 Long-Term Project Development and Evaluation

9.2.1 Alternates Development

For the long-term time frame of improvements to Billtown Road, a corridor approach was taken as opposed to evaluating specific intersections. The focus of the alternate development included determining different typical sections for the Billtown Road corridor. This includes determining the number of lanes, aesthetics, and multimodal aspects that could be included for an ultimate build-out of the roadway. Given these types of characteristics, the following alternates comprise the range of alternates considered for this study.

- 3 Lanes (One travel lane in each direction and a two-way left-turn lane)
- 4 Lanes (Two travel lanes in each direction separated by a median)
- 5 Lanes (Two travel lanes in each direction and a two-way left-turn lane)
- 6 Lanes (Three travel lanes in each direction separated by a median)

Given that most of the corridor is in an urban / suburban setting, curb and gutter is assumed for all typical sections. For the alternates that include a median, the median could either be a narrow strip of concrete to limit right-of-way impacts or could be a landscaped grass median. Sidewalks, wide curb lanes or off-road multi-use paths could be considered with any of the alternates to accommodate bicyclists and pedestrians.

9.2.2 Alternates Evaluation

Traffic Forecasts and Level of Service – Given the broader scope of alternate type and potential combinations, the first step in evaluating the long-term alternates was to determine the need for additional travel lanes, particularly how many, to meet future traffic demand in the corridor. This included the preparation of traffic forecasts for each alternate. The traffic forecasts were prepared by the Kentuckiana Regional Planning and Development Agency (KIPDA) for the year 2030. These forecasted traffic volumes are shown in the following figures (**Figures 30 – 33**).

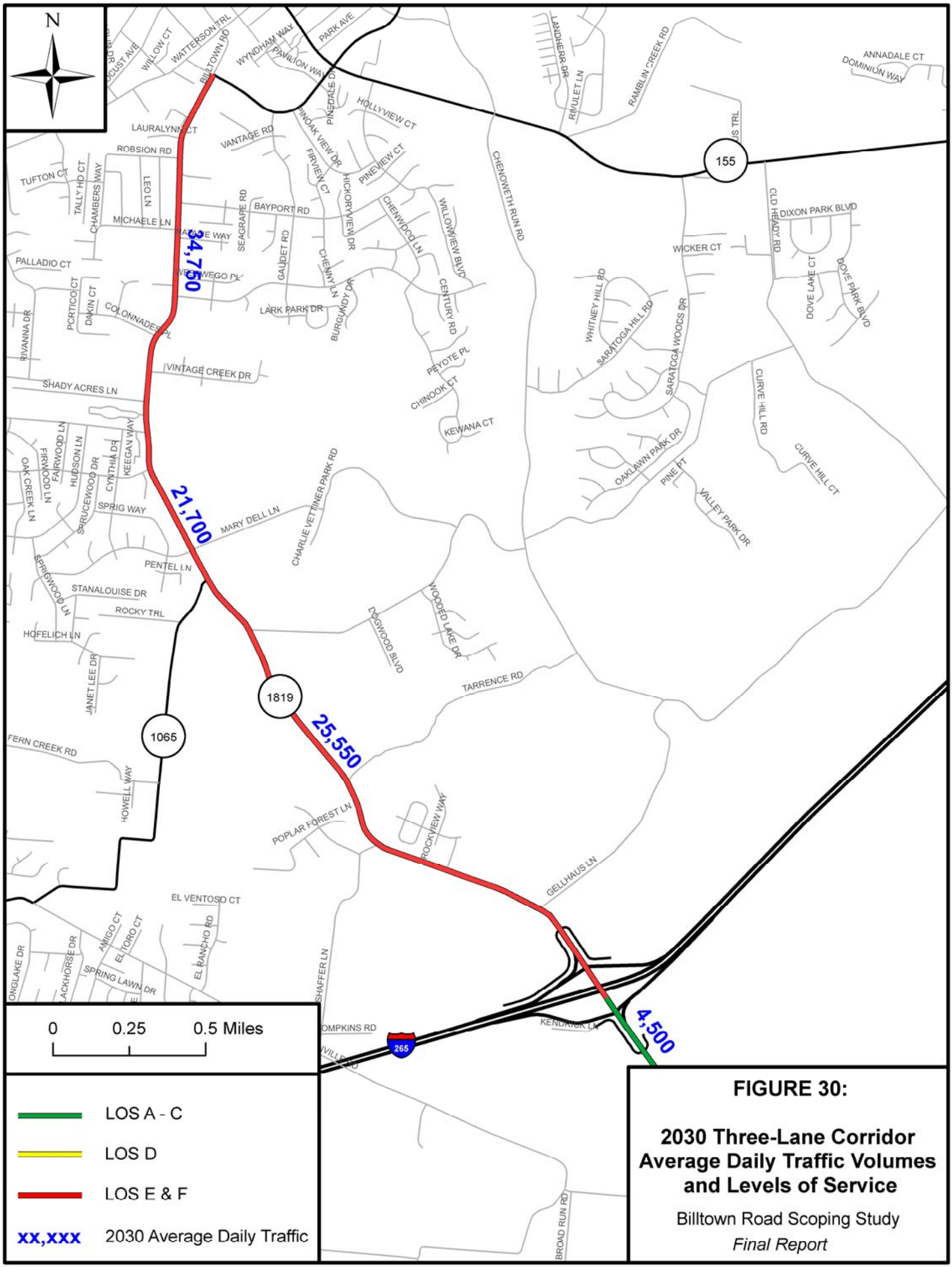


FIGURE 30:

2030 Three-Lane Corridor Average Daily Traffic Volumes and Levels of Service

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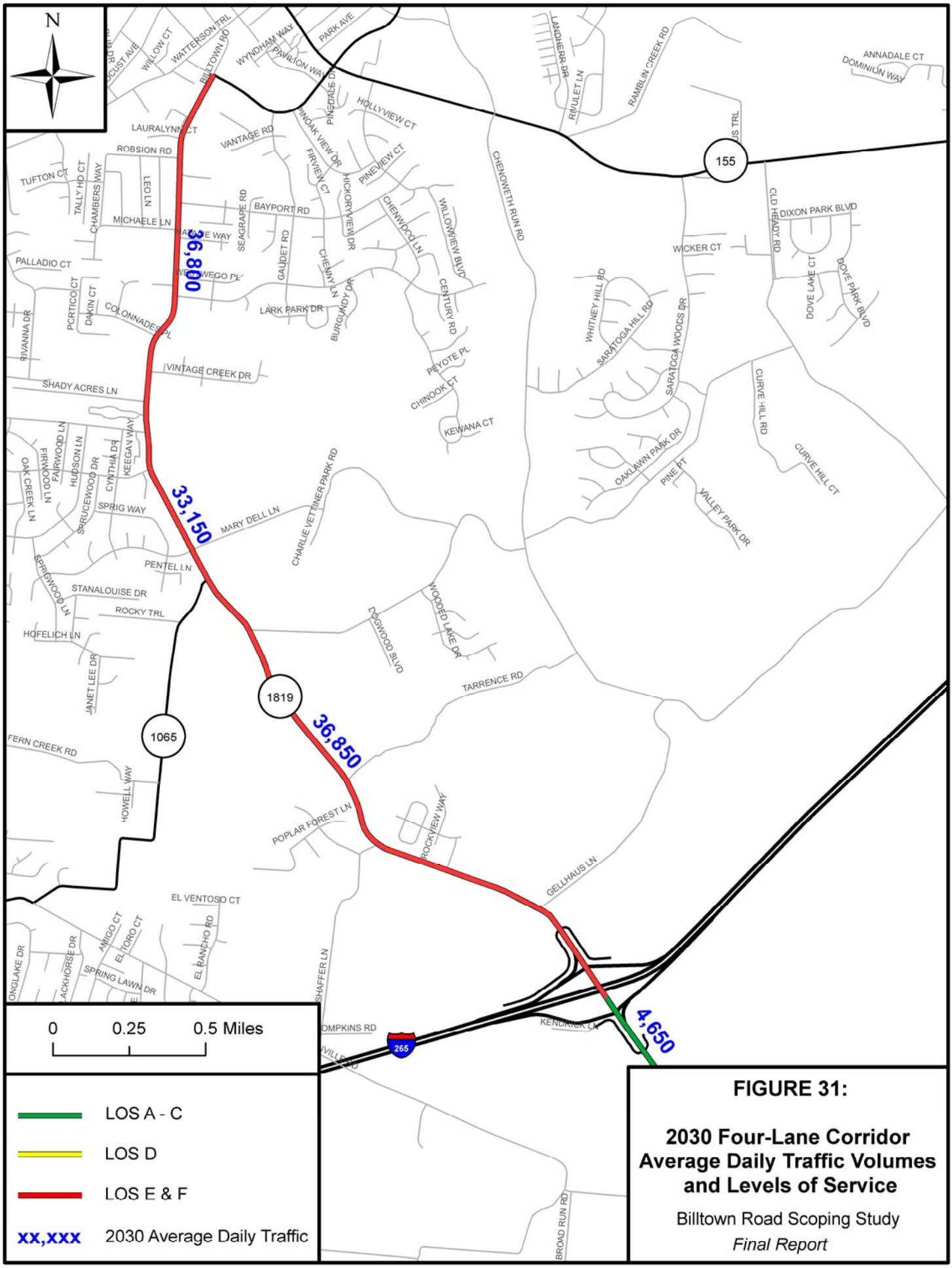
N
0
0.25
0.5 Miles
LOS A - C
LOS D
LOS E & F
xx,xxx
2030 Average Daily Traffic
36,800
33,150
36,850
4,650
1819
1065
155
265
BILLTOWN RD
BAYPORT RD
LARK PARK DR
VINTAGE CREEK DR
SHADY ACRES LN
MARY DELL LN
PENTEL LN
STANALOUISE DR
ROCKY TRL
HOFELICH LN
FERN CREEK RD
TARRENCE RD
POPLAR FOREST LN
GELLHAUS LN
KENDRICK LN
DIXON PARK BLVD
WICKER CT
CHENOWETH RUN RD
CHARLIE VETTINER PARK RD
DOGWOOD BLVD
WOODED LAKE DR
ROCKVIEW WAY
SHAFFER LN
EL VENTOSO CT
SPRING LAWN DR
OMPKINS RD
BROAD RUN RD
FIGURE 31:
2030 Four-Lane Corridor Average Daily Traffic Volumes and Levels of Service
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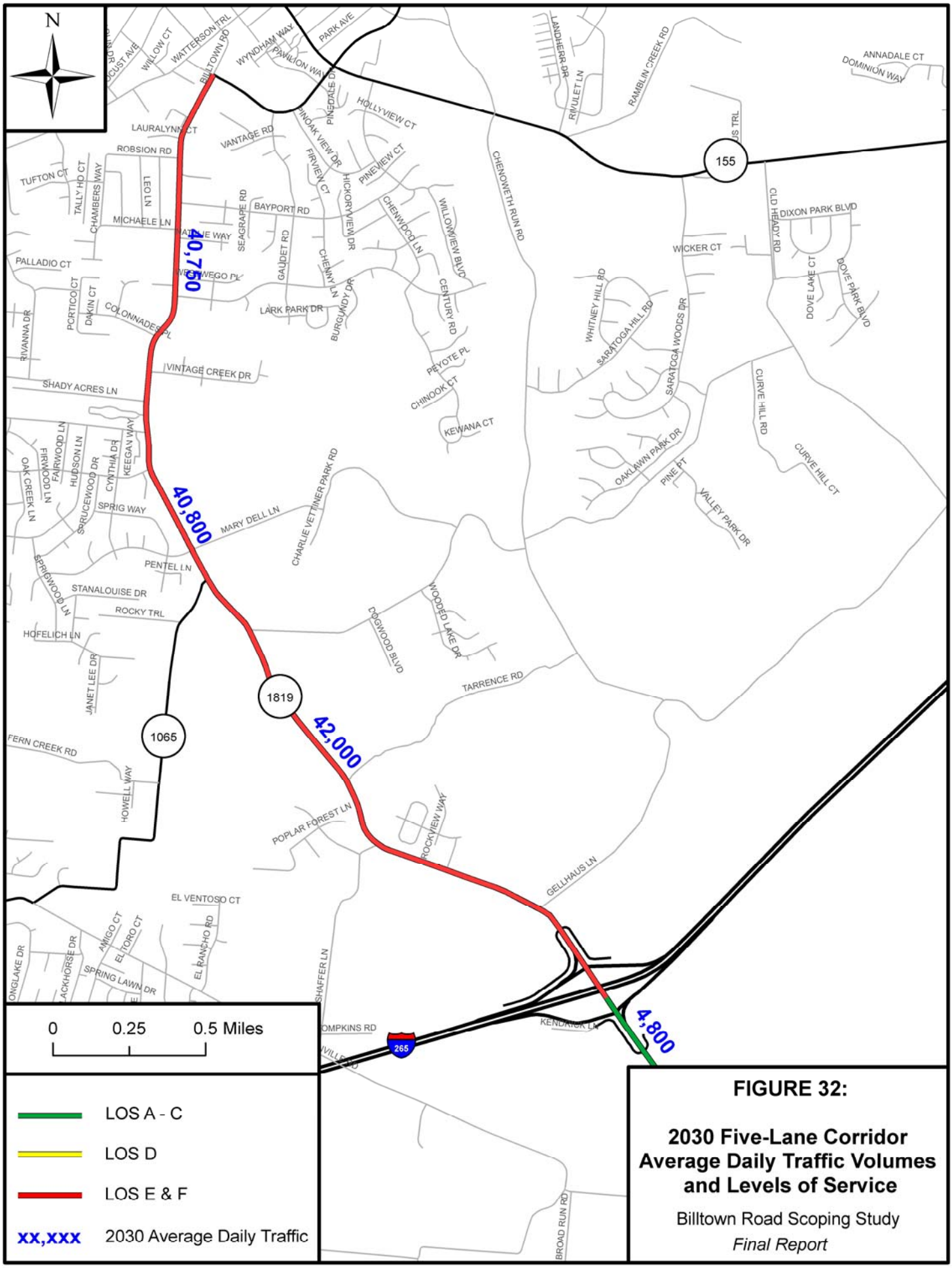

FIGURE 32:

2030 Five-Lane Corridor Average Daily Traffic Volumes and Levels of Service

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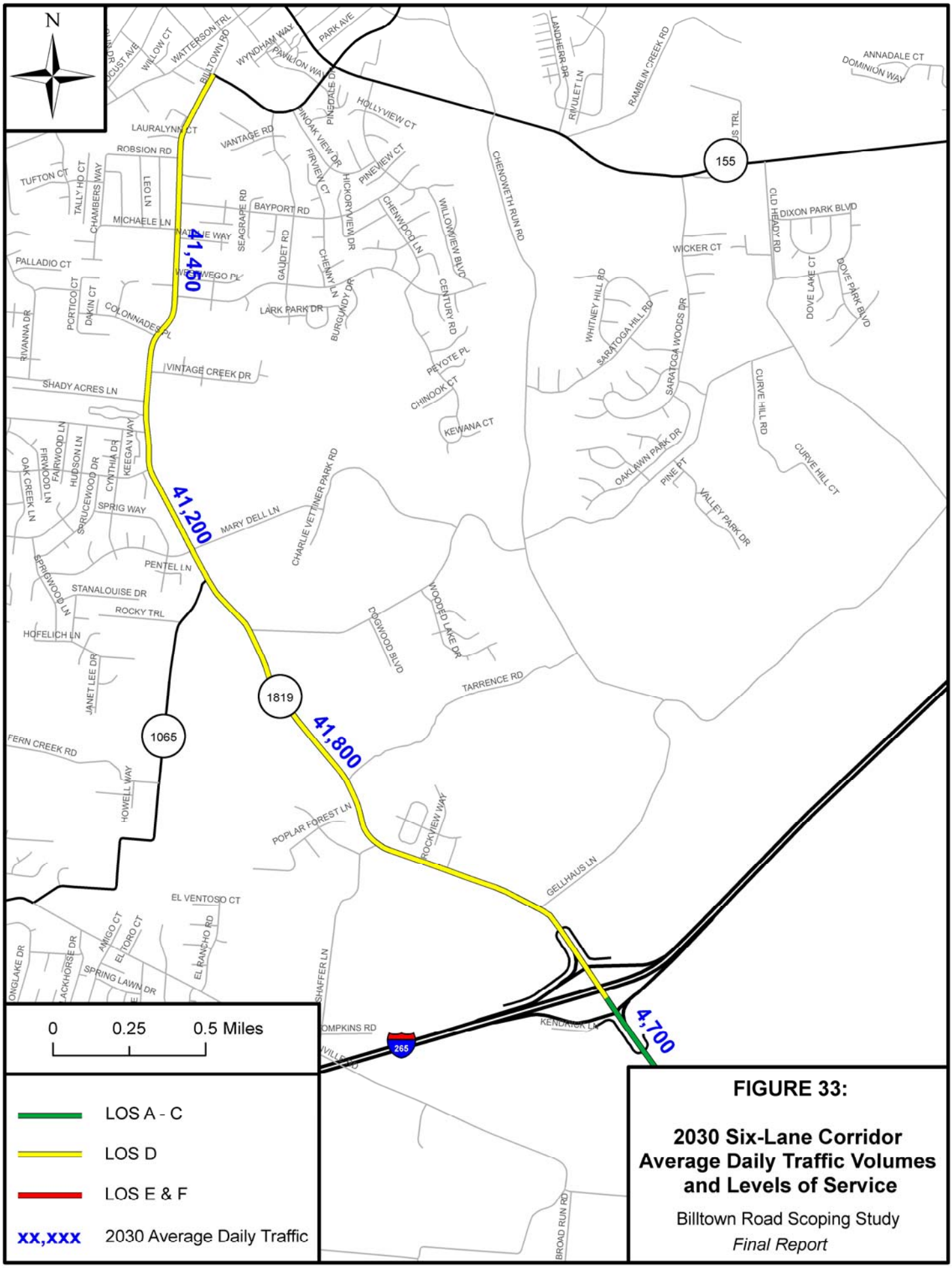

FIGURE 33:

2030 Six-Lane Corridor Average Daily Traffic Volumes and Levels of Service

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A level of service analysis was prepared for the corridor using the new forecasted volumes for each scenario. When calculating levels of service for these build alternates (3-Lane, 4-Lane, 5-Lane, and 6-Lane), it was realized that there are limitations in using the Highway Capacity Software Plus and the Highway Capacity Manual methods. With the Highway Capacity methods, there are two possible ways of analyzing the Billtown Road corridor, either as a multilane highway or as an urban street. Urban streets include arterials and collectors and typically have a high concentration of roadside development, a high density of access points and signalized intersections are spaced at less than two miles apart. Billtown Road does not meet these criteria as most of the development located along the roadside is residential with a lower frequency of access for driveways. Also, the current location of traffic signals is spaced further apart than two miles. A multilane highway generally has a posted speed limit of 40 to 55 mph, has a total of four or six lanes, may have medians, and may have traffic signals, but they are typically spaced at two miles apart or more. While Billtown Road generally fits this description of roadway type better, this still does not provide a means for analyzing the three-lane alternate. It also does not provide a means for evaluating differences between the four-lane and five-lane alternates since both divided and two-way left-turn lanes are considered medians and the Highway Capacity methods do not differentiate between the two types. Finally, when the free-flow speed drops below 45 mph, the Highway Capacity methods will not calculate a LOS. Two sections of Billtown Road are posted at 35 mph, and the other two have a 45 mph posted speed limit. After reductions for access, lane width, lateral clearance, median type, the free-flow speed for all sections drops below 45 mph.

Given these limitations, it was determined that using the Highway Capacity methods was not appropriate to develop levels of service for the different build alternates. However, a relative comparison is possible using level of service thresholds developed for various functional classifications and number of lanes based on average daily traffic. Using this method, the following levels of service were calculated for the different build scenarios as shown on **Table 31** and **Figures 30 – 33**. These levels of service should be used for comparison purposes only and not assumed to be the ultimate achievable level of service, although they should be correct in magnitude (i.e. if the level of service is poor – LOS E or F, the section is likely to operate poorly).

As shown on the table, almost all sections operate poorly for all scenarios with the exception of the section south of I-265 and the six-lane build scenario. This is likely due to the fact that as the number of travel lanes increases, more traffic is attracted to the roadway thus preventing the level of service to improve. Knowing this, it is difficult to make a determination of which alternate is preferred based on traffic volumes alone.

Table 31: 2030 Build Corridor Levels of Service

Alternate	Section	Begin Milepoint	End Milepoint	Section Length (miles)	2030 ADT	K-Factor	2006 DHV	Posted Speed Limit (MPH)	% Trucks and Buses	LOS
3-LaneAlternate	1	3.930 (Beg. of Study Area)	5.180 (I-265)	1.25	4,500	0.133	599	35	5.4%	A
	2	5.181 (I-265)	7.139 (Lovers Lane)	1.96	25,550	0.108	2759	45	4.6%	F
	3	7.140 (Lovers Lane)	7.770 (Shady Acres Lane)	0.63	21,700	0.112	2430	45	5.0%	E
	4	7.771 (Shady Acres Lane)	8.885 (Ruckriegel Parkway)	1.11	34,750	0.106	3684	35	5.0%	F
4-Lane Alternate	1	3.930 (Beg. of Study Area)	5.180 (I-265)	1.25	4,650	0.133	618	35	5.4%	A
	2	5.181 (I-265)	7.139 (Lovers Lane)	1.96	36,850	0.108	3980	45	4.6%	F
	3	7.140 (Lovers Lane)	7.770 (Shady Acres Lane)	0.63	33,150	0.112	3713	45	5.0%	F
	4	7.771 (Shady Acres Lane)	8.885 (Ruckriegel Parkway)	1.11	36,800	0.106	3901	35	5.0%	F
5-LaneAlternate	1	3.930 (Beg. of Study Area)	5.180 (I-265)	1.25	4,800	0.133	638	35	5.4%	A
	2	5.181 (I-265)	7.139 (Lovers Lane)	1.96	4,200	0.108	454	45	4.6%	F
	3	7.140 (Lovers Lane)	7.770 (Shady Acres Lane)	0.63	40,800	0.112	4570	45	5.0%	F
	4	7.771 (Shady Acres Lane)	8.885 (Ruckriegel Parkway)	1.11	40,750	0.106	4320	35	5.0%	F
6-Lane Alternate	1	3.930 (Beg. of Study Area)	5.180 (I-265)	1.25	4,700	0.133	625	35	5.4%	A
	2	5.181 (I-265)	7.139 (Lovers Lane)	1.96	41,800	0.108	4514	45	4.6%	D
	3	7.140 (Lovers Lane)	7.770 (Shady Acres Lane)	0.63	41,200	0.112	4614	45	5.0%	D
	4	7.771 (Shady Acres Lane)	8.885 (Ruckriegel Parkway)	1.11	41,450	0.106	4394	35	5.0%	D

LOS E - F
LOS D
LOS A - C

Notes:
ADT = Forecasted Volumes from KIPDA based on output from their Regional Travel Demand Forecasting Model
K-Factor = Design Hour Factor obtained from KYTC counts
DHV = 2030 Design Hour Volume (Average Daily Traffic x K-Factor)
Speed Limit obtained from Highway Information System
% Trucks and Buses obtained from KYTC counts
Level of Service (LOS) based on Alabama DOT and Maryland SHA LOS Reference Sheet

Property Impacts – A major issue in addition to traffic volume and demand on the Billtown Road Corridor is right-of-way. Billtown Road is currently two lanes with very narrow shoulders and mostly residential development located in close proximity to the roadway leaving little room for expansion. A review of property impacts associated with each build scenario was performed to determine the magnitude of impact. This is shown in **Table 32** below.

Table 32: Build Alternate Property Impacts

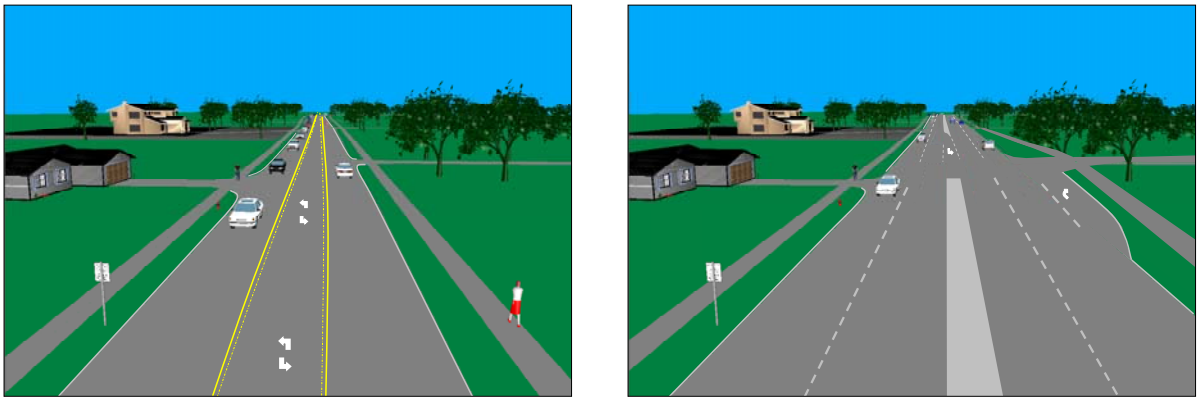
Alternate	# of Properties Impacted		Total Acreage	
	with Sidewalk	w/o Sidewalk	with Sidewalk	w/o Sidewalk
3-Lane	216	191	12.2	8.9
4-Lane	252	245	28.2	24.5
5-Lane	252	249	29.8	25.9
6-Lane	255	255	47.0	43.0

In order to determine the total acreage impacted, some assumptions were made regarding the typical section for each alternate. Typical section widths were used for the travel lanes (12 feet), curb and gutter is used for the entire length, and the median / two-way left-turn lane is assumed to be 14 feet.

Based on this analysis, all of the alternates have some degree of impact to the existing development, although the 5-lane and 6-Lane alternates are very high and may not be reasonable given the fact that the 5-Lane alternate still does not improve corridor level of service. Therefore, only the 3-Lane and 4-Lane alternates were considered beyond this point. During a project team meeting on February 22, 2007, this was decision was agreed upon by those in attendance.

Public Input – For the second public meeting held on February 27, 2007, the two primary alternates (3-Lane and 4-Lane) were presented to the public. **Figure 34** shows the general concept of these alternates as presented to the public.

Figure 34: 3-Lane and 4-Lane Alternates



As shown in the figure, the 3-Lane alternate includes one travel lane in each direction as well as a center two-way left-turn lane. The 4-Lane alternate has two travel lanes in each direction as well as a narrow concrete median. The median is shown as a narrow concrete strip to minimize property impacts. However, the actual median type could change if this was selected as the preferred alternate.

Only eight people provided input as to which typical section should be applied to the Billtown Road corridor in the future, and they were evenly split on which alternate they preferred (4 for the 3-Lane alternate and 4 for the 4-Lane alternate). When asked if the same type of section should be applied to the entire corridor or if different sections should be applied to different locations, most respondents indicated they would like to see the same look applied throughout the corridor.

Based on this response, the public input also does not provide much distinction between which alternate should be recommended.

Median versus Two-Way Left-Turn Lane – Much research and analysis has been performed in determining the implications with constructing a two-way left-turn lane as opposed to a median. Some of the benefits of each include:

Median:

- Allows for landscaping and aesthetic improvements
- Reduces headlight glare from opposing traffic
- Allows for a refuge area for pedestrians

Two-Way Left-Turn Lane (TWLTL):

- Provides additional storage for turning vehicles
- Maintains full access for driveways and businesses
- Minimizes landscaping and the associated maintenance requirements

In order to determine if one is better suited for this corridor than the other, a comparative analysis was performed that included several evaluation categories (safety, traffic operations, access and control, aesthetics, and cost/economics). Following the category listing below is a brief comparison of how each type of median treatment works with regard to that category.

Safety:

- Comparing crash rates, a TWLTL has a higher crash rate and is more dangerous for pedestrians (Georgia Department of Transportation Study of Divided Highways between 1995 and 1998).
- Both types of divided highways reduce rear-end collisions, but other types of crashes may increase including head-on crashes associated with a TWLTL and run-off road crashes associated with a median.

Traffic Operations:

- Research from Oregon State University suggests that when traffic volumes exceed 24,000 vehicles per day (except in an urban area) then a TWLTL should be replaced. For a three-lane scenario, traffic volumes just north of I-265 and just south of Ruckriegel Parkway exceed 24,000 vehicles per day. The middle section near Mary Dell Lane is near the threshold (21,000 vehicles per day).
- For analysis purposes, both types of divided highways accommodate the same volumes of traffic and there is essentially no difference in level of service operations.
- Points of access alter the functionality of both highway types.

Access and Control:

- As access density increases, the potential for conflicts and collisions also increases.
- Installing a median limits conflict points at intersections. For example, at a typical intersection with three approaches, installing a median limits access to right-in, right-out turns only and results in two conflict points. If a TWLTL was installed at the same location, full movements would be allowed resulting in ten conflict points.

Aesthetics:

- Divided highways can use different alignments for each direction of travel, with potential for saving construction costs and being more aesthetically pleasing.
- A TWLTL separates the travel lanes, but does not allow any room for landscaping.

Cost:

- Landscaped medians require maintenance regularly whereas a TWLTL does not.

The following table (**Table 33**) summarizes the comparison between a median and a TWLTL.

Table 33: Median versus TWLTL Comparison Table

Criteria	Median	TWLTL
Safety	✓	
Traffic Operations	No difference operationally, but traffic volumes may be too high for TWLTL	
Access and Control	✓	
Aesthetics	✓	
Cost		✓

Cost – A planning level cost estimate was prepared for both the 3-Lane and the 4-Lane alternates. The cost estimate is for construction cost only of the roadway and does not include design, right-of-way, or utility costs. It also does not include sidewalk or bicycle lane costs as these may be incorporated with either alternate. The typical section assumptions used in the cost estimate for each are as follows:

3-Lane Alternate:

- Two 12-foot travel lanes
- 14-foot two-way left-turn lane
- Curb and gutter

4-Lane Alternate:

- Four 12-foot travel lanes
- 8-foot median (Barrier Type 5)
- Curb and gutter

Based on these assumptions, the 2007 planning level cost estimates for each alternate (including a 25% contingency) are:

3-Lane Alternate: $8.90 million
4-Lane Alternate: $14.98 million

Multimodal Aspects – Billtown Road currently does not have any bus service, and based on comment forms returned at the second pubic meeting, there is not a strong desire from these respondents (11) to have this type of service or use it. The total number of citizens signed in at the public meeting was 112; however some were at the meeting to discuss a separate study (Taylorsville Road). Regardless, there was little public interest at the meeting regarding bus service along Billtown Road.

There are no designated bicycle lanes along Billtown Road and sidewalks are intermittent. Based on feedback from the public, improving the connectivity of sidewalks was viewed as much more important than the installation of bicycle lanes. Several people commented on the need for sidewalk continuity, particularly because of the fact that there are several schools that are accessed from Billtown Road along with a park and golf course. In addition to the public input, a review of plans for a bicycle network from Louisville Metro showed that Billtown Road is not considered one of the priority bicycle routes.

Comparison Matrix – To provide a better understanding of the benefits and drawbacks for each of the primary alternates (3-Lane Alternate or the 4-Lane Alternate), a summary evaluation matrix was compiled consisting of the evaluation criteria discussed above (**Table 34**). As with previous matrices, green indicates good performance and red indicates poor performance.

Table 34: Billtown Road Corridor Evaluation Matrix

Alternate Description	LOS	Property Impacts (with Sidewalk)	Public Input	Median vs TWLTL Comparison	Cost* (in millions)
3-Lanes: One Travel Lane in Each Direction plus a Two-Way Left-Turn Lane	E/F	216	4 Responses in Favor of Alternate	Poor Performance Based on Evaluation Criteria	$8.9
4-Lanes: Two Travel Lanes in Each Direction plus a Median	F	252	4 Responses in Favor of Alternate	Good Performance Based on Evaluation Criteria	$15.0

* Planning level cost estimate in 2007 dollars. Does not include utilities or right-of-way costs.

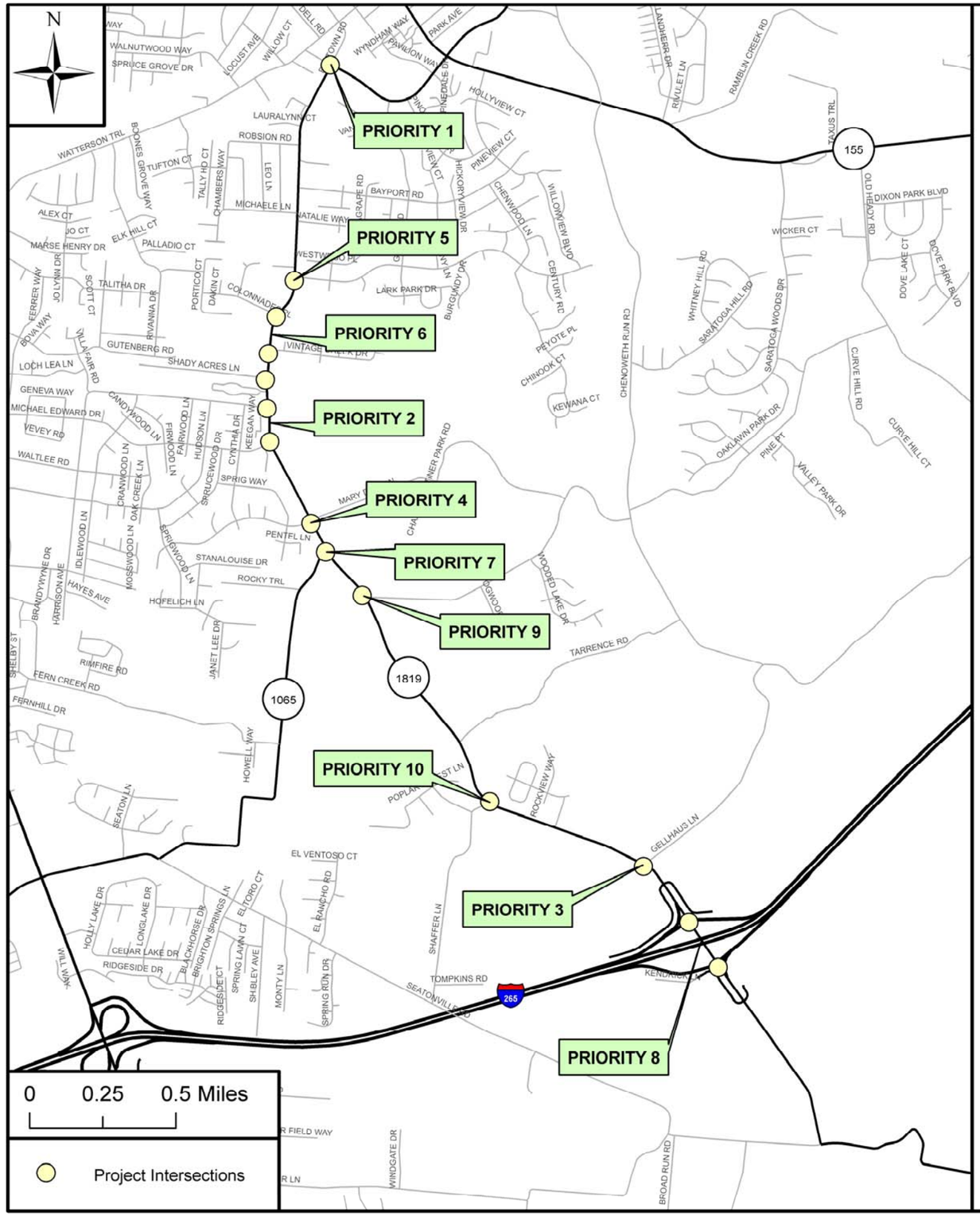
10.0 ALTERNATES RECOMMENDATION

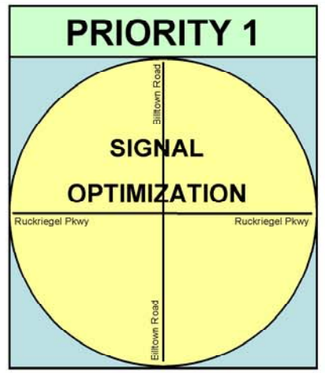
10.1 Short-Term Recommendations

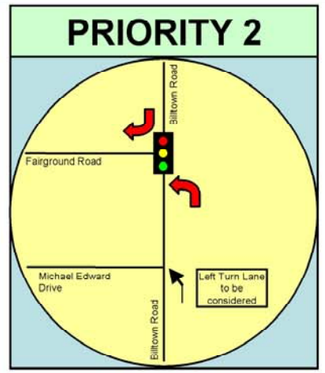
Based on the evaluation criteria supplied in **Tables 17 – 30**, the Synchro / SimTraffic analysis, and a project team meeting held on July 6, 2007, the following are the short-term intersection recommendations. Also refer to **Figure 35** for a graphical summary of the recommendations.

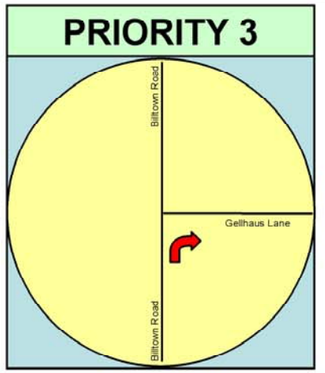
Intersection	Alternate
Ruckriegel Parkway	Signal Optimization as Currently Being Pursued by KYTC
Saint Rene Road	SB Left Turn Lane from Billtown Road to Saint Rene Road First, then Signalization
Colonnades Place	Alt. 4 – Two-Way Left-Turn Lane between Vintage Creek Drive and Colonnades Place
Vintage Creek Drive	Same as the Recommendation for Colonnades Place
Shady Acres Lane	Do Nothing
Fairground Road	Alt. 4 – Signalization with Separate Turn Lanes
Michael Edward Drive	Evaluate Signal Operation at Fairground Road, Consider NB Left Turn Lane from Billtown Road to Michael Edward Drive
Mary Dell Lane	Pedestrian Enhancements (signs, upgraded markings with actuated flashing beacons, etc.)
Lovers Lane	Signalization with NB Left Turn Lane from Billtown Road to Lovers Lane Pending the Urton Lane Recommendation

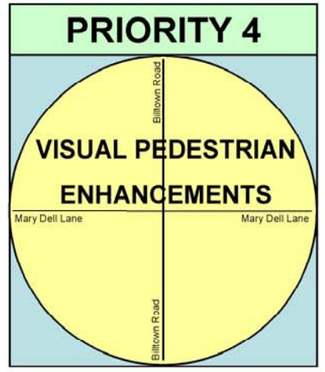
Intersection	Alternate
Easum Road	SB Left Turn Lane from Billtown Road to Easum Road
Shaffer Lane	NB Left Turn Lane from Billtown Road to Shaffer Lane
Gellhaus Lane	Alt. 2 – NB Right Turn Lane from Billtown Road to Gellhaus Lane
I-265 WB/SB Ramps	Re-evaluate upon Completion of Elementary and Middle School
I-265 EB/NB Ramps	Re-evaluate upon Completion of Elementary and Middle School

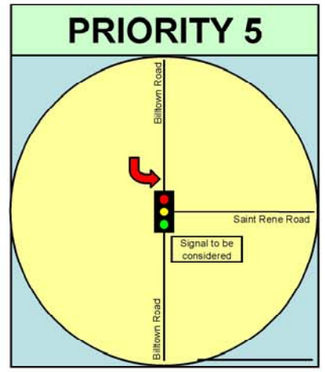


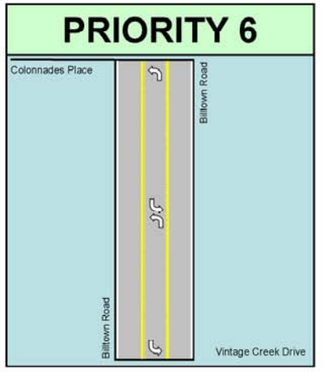


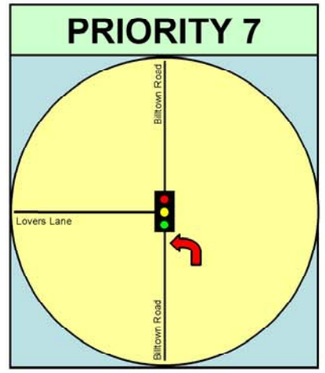


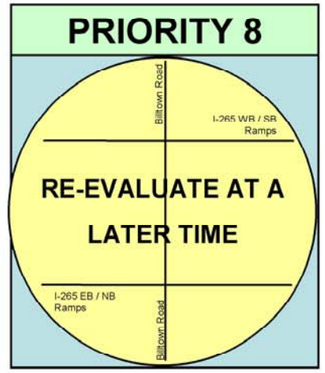


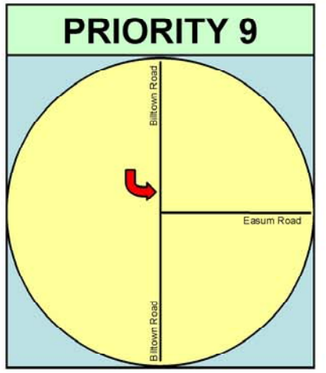












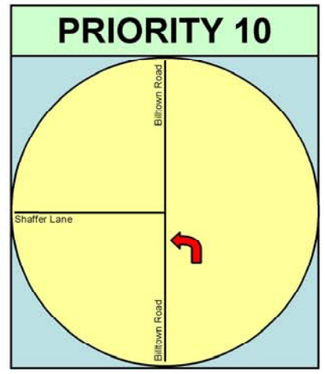


FIGURE 35:

High Priority Short-Term Recommendations

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The following text provides some discussion / justification regarding the selection of each alternate.

Ruckriegel Parkway – Based on conversations with the Project Team at a meeting held on July 6, 2007, KYTC District 5 was already in the process of optimizing the signal at this location. While the analysis provided in this report indicates that the intersection may still operate poorly, this was identified as a low-cost solution that is in line with the City of Jeffersontown's vision(s) and plan. They do not want any significant impacts to the intersection that would detract from the small, downtown feel that is in their master plan, and are therefore not recommending the construction of additional through or turn lanes that would increase traffic flow through the downtown Jeffersontown area. Due to the concern of major impacts to the aesthetics, property and potential cemetery impacts, and the plans currently being pursued by the KYTC District 5, signal optimization was recommended as the preferred alternate.

Saint Rene Road – Signal warrants are currently not met for the installation of a traffic signal at this location; however, with the additional growth in the Billtown Road corridor as well as the known crash rate problem at this location, a traffic signal may be warranted by the year 2010. To initially address the safety issue at this location, it is recommended that a southbound left turn lane be constructed first, then signal warrants re-evaluated with the potential for signal installation in the future.

Colonnades Place and Vintage Creek Drive – Both of these intersections lead into neighborhoods, with the primary concern being the high crash rate on Billtown Road between the two intersections. To improve safety, a two-way left-turn lane is recommended which should reduce the number of rear-end crashes that occur on this segment. Traffic signals were considered for both intersections to improve traffic operations, however, traffic volumes are such that neither one meet signal warrants currently.

Shady Acres Lane – A "Do Nothing" approach is recommended for this intersection since Shady Acres Lane is a dead-end street and the traffic volumes on Shady Acres Lane are very low.

Fairground Road – The recommended alternate for this intersection is the installation of a traffic signal along with the construction of separate turn lanes on both Fairground Road and Billtown Road. This intersection is in close proximity to Michael Edward Drive; therefore only one intersection should be signalized. It is thought that the other intersection will benefit from the gaps provided by the new signal. Based on traffic volumes and available data, this intersection was selected over Michael Edward Drive for signal installation. Traffic volumes are such that Warrant 1 of the traffic signal warrants is met. While the proposed improvements at this intersection have the highest cost, they also will provide the best improvement in LOS / delay, would improve safety, and were selected by the public as their preferred alternate.

Michael Edward Drive – With the proposed installation of a traffic signal at Fairground Road, it is recommended that traffic operations be re-evaluated at this intersection following the upstream signal installation. After installation of the signal, traffic operations should be re-evaluated to consider the installation of a northbound left turn lane from Billtown Road to Michael Edward Drive. This is the preferred recommendation with the thought that the improvements at Fairground Road should result in improvements at this intersection as well.

Mary Dell Lane – As none of the alternates sufficiently improves the level of service to justify the associated cost, no improvements are recommended at this time for traffic operations. Instead, the focus at this intersection is on pedestrian improvements to provide a safe path for pedestrians through the intersection to the park and school located on Mary Dell Lane. It is recommended that one of the new, experimental, pedestrian signal systems be considered for this location that provides enhanced warning for vehicles prior to the pedestrian crossing and lights up the pedestrian with a flashing strobe light. Any in-pavement modifications are discouraged as they are likely to cause issues with maintenance including snow removal. Also, new advanced warning pedestrian signage and retro-reflective pavement markings should be installed.

Lovers Lane – The recommendation for this intersection is the installation of a traffic signal as well as construction of a northbound left turn lane. This recommendation varies slightly from the alternates previously presented in that only a northbound left turn lane is constructed as opposed to exclusive turn lanes in both directions on Billtown Road or an exclusive southbound right turn lane only on Billtown Road. This was determined based on traffic operations and safety. Traffic volumes are such that Warrants 2 and 3 are met for signal installation; however, additional turning movement data should be collected to determine if traffic volumes are high enough during the off-peak hours to justify signal installation.

It should also be noted that this recommendation is pending the location of the Urton Lane Extension. Depending on where it crosses Billtown Road, signalization will be considered at the new intersection and there is concern that multiple signals may be too closely spaced since the Urton Lane Extension may be located in the vicinity of Lovers Lane.

Easum Road – Currently, a traffic signal is not warranted at this location; therefore the only recommendation for improvements at this time is the construction of a southbound left turn lane. This is primarily to improve safety at this intersection and reduce the number of rear-end crashes.

Shaffer Lane – Similar to the analysis at Easum Road, currently, a traffic signal is not warranted at this location; therefore the only recommendation for improvements at this time is the construction of a northbound left turn lane. This is primarily to improve safety at this intersection and reduce the number of rear-end crashes.

Gellhaus Lane – The preferred recommendation at this intersection is the construction of a separate northbound right turn lane along with signal optimization. This alternate resulted in the best level of service / delay improvement and was selected by the public as their preferred alternate as well.

At the time of this report, the new residential housing development planned to be located along Gellhaus Lane was approved by the Louisville Metro Planning Commission. As a condition of approval, the developer will be responsible for constructing the right turn lane on Billtown Road to Gellhaus Lane along with widening Gellhaus Lane the length of their frontage.

I-265 WB/SB Ramps and EB/NB Ramps – With the uncertainty of the increase in traffic through the interchange due to the new schools and bus compound, it is recommended that these interchanges be re-evaluated upon the opening of the schools. New traffic counts should be performed at that time with traffic signal installation at one or both intersections considered.

10.2 Long-Term Recommendations

Based on the technical analysis presented in Section 9.2, it was decided by the Project Team at a meeting held on July 6, 2007 that the preferred long-term recommendation is a three-lane section (one lane in each direction and a two-way left-turn lane) along Billtown Road with curb and gutter the entire corridor. Sidewalks would be included as appropriate, however, a separate bicycle lane was not recommended due to lack of public support and minimal right-of-way which would result in high property impacts. Additional discussion regarding the recommendation specifics such as design elements is presented in the following section.

11.0 PROPOSED DESIGN / MITIGATION AND NEXT STEPS

11.1 Design Elements

For the intersection recommendations, specific design elements will be determined in the next phase of project development.

For the long-term corridor recommendation, the following design elements are assumed which form the basis for the cost estimate.

- Two 12-foot travel lanes
- 14-foot two-way left-turn lane
- Curb and gutter
- Sidewalks on both sides of Billtown Road

More detailed design plans will be developed in the next phase of project development.

11.2 Design Issues

For all alternates recommended, acquiring adequate right-of-way is a major issue as the current available right-of-way is minimal. As discussed in the alternates evaluation sections, there will be multiple property impacts associated with any build alternate; however, the ensuing design should take this into consideration and minimize the impacts to the greatest extent possible.

Also, the recommendation for the Urton Lane Extension should be taken into consideration when designing / implementing the recommendations for the Lovers Lane, Shaffer Lane, Easum Road, and Gellhaus Lane intersections. It is the desire of KYTC to ensure that any recommendations from both studies are compatible and that any new signal installations are placed in appropriate locations (i.e. at the intersections of Urton Lane and Billtown Road).

11.3 Cost Estimate

Final 2007 planning level cost estimates have been developed for each of the recommended projects. The estimated construction costs are listed in **Table 35** for each project. Design, right-of-way, utility, and other mitigation costs are not presented. These cost estimates, in 2007 dollars, are for planning purposes only and are subject to further refinement during the design phase.

Table 35: Recommended Projects Cost Estimates

Project	Cost
Ruckriegel Parkway – Signal Optimization as Currently Being Pursued by KYTC	**Minimal**
Saint Rene Road – SB Left Turn Lane from Billtown Road to Saint Rene Road First, then Signalization	**$200,000**
Colonnades Place and Vintage Creek Drive – Two-Way Left-Turn Lane b/w Vintage Creek Drive and Colonnades Place	**$180,000**
Fairground Road – Signalization with Separate Turn Lanes	**$460,000**
Michael Edward Drive – Consider NB Left Turn Lane from Billtown Road to Michael Edward Drive	**$200,000**
Mary Dell Lane – Pedestrian Enhancements (signs, upgraded markings with actuated flashing beacons, etc.)	**$75,000**
Lovers Lane – Signalization with NB Left Turn Lane from Billtown Road to Lovers Lane Pending the Urton Lane Recommendation	**$330,000**
Easum Road – SB Left Turn Lane from Billtown Road to Easum Road	**$200,000**
Shaffer Lane – NB Left Turn Lane from Billtown Road to Shaffer Lane	**$200,000**
Gellhaus Lane – NB Right Turn Lane from Billtown Road to Gellhaus Lane*	**$140,000**

*Note: To be completed by Gellhaus Lane developer in conjunction with the construction of a new housing development located off of Gellhaus Lane.

11.4 Right-of-Way Impact Assessment

For the short-term recommended projects, detailed right-of-way impact assessments were performed. These are planning level estimates only and should be used as a guide for proceeding into subsequent project development phases. **Table 36** lists the impacts for each project in terms of acres required for improvements.

Table 36: Recommended Projects Right-of-Way Estimates

Project	Acres
Ruckriegel Parkway – Signal Optimization as Currently Being Pursued by KYTC	**0**
Saint Rene Road – SB Left Turn Lane from Billtown Road to Saint Rene Road First, then Signalization	**0.85**
Colonnades Place and Vintage Creek Drive – Two-Way Left-Turn Lane b/w Vintage Creek Drive and Colonnades Place	**1.60**
Fairground Road – Signalization with Separate Turn Lanes	**1.54**
Michael Edward Drive – Consider NB Left Turn Lane from Billtown Road to Michael Edward Drive	**1.71**
Mary Dell Lane – Pedestrian Enhancements (signs, upgraded markings with actuated flashing beacons, etc.)	**0**
Lovers Lane – Signalization with NB Left Turn Lane from Billtown Road to Lovers Lane Pending the Urton Lane Recommendation	**1.92**
Easum Road – SB Left Turn Lane from Billtown Road to Easum Road	**2.76**
Shaffer Lane – NB Left Turn Lane from Billtown Road to Shaffer Lane	**2.41**
Gellhaus Lane – NB Right Turn Lane from Billtown Road to Gellhaus Lane	**0.94**

It should be noted that some projects overlap and have an impact on how much right-of-way is required overall. If the project at Michael Edward Drive is completed first, then the required right-of-way for the Fairground Road project is 1.15 acres. If the Fairground Road project is completed first, then the required right-of-way for the Michael Edward Drive project is 1.32 acres. A similar situation exists for the Lovers Lane and Easum Road projects. If the Easum Road project is completed first, then the required right-of-way for the Lovers Lane project is 0.70 acres. If the Lovers Lane

project is completed first, then the required right-of-way for the Easum Road project is 1.54 acres.

11.5 Project Phasing

The following is the priority ranking for the short-term intersection improvements as determined during a project team meeting on July 6, 2007.

1. Traffic Signal optimization at Ruckriegel Parkway (currently being pursued by KYTC).

2. Traffic signal installation at the Fairground Road intersection along with the construction of separate turn lanes on both Fairground Road and Billtown Road. A northbound left turn lane may be considered at Michael Edward Drive pending the implementation of improvements at the Fairground Road intersection.

3. Construction of a northbound right turn lane from Billtown Road to Gellhaus Lane and traffic signal optimization. The turn lane is to be constructed by a developer in conjunction with construction of a new housing development along Gellhaus Lane. As a result, this project may not need to be funded by KYTC and can be removed from the project prioritization list.

4. Visual pedestrian enhancements at the Mary Dell Lane intersection.

5. Construction of a southbound left turn lane from Billtown Road to Saint Rene Road. Consideration of the installation of a traffic signal would follow depending on the resulting improvement from the turn lane installation.

6. Construction of a two-way left-turn lane between Colonnades Place and Vintage Creek Drive.

7. Traffic signal installation at Lovers Lane along with the construction of a separate northbound left turn lane from Billtown Road to Lovers Lane.

8. Re-evaluate the I-265 ramps intersections following the opening of both new schools along Gellhaus Lane.

9. Construction of a southbound left turn lane from Billtown Road to Easum Road.

10. Construction of a northbound left turn lane from Billtown Road to Shaffer Lane.

The recommendation of a three-lane section for Billtown Road is a long-term solution and has less priority than the intersection recommendations.

11.6 Multimodal Facilities

There are no freight or transit facilities in the study area; therefore, these facilities would not be impacted by the study recommendation.

Bicycle and pedestrian provisions have been evaluated in keeping with the KYTC Pedestrian and Bicycle Travel Policy (July 2002). Care should be taken in the placement of shoulder rumble strips to avoid conflicts with the travel way for cyclists. For the urban typical sections, sidewalks should be included.

11.7 Intelligent Transportation Systems (ITS)

Although examined, no intelligent transportation systems have been included in the proposed recommendations.

11.8 Commitment Action Plan

KYTC is committed to incorporating appropriate pedestrian and bicycle facilities into the proposed highway projects. KYTC is also committed to working with KTC/SHPO as the project progresses to avoid, to the greatest extent possible, impacts to any identified existing and/or National Register eligible properties.

11.9 Next Steps / Implementation

Following approval of this report by KYTC, funding should be allocated out of the remaining funds for this project to acquire right-of-way, for utility work, design, and possible construction for the high priority projects discussed in Section 11.5. For the remaining projects, these should be included in the KYTC Six-Year Highway plan for future funding. The corridor recommendation should be included in the district's long range plan for future consideration.

APPENDIX A:

TRAFFIC FORECAST METHODOLOGY REPORT

Traffic Forecast Methodology Report
Jefferson County Traffic Forecasts
Billtown Road (KY 1819)
Item No. 5-8203.00

The purpose of this document is to outline the methodology proposed by PB Americas, Inc. (PB) to prepare traffic forecasts for Billtown Road (KY 1819) in Jefferson County, Kentucky as part of the Billtown Road Scoping Study for the Kentucky Transportation Cabinet (KYTC). The Billtown Road study area extends from Ruckriegel Parkway in the north to the Gene Snyder Freeway (I-265) ramps in the south. Traffic forecasts will be prepared for a No-Build scenario as well as multiple Build alternatives.

Traffic Volumes

The average daily traffic (ADT) volumes used for this project included traffic counts provided by the KYTC. The counts provided by the KYTC were conducted during the years of 2003 - 2006, and included the following count stations:

- Billtown Road (KY 1819): Station 323 – 2005
- Billtown Road (KY 1819): Station 325 – 2005
- Billtown Road (KY 1819): Station 498 – 2003
- Billtown Road (KY 1819): Station 496 – 2004

The count locations are shown in **Figure 1** attached to the end of this report. Each of the counts will be forecasted to a base year of 2006 using historical trends.

In addition, turning movement counts were required at the 14 study intersections for both AM peak (7:00 AM – 9:00 AM) and PM peak (4:00 PM – 6:00 PM) periods. KYTC provided counts for seven key intersections within the study area, which included:

- Billtown Road (KY 1819) / Ruckriegel Parkway
- Billtown Road (KY 1819) / Saint Rene Road
- Billtown Road (KY 1819) / Michael Edward Drive
- Billtown Road (KY 1819) / Mary Dell Lane
- Billtown Road (KY 1819) / Fairground Road
- Billtown Road (KY 1819) / Shaffer Lane
- Billtown Road (KY 1819) / Gellhaus Lane

PB conducted turning movement counts at the remaining seven intersections in August 2006. These intersections included:

- Billtown Road (KY 1819) / Colonnades Place
- Billtown Road (KY 1819) / Vintage Creek Drive
- Billtown Road (KY 1819) / Shady Acres Lane
- Billtown Road (KY 1819) / Lovers Lane
- Billtown Road (KY 1819) / Easum Road
- Billtown Road (KY 1819) / I-265 (Northbound / Eastbound)
- Billtown Road (KY 1819) / I-265 (Southbound / Westbound)

Growth Rate

Growth rates for this study are based upon a historical traffic growth analysis along Billtown Road within the study area. The analysis utilized traffic counts obtained from the KYTC's 'CTS' traffic count program which includes counts from 1963 to 2006.

The historical counts were entered into a spreadsheet provided by KYTC. The spreadsheet calculates growth rates using both exponential and trendline analyses. The growth rates are then averaged for each count station. Based on this, the growth rates identified for each segment within the study area are shown in **Table 1**. For reference, **Figure 2** illustrates the various roadway segments.

Table 1: Proposed Growth Rates

Segment	Route	From	To	Historic Growth Rate	Proposed Growth Rate
A	KY 1819	South of Study Area	I-265	6.6%	7.5%
B	KY 1819	I-265	KY 1065	7.5%	7.5%
C	KY 1819	KY 1065	Shady Acres Lane	0.8%	7.5%
D	KY 1819	Shady Acres Lane	North of Study Area	8.0%	7.5%

It should be noted that there is limited historical count data for Segment C. Therefore, it was assumed that this segment would have similar growth as the sections before and after. As the growth rates were similar in magnitude, a common growth rate of 7.5% was assumed for the corridor.

Also, it should be noted that the growth rates reflect historical trends along each segment and do not include specific developments that may be constructed within the project area. PB met with Louisville Metro Planning and Design Services on October 24, 2006 to discuss known developments within the study area.

K Factor

K factors for this study were based upon field data as well as data collected by the Kentucky Transportation Cabinet. Where possible, the known K Factor was taken directly from the collected data. For routes without known K Factors, a systemwide average was used. Proposed K factors for the study area routes are shown in **Table 2**.

Table 2: Proposed K Factors

Segment	Route	From	To	Proposed AM K Factor	Proposed PM K Factor
A	KY 1819	South of Study Area	I-265	11.0%	13.3%
B	KY 1819	I-265	KY 1065	9.2%	10.8%
C	KY 1819	KY 1065	Shady Acres Lane	10.0%	11.2%
D	KY 1819	Shady Acres Lane	North of Study Area	9.3%	10.6%

Truck Percentages

Vehicle classification data was obtained from two sources:

- Traffic count data obtained through the data collection task (road tube counts from KYTC and intersection turning movement counts); and
- Vehicle classification data available from KYTC's Vehicle Classification (VCR) Viewer.

Daily truck percentages obtained from the road tube counts or from the VCR Viewer were used as a primary source. **Table 3** provides base year daily truck percentages for this project.

Table 3: Truck Percentages

Segment	Route	From	To	Proposed ADT Truck Percentage	Proposed DHV Truck Percentage
A	KY 1819	South of Study Area	I-265	5.4%	3.3%
B	KY 1819	I-265	KY 1065	4.6%	3.1%
C	KY 1819	KY 1065	Shady Acres Lane	4.6%	3.1%
D	KY 1819	Shady Acres Lane	North of Study Area	4.6%	3.1%

Population

Population data was obtained from the Kentucky State Data Center for both Jefferson County and Kentucky. **Table 4** displays the historical population growth while **Table 5** displays population projections.

Table 4: Historical Population Growth

Area	1970	1980	1990	2000	% Growth (1990-2000)
Kentucky	3,220,711	3,660,334	3,686,892	4,041,769	9.7%
Jefferson County	695,055	684,648	665,123	693,604	4.3%

Source: Kentucky State Data Center

Table 5: Population Forecasts

Area	2000	2010	2020	2030	% Growth (2000-2030)
Kentucky	4,041,769	4,326,490	4,660,703	4,912,621	21.5%
Jefferson County	693,604	710,120	738,732	763,393	10.1%

Source: Kentucky State Data Center

As shown in **Table 4**, the population of Jefferson County increased 4.3% from 1990 to 2000 compared to 9.7% for Kentucky during the same time period. The population of Jefferson County is expected to increase by 10.1% between 2000 and 2030, at a rate of nearly 0.32% per year. This compares to a growth of 21.5% in Kentucky at a rate of 0.65% per year.

Other Items

Other items to be considered in the traffic forecast include:

- The base year for the forecasts is Year 2006.
- Both intersections and segments will be forecasted to Year 2010 using the applied growth rates.
- Only segments will be forecasted to Year 2030. The Kentuckiana Regional Planning and Development Agency (KIPDA) travel demand model will be utilized to develop growth factors and volumes for 2030 in both the No-Build and Build scenarios.

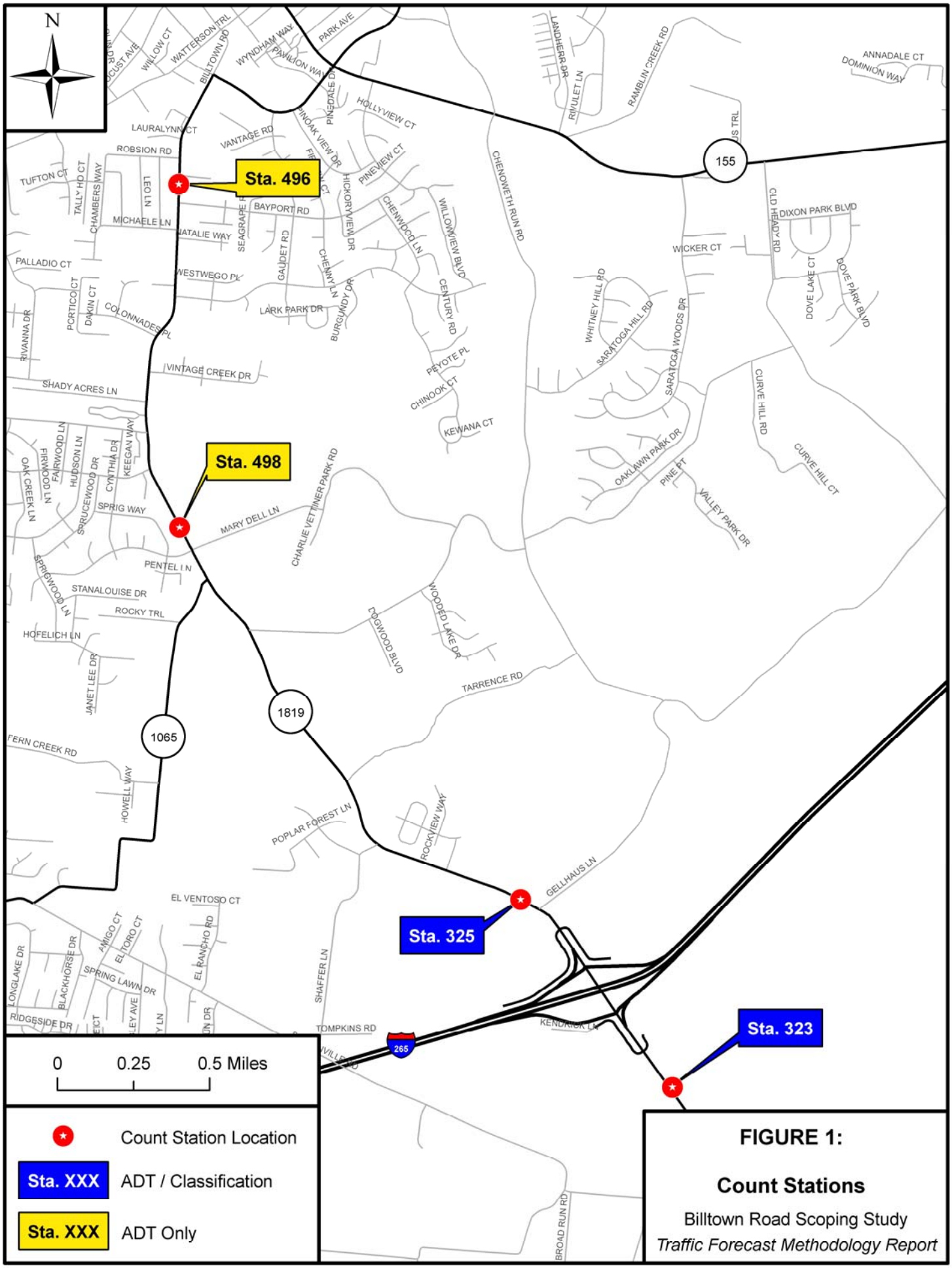

FIGURE 1:

Count Stations

Billtown Road Scoping Study

Traffic Forecast Methodology Report

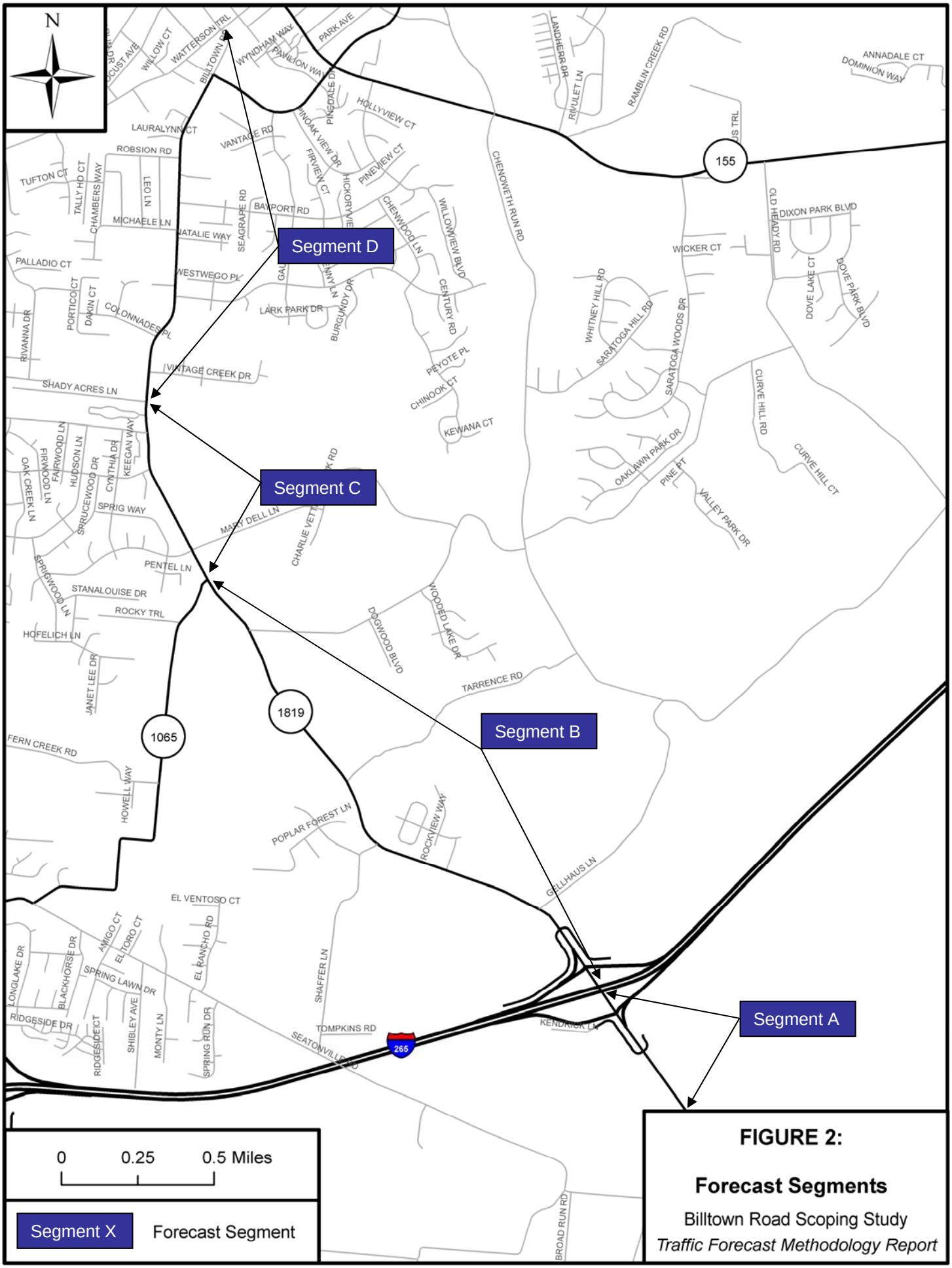

FIGURE 2:

Forecast Segments

Billtown Road Scoping Study

Traffic Forecast Methodology Report

Project Memo

To: File

From: Scott Walker

Date: February 28, 2007

Subject: Short-term Traffic Forecasting Growth Rates

The purpose of this memo is to briefly discuss the near-term (2010) growth rates used for the Billtown Road Scoping Study. Growth rates were necessary for this study in order to forecast intersection turning movement volumes to the Year 2010. Alternate analyses was then conducted for each intersection in order to identify possible short-term improvement alternates that could reduce or eliminate the current or anticipated traffic operational issues at each intersection. It should be noted that the growth rates were applied only to short-term forecasts. All long-term (i.e., Year 2030) forecast information was provided by KIPDA.

The growth rate used by PB for this study was 7.5% per year. This is higher than the growth rate of 5.0% per year suggested by KYTC Division of Planning, following a review of the Billtown Road Traffic Forecasting Methodology. On Monday, February 26, PB spoke with KYTC via telephone regarding the development of the growth rates. The discussion included a look at historical growth rates and the methodology used by each to calculate the growth rates.

As a follow-up to the telephone call, PB calculated the impact of using a 5.0% growth rate versus a 7.5% growth rate. Over four years, a 7.5% growth rate yields a total increase of 33.5% from 2006 volumes while a 5.0% growth rate yields a total increase of 21.6% increase from 2006 volumes. If the 5.0% growth rate is grown two additional years (i.e., Year 2012), the cumulative growth would be 34%, which is just above the 7.5% grown over four years. Therefore, based on these calculations, approximately two years separate the realization of the expected traffic when using the different growth rates. Refer to the attached table for a more detailed comparison of these growth rates and the resulting differences.

Based on this review, it is recommended that changes to the growth rate used by PB (7.5%) are not necessary at this time,for the following reasons:

- The difference in the growth rate is not expected to have an impact on the recommendations for each intersection since the majority of the traffic operational issues exist both in the base year (2006) and the short-term future year (2010).

- Funding is relatively limited for this project. Many of the alternates recommended for this study will not be implemented by the year 2010. It may take several more years before some of the near-term projects or an ultimate reconstruction of the corridor is funded and constructed.

- The forecasts were not developed for design purposes.

The above analysis will be included in the final report to ensure proper documentation of all technical analysis.

Billtown Road Growth Rates

The purpose of this sheet is to explore the difference between using a 5.0% growth rate along Billtown Road compared to a 7.5% growth rate.

Step 1: Calculate growth for 2010 using different ADTs and different groth rates.

Year	Growth Rate	Test Volumes					
		1000	2000	3000	4000	5000	10000
2006	5.00%	1,216	2,431	3,647	4,862	6,078	12,155
2010	7.50%	1,335	2,671	4,006	5,342	6,677	13,355

Step 2: Calculate 5.0% growth to determine year when volumes match 7.5% growth rate.

Year	Growth Rate	Test Volumes					
		1000	2000	3000	4000	5000	10000
2010	5.00%	1,216	2,431	3,647	4,862	6,078	12,155
2011	5.00%	1,276	2,553	3,829	5,105	6,381	12,763
2012	5.00%	1,340	2,680	4,020	5,360	6,700	13,401
2013	5.00%	1,407	2,814	4,221	5,628	7,036	14,071
2014	5.00%	1,477	2,955	4,432	5,910	7,387	14,775
2015	5.00%	1,551	3,103	4,654	6,205	7,757	15,513
2016	5.00%	1,629	3,258	4,887	6,516	8,144	16,289

As shown, the higher growth rate for 2010 is equal to using a 5.0% growth rate until Year 2012.

APPENDIX B:

ENVIRONMENTAL JUSTICE COMMUNITY IMPACT ASSESSMENT

Environmental Justice Community Impact Assessment

Scoping Study of Billtown Road (KY 1819) Improvements from Ruckreigel Parkway to I-265

Jefferson County, Kentucky
KYTC Project #05-8203
KIPDA Project #257

KIPDA
Kentuckiana Regional Planning and Development Agency

March 2007

KENTUCKY TRANSPORTATION CABINET

Environmental Justice Community Impact Assessment

Scoping Study of Billtown Road (KY 1819) Improvements from Ruckreigel Parkway to I-265

Jefferson County, Kentucky
KYTC Project #05-8203
KIPDA Project #257

March 2007

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This document is available in accessible formats when requested in advance.

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INTRODUCTION

This report documents an assessment of potential community impacts on Environmental Justice populations and other selected groups within the defined study area for proposed transportation improvements in the Billtown Road (KY 1819) corridor from Ruckreigel Parkway to I-265 in Jefferson County, Kentucky (Figure 1). The assessment has been prepared by the Kentuckiana Regional Planning and Development Agency in support of a Kentucky Transportation Cabinet planning study (Kentucky Six Year Highway Plan project #05-8203) conducted to identify improvements that will enhance safety and reduce congestion in the rapidly developing area surrounding the Billtown Road corridor.

PURPOSE

The purpose of this assessment is to:

- assist the Kentucky Transportation Cabinet in carrying out the Division of Planning's mission "… to collect, maintain, analyze and report accurate data for making sound fiscally responsible recommendations regarding the maintenance, operation and improvement of our transportation network";
- fulfill applicable federal Environmental Justice commitments; and
- further the goals and objectives and cooperative nature of the metropolitan transportation planning process.

The assessment is focused on identifying, through a demographic analysis, the extent to which Environmental Justice populations and other groups of concern reside in or near the study area and may be impacted by the proposed project. Subsequent actions (determination of disproportionately high and adverse effects; proposing measures to avoid, minimize, and/or mitigate such effects; and providing specific opportunities for public involvement) may be undertaken, as appropriate, contingent upon the results of the demographic analysis.

BACKGROUND

Environmental Justice is based on the principles of Title VI of the *Civil Rights Act of 1964*, wherein each Federal agency is required to ensure that no person on the grounds of race, color, or national origin, is excluded from participation in, denied the benefits of, or subjected to discrimination under any program or activity receiving federal financial assistance. In the context of transportation planning, Environmental Justice broadly refers to the goal of identifying and avoiding disproportionate adverse impacts on minority and low-income

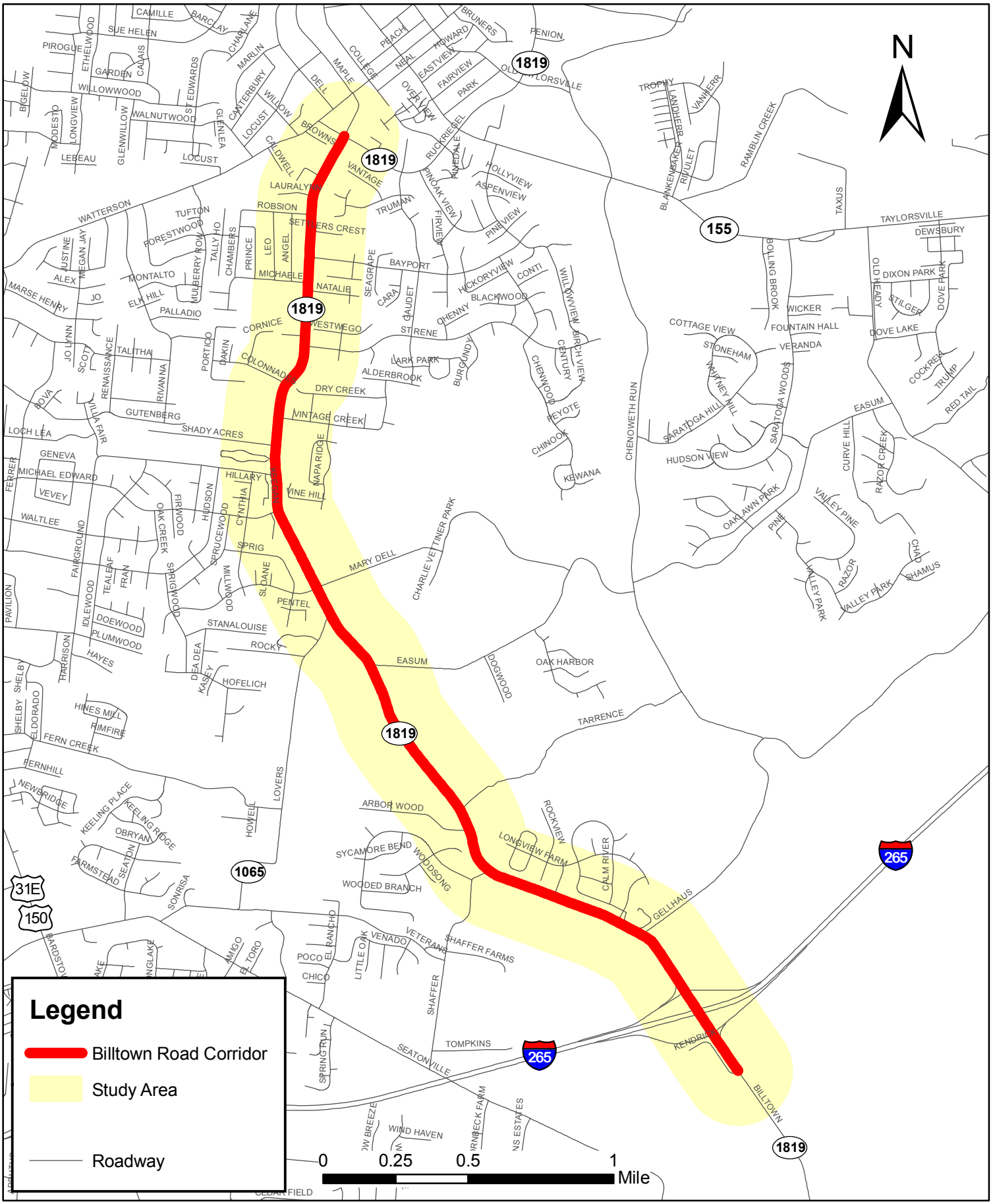

Figure 1

STUDY AREA BOUNDARY

BILLTOWN ROAD SCOPING STUDY
RUCKREIGEL PARKWAY TO I-265

(KYTC #05-8203 KIPDA #257)

Created by KIPDA February 2007 (LAK)

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Kentuckiana Regional Planning and Development Agency

individuals and communities. For the purposes of this assessment, Environmental Justice has been addressed through the following:

- ***Executive Order 12898:*** *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (February 11, 1994)

  The order reads, in part: *"Each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."*

- ***U.S. Department of Transportation Order 5610.2:*** *Department of Transportation Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (April 15, 1997)

  The order reads, in part: *"Planning and programming activities that have the potential to have a disproportionately high and adverse effect on human health or the environment shall include explicit consideration of the effects on minority populations and low-income populations."*

- ***Federal Highway Administration Order 6640.23:*** *FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (December 2, 1998)

  The order reads, in part: *"…it is FHWA's continuing policy to identify and prevent discriminatory effects by actively administering its programs, policies and activities to ensure that social impacts to communities and people are recognized early and continually throughout the transportation decision making process—from early planning through implementation."*

In the absence of a single Environmental Justice statute or regulation, planners must make use of the numerous orders, policies, and guidance documents that have been developed since the issuance of Executive Order 12898. This assessment attempts to apply current state of the practice procedures to provide the information needed to "… *ensure that the interests and well being of minority populations and low-income populations are considered and addressed during the transportation decision making process."*

Two additional groups included in this assessment are the elderly and persons with disabilities. The above Environmental Justice orders do not address these additional populations, so they are included in this analysis per the Kentucky Transportation Cabinet document, *Methodology for Assessing Potential Environmental Justice Concerns for KYTC Planning Studies*, as a matter of good planning practice.

RESOURCES/REFERENCES

The following federal, state, and local resources have been consulted for information and guidance in conducting this assessment:

- *Methodology for Assessing Potential Environmental Justice Concerns for KYTC Planning Studies* – Kentucky Transportation Cabinet, February 2002.
- *Community Assessment and Outreach Program for the Louisville (KY-IN) Metropolitan Planning Area for Title VI/Environmental Justice and Other Communities of Concern* – Kentuckiana Regional Planning and Development Agency, July 2006.
- *Environmental Justice/Title VI Plan* – Kentuckiana Regional Planning and Development Agency, October 2004.
- *Effective Methods for Environmental Justice Assessment* – National Cooperative Highway Research Program Report 532, September 2004.
- *Technical Methods to Support Analysis of Environmental Justice Issues* – National Cooperative Highway Research Program Project 8-36 (11), April 2002.
- US Census Bureau, 2000 Census, Summary Files 1 and 3

TERMINOLOGY

This assessment makes use of several terms, some of which may be unique to the Environmental Justice process. Their definitions may similarly have specific application limited to these procedures. For example, according to the Federal Highway Administration, the following terms and definitions shall be used:

Minority Persons include persons whose race can be identified as any one or more of the following categories:

- Black—persons having origins in any of the black racial groups of Africa;
- Asian—persons having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent;
- American Indian and Alaskan Native—persons having origins in any of the original people of North America and who maintain cultural identification through tribal affiliation or community recognition; and
- Native Hawaiian or Other Pacific Islander—persons having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

Minority populations also include persons of any race or combination of races who identify their ethnicity, culture, or origin as Hispanic. Hispanics are persons

of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin.

Low-Income Persons include persons whose household income is below the US Department of Health and Human Services poverty guidelines (Table 1). For the 2000 census, poverty status was determined for all persons except the institutionalized, military group quarters, persons in college dormitories, and unrelated individuals under 15 years old.

TABLE 1
Poverty Threshold in 1999, by Size of Family and Number of Related Children Under 18 Years Old

Size of Family Unit	Weighted Average Threshold	Related Children Under 18 Years Old								
		None	One	Two	Three	Four	Five	Six	Seven	Eight or More
One person (unrelated individual)	$8,501									
Under 65 years old	$8,667	$7,990								
65 years old and over	$7,990	$7,990								
Two persons	$10,869									
Householder under 65 years old	$11,214	$11,156	$11,483							
Householder 65 years old and over	$10,075	$10,070	$11,440							
Three persons	$13,290	$13,032	$13,410	$13,423						
Four persons	$17,029	$17,184	$17,465	$16,895	$16,954					
Five persons	$20,127	$20,723	$21,024	$20,380	$19,882	$19,578				
Six persons	$22,727	$23,835	$23,930	$23,436	$22,964	$22,261	$21,845			
Seven persons	$25,912	$27,425	$27,596	$27,006	$26,595	$25,828	$24,934	$23,953		
Eight persons	$28,967	$30,673	$30,944	$30,387	$29,899	$29,206	$28,327	$27,412	$27,180	
Nine or more persons	$34,417	$36,897	$37,076	$36,583	$36,169	$35,489	$34,554	$33,708	$33,499	$32,208

Low-Income Population means any readily identifiable group of low-income persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who would be similarly affected by a proposed FHWA program, policy, or activity.

Minority Population means any readily identifiable groups of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed FHWA program, policy, or activity.

Adverse Effects are the totality of significant individual or cumulative human health or environmental effects, including interrelated social and economic effects, which may include, but are not limited to: bodily impairment, infirmity, illness or death; air, noise, and water pollution and soil contamination; destruction or disruption of man-made or natural resources; destruction or diminution of aesthetic values; destruction or disruption of community cohesion or a community's economic vitality; destruction or disruption of the availability of public and private facilities and services; vibration; adverse employment effects; displacement of persons, businesses, farms, or nonprofit organizations; increased traffic congestion, isolation, exclusion or separation of minority or low-income individuals within a given community or from the broader community; and the denial of, reduction in, or significant delay in the receipt of, benefits of FHWA programs, policies, or activities.

Disproportionately High and Adverse Effect on Minority and Low-Income Populations means an adverse effect that:

- is predominately borne by a minority population and/or a low-income population; or
- will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the nonminority population and/or nonlow-income population.

Programs, Policies, and/or Activities means all projects, programs, policies, and activities that affect human health or the environment, and that are undertaken, funded, or approved by FHWA. These include, but are not limited to, permits, licenses, and financial assistance provided by FHWA. Interrelated projects within a system may be considered to be a single project, program, policy, or activity.

The following terms are defined using US Census Bureau terminology and data:

Elderly Persons include persons age 65 and older as of April 1, 2000 (Census Day).

Persons with Disabilities include persons for which any of the 3 following conditions were true as of April 1, 2000 (Census Day):

- they were 5 years old and over and had a sensory, physical, mental, or self-care disability;
- they were 16 years old and over and had a going outside the home disability; or
- they were 16 to 64 years old and had an employment disability.

Census Tracts are small, relatively permanent statistical subdivisions of a county or statistically equivalent entity that are used to provide a stable set of geographic units for the presentation of census data. While tracts generally contain between 1,500 and 8,000 people, with an optimum size of 4,000 people, their spatial size can vary widely depending on the density of settlement. Figure 2 shows the census tracts in and around the study area.

Census Block Groups (BGs) are intermediate-level statistical subdivisions of census tracts that are used for the presentation of census data. Within each tract, they are aggregations of census blocks that have the same first digit of each four-digit identifying block number. Block groups generally contain between 600 and 3,000 persons, with an optimum size of 1,500 persons. Figure 3 shows the census block groups in and around the study area.

Census Blocks are the smallest statistical subdivisions of census tracts that are used for the presentation of census data. They are bounded on all sides by visible features, such as streets, roads, streams, and railroad tracks, and by invisible boundaries, such as city, town, township, and county limits, property lines, and short, imaginary extensions of streets and roads. Blocks are generally small in area, especially in densely settled areas, but may contain many square miles of territory in more sparsely settled areas. Figure 4 shows the census blocks in and around the study area.

ANALYSIS METHODOLOGY

The procedures involved in conducting the community impact assessment for this project centered on the identification of potentially impacted populations. Data from the 2000 census were used to develop demographic profile tables and maps of the locations of the groups of concern. Other community information was used, as available, to identify potentially impacted populations and future points of contact within the study area.

Tables and maps depicting race, ethnicity, minorities, and persons with low-income are used to indicate the locations and magnitudes of potentially impacted Environmental Justice populations. Elderly and disabled distributions are also represented in tabular and graphic form as part of the Kentucky Transportation Cabinet's standard planning study methodology. This project level assessment utilizes many of the same resources and methodologies as were used in the Louisville (KY-IN) Metropolitan Planning Area (MPA) systems level assessment. The MPA community assessment covered not only the populations mentioned above, but other potentially impacted groups as well as a matter of good planning practice.

Profile tables were developed for each population of interest and for several geographic levels in and around the study area. Tables showing the total number of persons by race, ethnicity, minority status, poverty status, elderly status, and

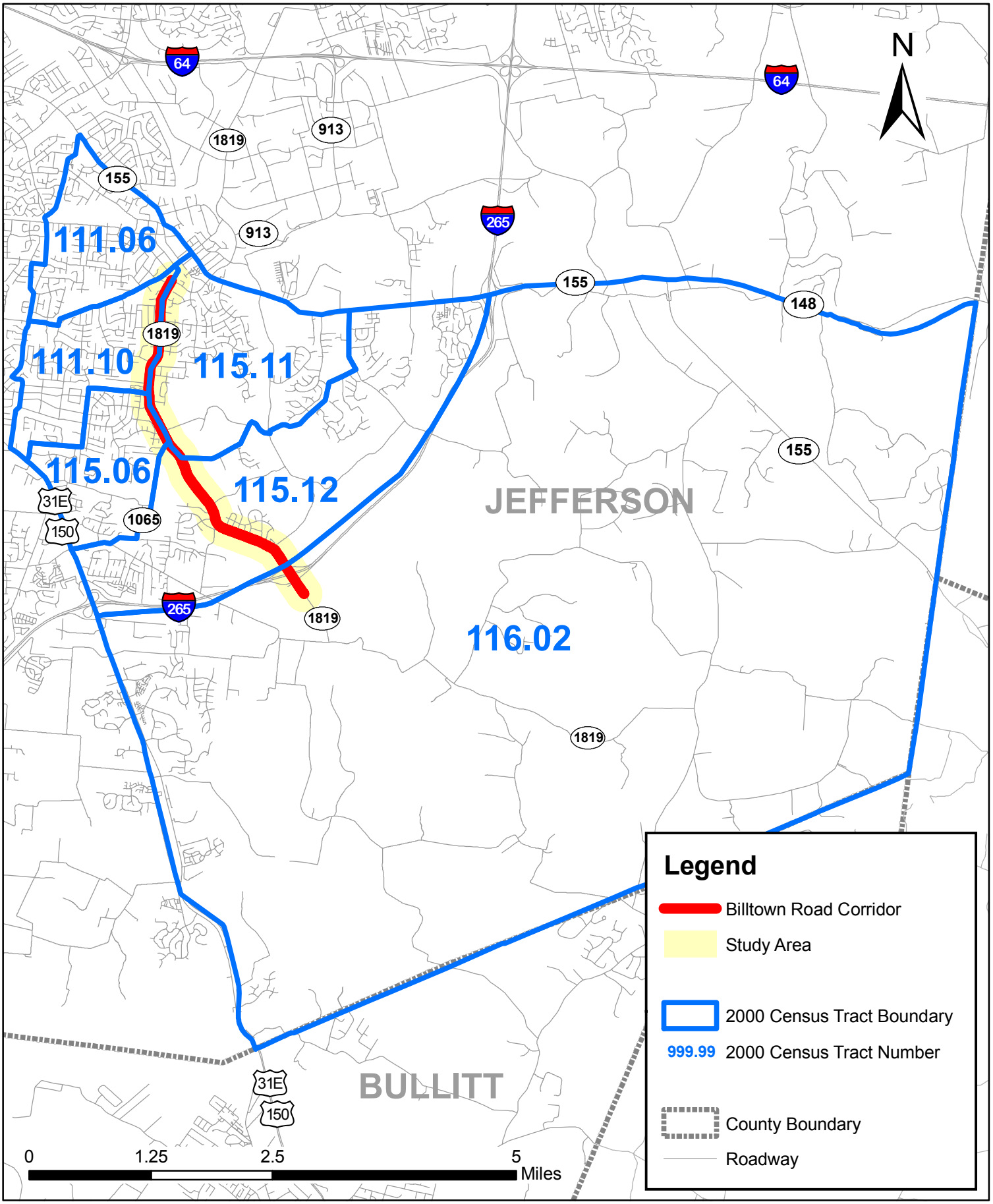

Figure 2

STUDY AREA CENSUS TRACT BOUNDARIES

BILLTOWN ROAD SCOPING STUDY
RUCKREIGEL PARKWAY TO I-265

(KYTC #05-8203 KIPDA #257)

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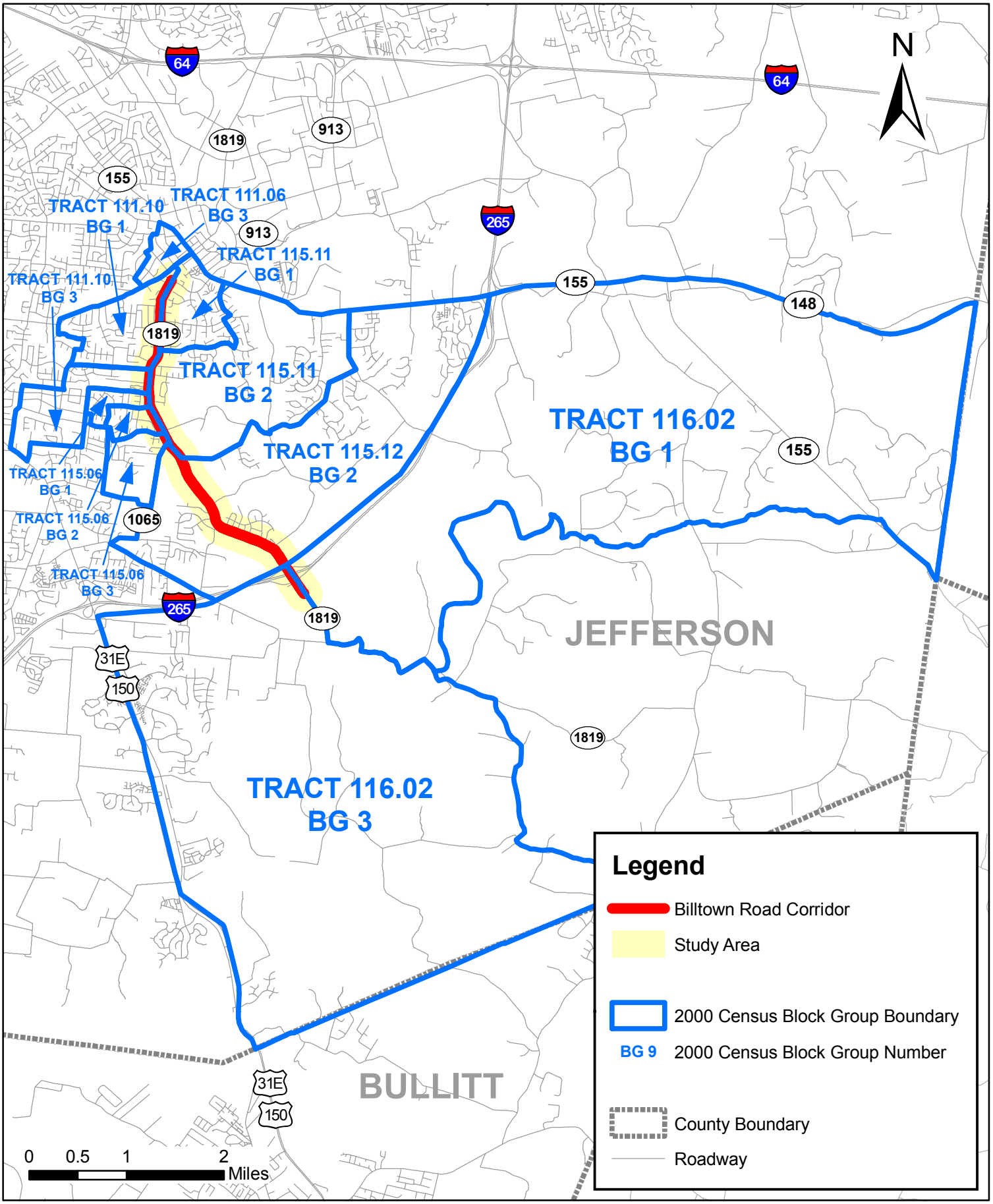

Figure 3

STUDY AREA CENSUS BLOCK GROUP BOUNDARIES

BILLTOWN ROAD SCOPING STUDY
RUCKREIGEL PARKWAY TO I-265

(KYTC #05-8203 KIPDA #257)

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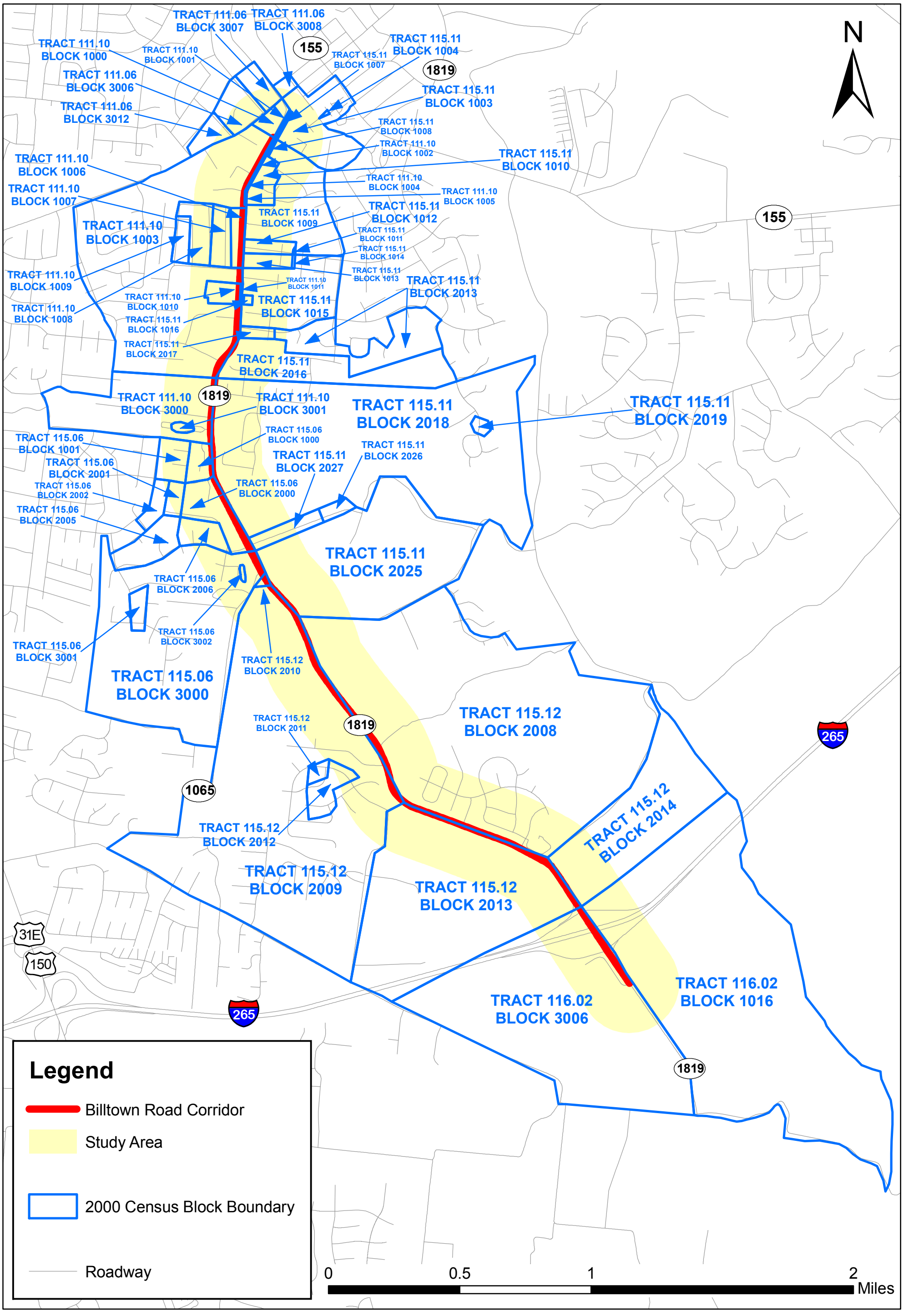

Figure 4

STUDY AREA CENSUS BLOCK BOUNDARIES

BILLTOWN ROAD SCOPING STUDY
RUCKREIGEL PARKWAY TO I-265
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disability status were created for several geographic areas, including the United States, Kentucky, and Jefferson County, as well as applicable census tracts, block groups, and blocks.

The tables were assembled using year 2000 census data. The decennial census was the most comprehensive information source available in terms of the number of data variables collected and the number of geographic levels available. Decennial census data is derived from two different sets of questionnaires, the short form and the long form. Short form data, or SF1 data, contains basic demographics and represents a 100% sample of the populous of the United States, while long form data, or SF3 data, contains more detailed social and economic characteristics and is gathered from an approximate 17% sample. The smallest level of geography available from SF1 is the census block, while the smallest level available from SF3 is the block group.

Profile maps were produced for each population variable at the tract, block group, and block levels, as available. ESRI ArcMap software was used to combine 2000 census data with TIGER/Line 2000 census tract, block group, and block boundaries in and around the study area to map locations of the populations of interest.

COMMUNITY PROFILES

This section provides an examination of the demographic characteristics of the Environmental Justice populations and other selected groups within and surrounding the project study area. These profiles provide a basis for identifying the number and, where appropriate, the geographic location of potentially impacted persons in the communities of concern.

MINORITY PERSONS

According to year 2000 census data, the highest numbers and concentrations of minority persons existed in and around the more densely settled portions of the study area, particularly in and near the City of Jeffersontown and Fern Creek. Census tracts 111.06, 111.10, 115.06, and 115.11 exhibited the highest minority resident densities (Figure 5). Census tract 111.06, which covers a very small portion of the northernmost edge of the study area, had the highest concentration with 1,050 minority residents, or 14% of the tract total population (Table 2). At the census block group level, the highest minority densities were seen in block groups 1, 2, and 3 of census tract 115.06 and in tract 115.11 block group 1 (Figure 6). Census tract 115.06 block group 1 had the highest minority resident concentration in the study area with 17% of the total population.

The minority resident concentrations of the study area tracts ranged from 4% to 14%, while the percentages in the block groups ranged from 2% to 17%. These proportions were significantly lower than both the national average of 31% and

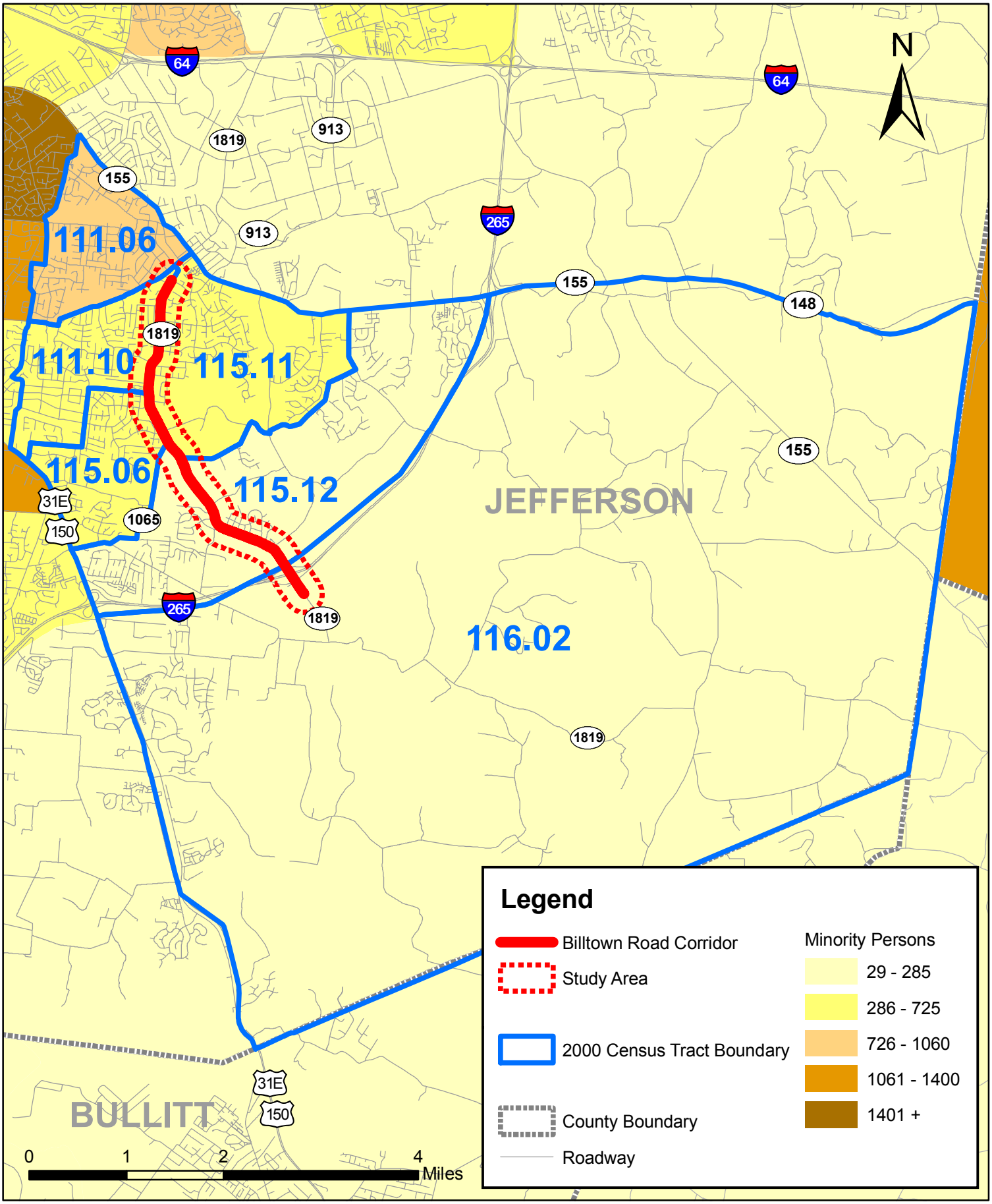

Figure 5

MINORITY PERSONS BY CENSUS TRACT--2000

BILLTOWN ROAD SCOPING STUDY
RUCKREIGEL PARKWAY TO I-265

(KYTC #05-8203 KIPDA #257)

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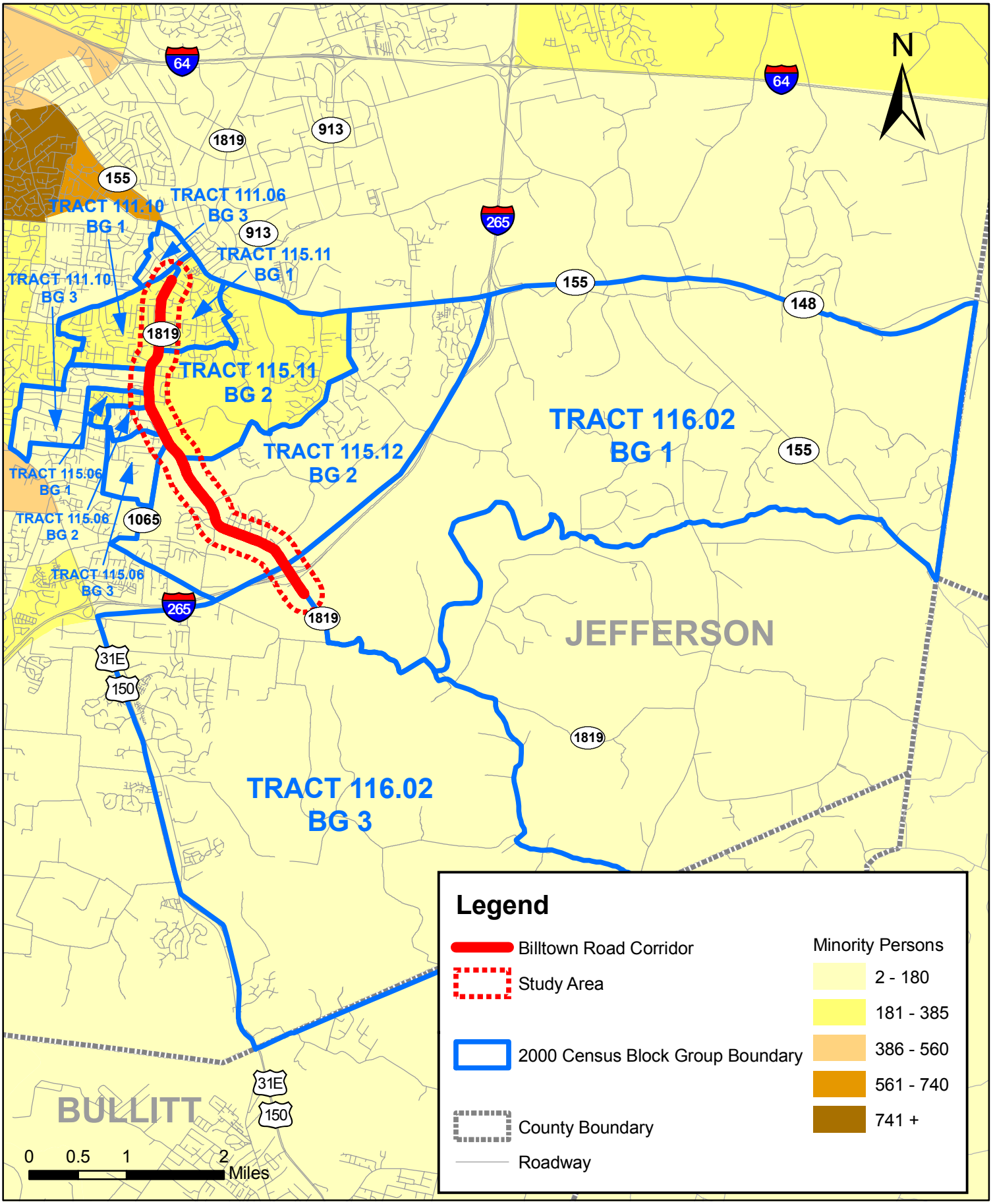

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Figure 6

MINORITY PERSONS BY CENSUS BLOCK GROUP 2000

BILLTOWN ROAD SCOPING STUDY
RUCKREIGEL PARKWAY TO I-265
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the Jefferson County average of 24%. For the most part, the study area tract and block group concentrations were distributed around the Kentucky state average of 11%.

TABLE 2
Minority Persons—2000
Billtown Road Scoping Study—Ruckreigel Parkway to I-265

Area		Total Population	Non-Hispanic		Hispanic		Minority Population	
			White	Non-White	White	Non-White	Total	%
United States		281,421,906	194,552,774	51,563,314	16,907,852	18,397,966	86,869,132	30.87
Kentucky		4,041,769	3,608,013	373,817	32,876	27,063	433,756	10.73
Jefferson County		693,604	530,056	151,178	6,665	5,705	163,548	23.58
Census Areas Intersecting and Surrounding the Study Area	Tract 111.06	7,432	6,382	713	158	179	1,050	14.13
	Block Group 3	665	618	37	7	3	47	7.07
	Tract 111.10	5,582	4,997	521	36	28	585	10.48
	Block Group 1	2,252	2,019	212	11	10	233	10.35
	Block Group 3	1,943	1,859	76	7	1	84	4.32
	Tract 115.06	4,990	4,424	458	29	79	566	11.34
	Block Group 1	1,196	993	158	10	35	203	16.97
	Block Group 2	991	870	76	11	34	121	12.21
	Block Group 3	926	819	96	1	10	107	11.56
	Tract 115.11	6,439	5,739	639	36	25	700	10.87
	Block Group 1	2,833	2,450	356	15	12	383	13.52
	Block Group 2	3,606	3,289	283	21	13	317	8.79
	Tract 115.12	3,992	3,747	204	29	12	245	6.14
	Block Group 2	2,659	2,499	137	14	9	160	6.02
	Tract 116.02	4,940	4,749	165	24	2	191	3.87
	Block Group 1	926	908	16	0	2	18	1.94
	Block Group 3	2,993	2,841	133	19	0	152	5.08

Note: Only selected Block Groups are represented and do not necessarily sum to Tract totals.
Data Source: 2000 Census SF1, Tables P1, P8

At the census block level, the highest minority resident densities were located closer to the center of Jeffersontown and on the west side of the Billtown corridor (Figure 7). Over 100 minorities resided in each of the two census blocks with the highest minority concentrations—tract 111.10 block 1003 and tract 115.06 block 3000.

Ethnicity

Table 3 shows ethnicity in the study area based on 2000 census data. The majority of persons in and around the study area were non-Hispanic. Census tracts 111.06 and 115.06 had the highest numbers and densities of Hispanic origin residents, with 337 persons (5%) and 108 persons (2%), respectively. At the block group level, tract 115.06 block groups 1 and 2 had the highest number of Hispanics in the study area, with 45 persons each. In terms of percentages,

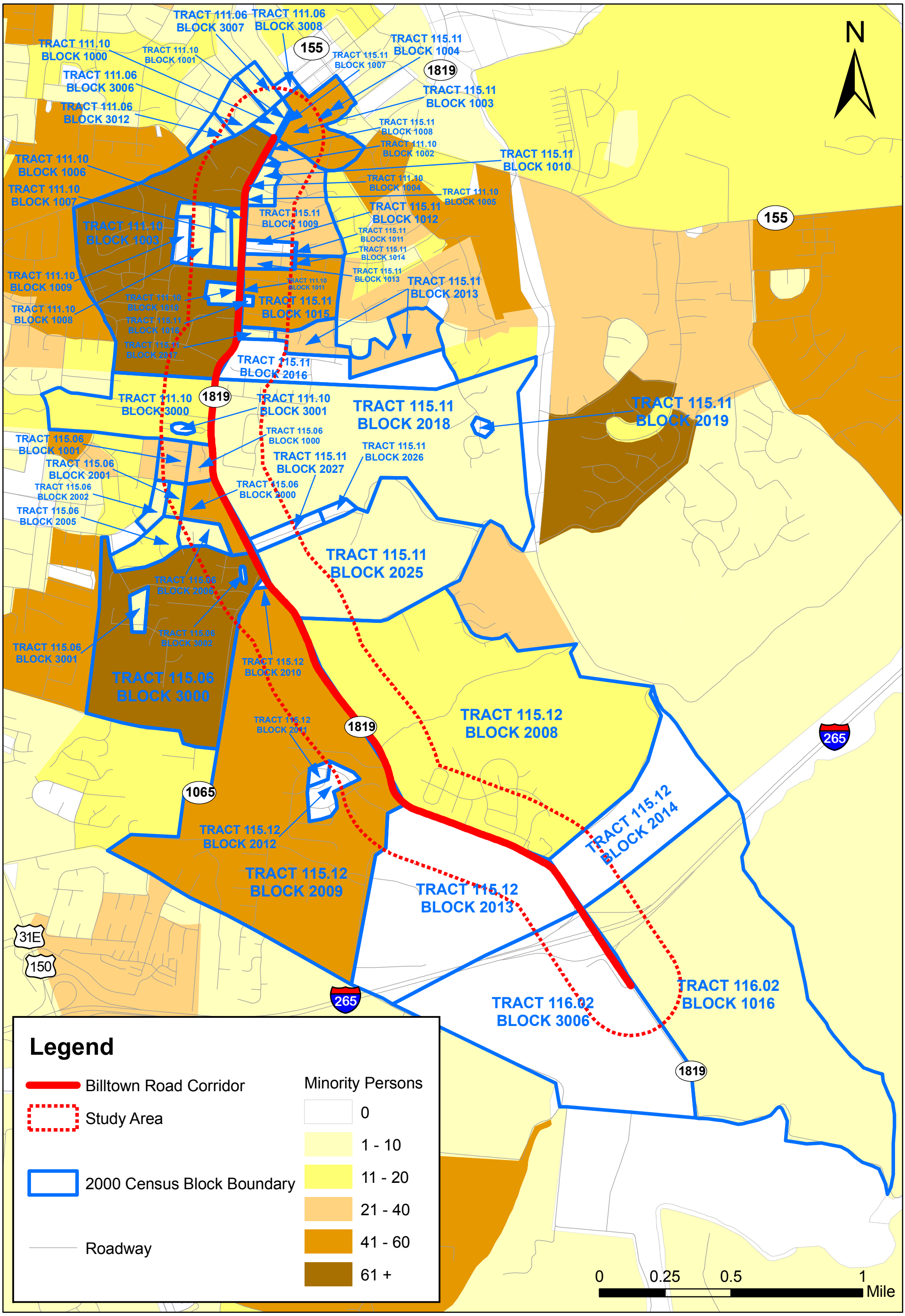

Figure 7

MINORITY PERSONS BY CENSUS BLOCK--2000

BILLTOWN ROAD SCOPING STUDY
RUCKREIGEL PARKWAY TO I-265
(KYTC #05-8203 KIPDA #257)

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this represented 4% and 5% of each block group's total population, respectively. The remaining tracts and block groups ranged from under 1% to 2% Hispanic residents.

Almost 13% of the United States population were Hispanic in 2000. While none of the study area tract or block group resident Hispanic densities came close to the national figure, many of them were comparable to the state and county averages of 1% to 2%.

TABLE 3
Persons by Ethnicity—2000
Billtown Road Scoping Study—Ruckreigel Parkway to I-265

Area		Total Population	Non-Hispanic		Hispanic	
			Persons	%	Persons	%
United States		281,421,906	246,116,088	87.45	35,305,818	12.55
Kentucky		4,041,769	3,981,830	98.52	59,939	1.48
Jefferson County		693,604	681,234	98.22	12,370	1.78
Census Areas Intersecting and Surrounding the Study Area	Tract 111.06	7,432	7,095	95.47	337	4.53
	Block Group 3	665	655	98.50	10	1.50
	Tract 111.10	5,582	5,518	98.85	64	1.15
	Block Group 1	2,252	2,231	99.07	21	0.93
	Block Group 3	1,943	1,935	99.59	8	0.41
	Tract 115.06	4,990	4,882	97.84	108	2.16
	Block Group 1	1,196	1,151	96.24	45	3.76
	Block Group 2	991	946	95.46	45	4.54
	Block Group 3	926	915	98.81	11	1.19
	Tract 115.11	6,439	6,378	99.05	61	0.95
	Block Group 1	2,833	2,806	99.05	27	0.95
	Block Group 2	3,606	3,572	99.06	34	0.94
	Tract 115.12	3,992	3,951	98.97	41	1.03
	Block Group 2	2,659	2,636	99.14	23	0.86
	Tract 116.02	4,940	4,914	99.47	26	0.53
	Block Group 1	926	924	99.78	2	0.22
	Block Group 3	2,993	2,974	99.37	19	0.63

Note: Only selected Block Groups are represented and do not necessarily sum to Tract totals.
Data Source: 2000 Census SF1, Tables P1, P8

Race

Table 4 shows the racial composition of the study area as of the 2000 census. Black and African American was the minority race most often reported by respondents living in and around the study area. Other races reported in somewhat smaller numbers included Asian, other race, and two or more races.

TABLE 4

Persons by Race—2000

Billtown Road Scoping Study—Ruckreigel Parkway to I-265

Area		Total Population	One Race												Two or More Races	
			White		Black or African American		American Indian and Alaska Native		Asian		Native Hawaiian and other Pacific Islander		Other Race			
			Persons	%	Persons	%	Persons	%	Persons	%	Persons	%	Persons	%	Persons	%
United States		281,421,906	211,460,626	75.14	34,658,190	12.32	2,475,956	0.88	10,242,998	3.64	398,835	0.14	15,359,073	5.46	6,826,228	2.43
Kentucky		4,041,769	3,640,889	90.08	295,994	7.32	8,616	0.21	29,744	0.74	1,460	0.04	22,623	0.56	42,443	1.05
Jefferson County		693,604	536,721	77.38	130,928	18.88	1,523	0.22	9,640	1.39	255	0.04	4,695	0.68	9,842	1.42
Census Areas Intersecting and Surrounding the Study Area	Tract 111.06	7,432	6,540	88.00	530	7.13	13	0.17	62	0.83	1	0.01	153	2.06	133	1.79
	Block Group 3	665	625	93.98	27	4.06	0	0.00	7	1.05	0	0.00	3	0.45	3	0.45
	Tract 111.10	5,582	5,033	90.16	416	7.45	15	0.27	48	0.86	0	0.00	25	0.45	45	0.81
	Block Group 1	2,252	2,030	90.14	172	7.64	4	0.18	19	0.84	0	0.00	11	0.49	16	0.71
	Block Group 3	1,943	1,866	96.04	40	2.06	6	0.31	15	0.77	0	0.00	0	0.00	16	0.82
	Tract 115.06	4,990	4,453	89.24	360	7.21	8	0.16	30	0.60	2	0.04	75	1.50	62	1.24
	Block Group 1	1,196	1,003	83.86	139	11.62	1	0.08	4	0.33	0	0.00	26	2.17	23	1.92
	Block Group 2	991	881	88.90	58	5.85	1	0.10	4	0.40	0	0.00	36	3.63	11	1.11
	Block Group 3	926	820	88.55	68	7.34	3	0.32	8	0.86	2	0.22	10	1.08	15	1.62
	Tract 115.11	6,439	5,775	89.69	397	6.17	15	0.23	107	1.66	6	0.09	32	0.50	107	1.66
	Block Group 1	2,833	2,465	87.01	249	8.79	5	0.18	45	1.59	3	0.11	16	0.56	50	1.76
	Block Group 2	3,606	3,310	91.79	148	4.10	10	0.28	62	1.72	3	0.08	16	0.44	57	1.58
	Tract 115.12	3,992	3,776	94.59	119	2.98	5	0.13	24	0.60	0	0.00	16	0.40	52	1.30
	Block Group 2	2,659	2,513	94.51	79	2.97	4	0.15	20	0.75	0	0.00	8	0.30	35	1.32
	Tract 116.02	4,940	4,773	96.62	81	1.64	4	0.08	40	0.81	0	0.00	5	0.10	37	0.75
	Block Group 1	926	908	98.06	5	0.54	1	0.11	3	0.32	0	0.00	3	0.32	6	0.65
	Block Group 3	2,993	2,860	95.56	67	2.24	2	0.07	35	1.17	0	0.00	2	0.07	27	0.90

Note: Only selected Block Groups are represented and do not necessarily sum to Tract totals.
Data Source: 2000 Census SF1, Tables P1, P8

American Indians/Alaska Natives and Native Hawaiians/other Pacific Islanders were reported in very small numbers. These patterns were quite consistent from the national level through to the block group level.

The highest concentrations of blacks/African-Americans were present in tracts 111.06, 111.10, 115.06, and 115.11, in and south of Jeffersontown and in block group 1 of tract 111.10, block group 1 of tract 115.06, and block groups 1 and 2 of tract 115.11.

Jefferson County's African-American population proportion in 2000 was 19%, which was higher than both the Kentucky (7%) and United States (12%) concentrations. The proportions of African-American residents in each tract and block group were generally similar to the state average. An exception to this was tract 115.06 block group 1, which had a 12% average like the United States.

LOW-INCOME PERSONS

According to the 2000 census, 12% of persons in the nation were low-income, having incomes below poverty level (Table 5). Jefferson County mirrored this pattern in 2000, while Kentucky's percentage (16%) was higher than the national trend. With the exception of tract 115.06 block group 2, the Jefferson County tracts and block groups in the study area exhibited significantly lower concentrations of low-income persons, ranging from 1% to 7%. Eleven percent of the residents in tract 115.06 block group 2 were low-income, a figure more in line with the national and county averages.

The highest numbers and concentrations of low-income residents were contained in tract 111.06, in the City of Jeffersontown, and in tract 115.12, just west of I-265 (Figure 8). At the block group level, the highest numbers and concentrations were in tract 115.06 block group 2, on the west side of Billtown Road, in tract 115.12 block group 2, inside of I-265, and in tract 116.02 block group 1, a large block group to the east of I-265 (Figure 9).

Poverty information is not available at the block level, making identification of specific neighborhoods or facilities difficult.

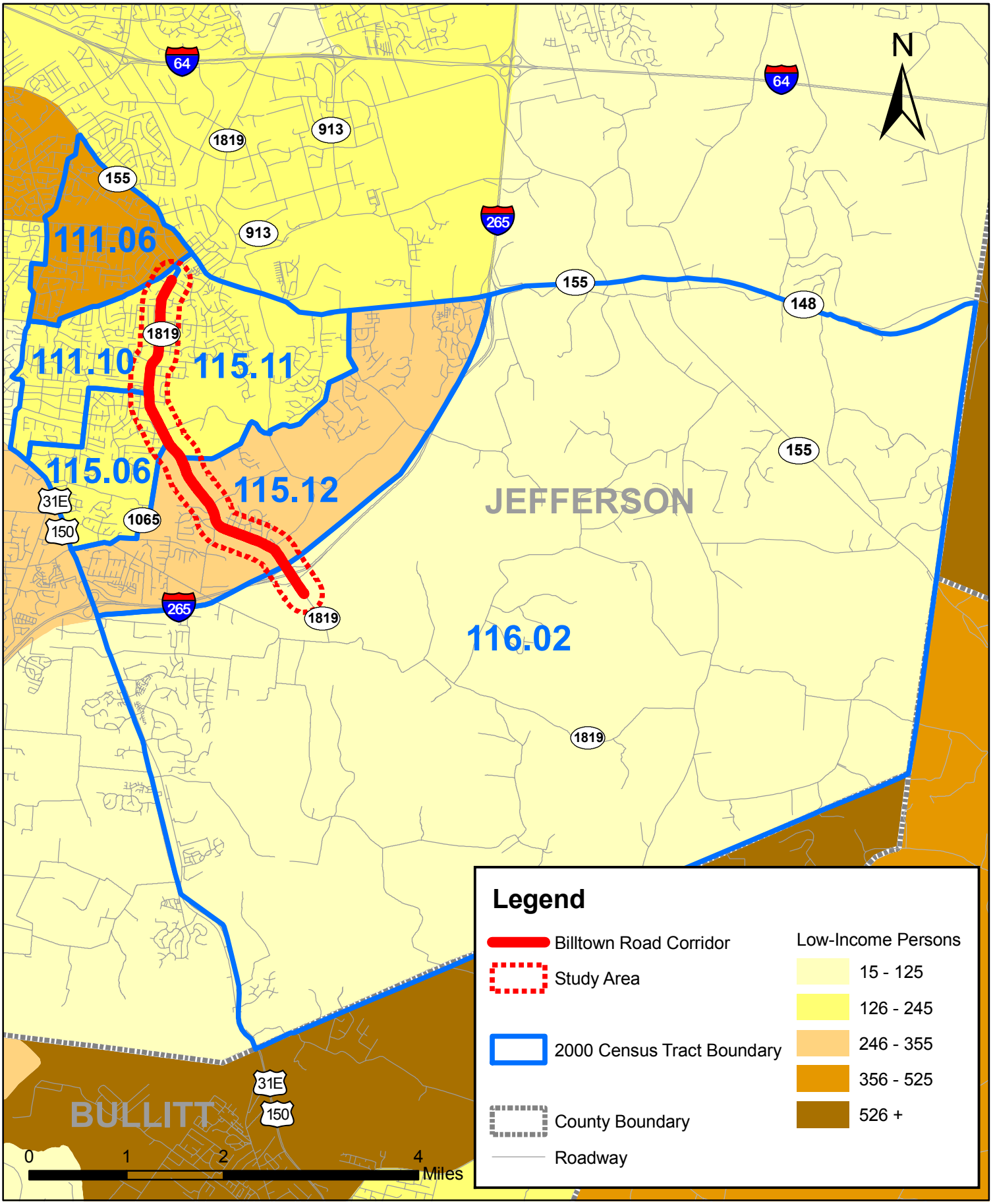

Figure 8

LOW-INCOME PERSONS BY CENSUS TRACT--2000

BILLTOWN ROAD SCOPING STUDY
RUCKREIGEL PARKWAY TO I-265

(KYTC #05-8203 KIPDA #257)

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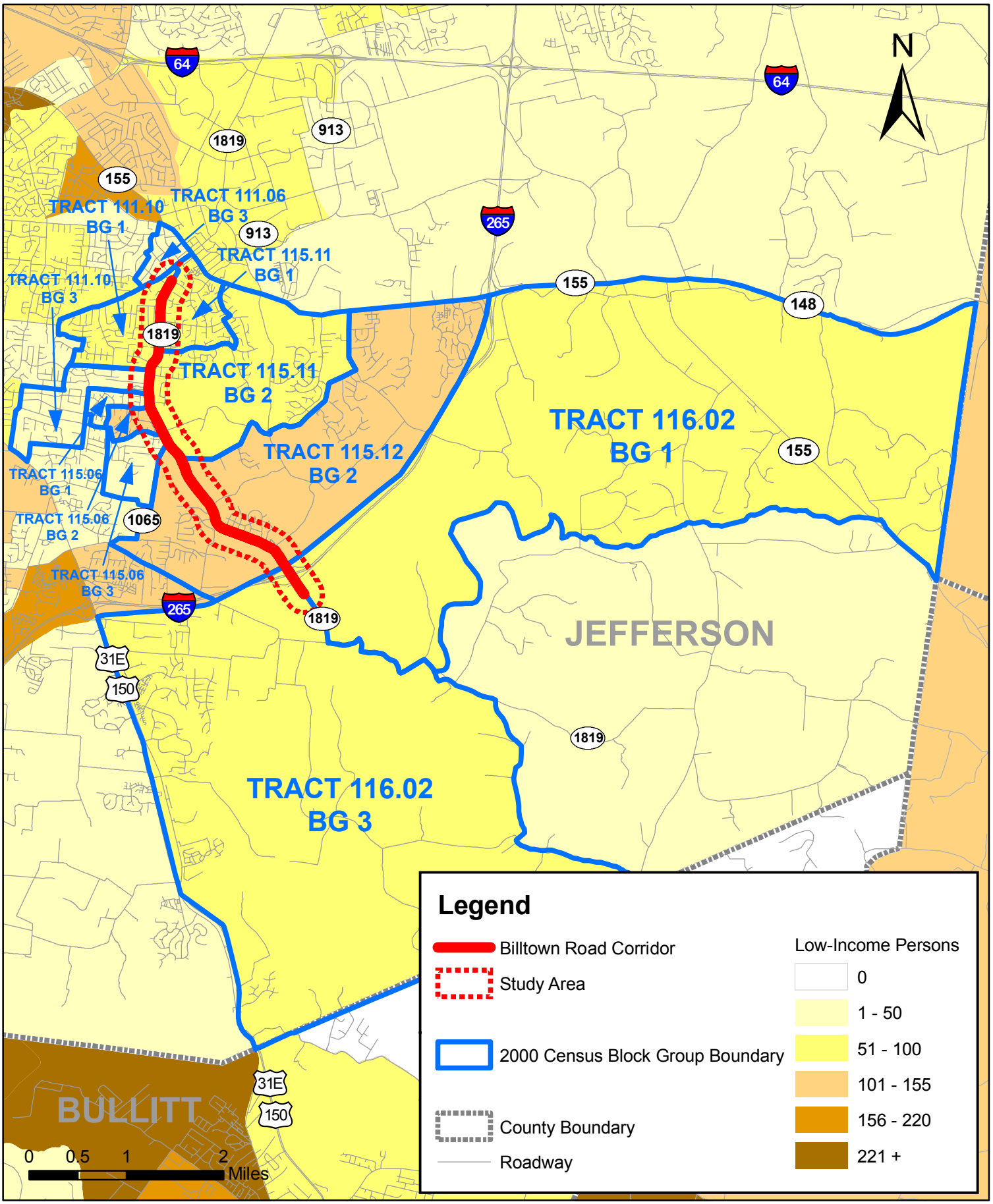

Figure 9

LOW-INCOME PERSONS BY CENSUS BLOCK GROUP 2000

BILLTOWN ROAD SCOPING STUDY
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TABLE 5
Low-Income Persons—2000
Billtown Road Scoping Study—Ruckreigel Parkway to I-265

Area		Total Population for Which Poverty Status is Determined	At or Above Poverty Level		Below Poverty Level	
			Total	%	Total	%
United States		273,882,232	239,982,420	87.62	33,899,812	12.38
Kentucky		3,927,047	3,305,951	84.18	621,096	15.82
Jefferson County		680,882	596,739	87.64	84,143	12.36
Census Areas Intersecting and Surrounding the Study Area	Tract 111.06	7,231	6,823	94.36	408	5.64
	Block Group 3	673	659	97.92	14	2.08
	Tract 111.10	5,585	5,437	97.35	148	2.65
	Block Group 1	2,213	2,117	95.66	96	4.34
	Block Group 3	1,947	1,917	98.46	30	1.54
	Tract 115.06	4,964	4,758	95.85	206	4.15
	Block Group 1	1,214	1,191	98.11	23	1.89
	Block Group 2	994	884	88.93	110	11.07
	Block Group 3	916	878	95.85	38	4.15
	Tract 115.11	6,411	6,239	97.32	172	2.68
	Block Group 1	2,867	2,773	96.72	94	3.28
	Block Group 2	3,544	3,466	97.80	78	2.20
	Tract 115.12	3,970	3,715	93.58	255	6.42
	Block Group 2	2,626	2,489	94.78	137	5.22
	Tract 116.02	4,940	4,821	97.59	119	2.41
	Block Group 1	869	809	93.10	60	6.90
	Block Group 3	3,050	2,999	98.33	51	1.67

Note: Only selected Block Groups are represented and do not necessarily sum to Tract totals.
Data Source: 2000 Census SF3, Table P87

ELDERLY PERSONS

Elderly persons, age 65 and older, comprised between 12% and 14% of the year 2000 individual populations of the United States, Kentucky, and Jefferson County (Table 6). Most of the tracts and block groups in and around the study area exhibited lower concentrations of elderly persons, with the majority below 10%. The highest elderly numbers and percentages occurred in tracts 111.06 and 111.10 in Jeffersontown, and in tract 116.02, to the east of I-265 (Figure 10). At the block group level, the highest numbers and shares of elderly residents were in tract 111.06 block group 3 and tract 111.10 block group 3, in Jeffersontown, tract 115.12 block group 2, west of I-265, and in block groups 1 and 3 of tract 116.02, to the east of I-265 (Figure 11).

At the block level (Figure 12), the highest elderly populations were found in the western and northern sections of the study area, in Jeffersontown and Fern Creek. The highest individual block population was 69 persons, with the majority of blocks in the 11 to 20 person range.

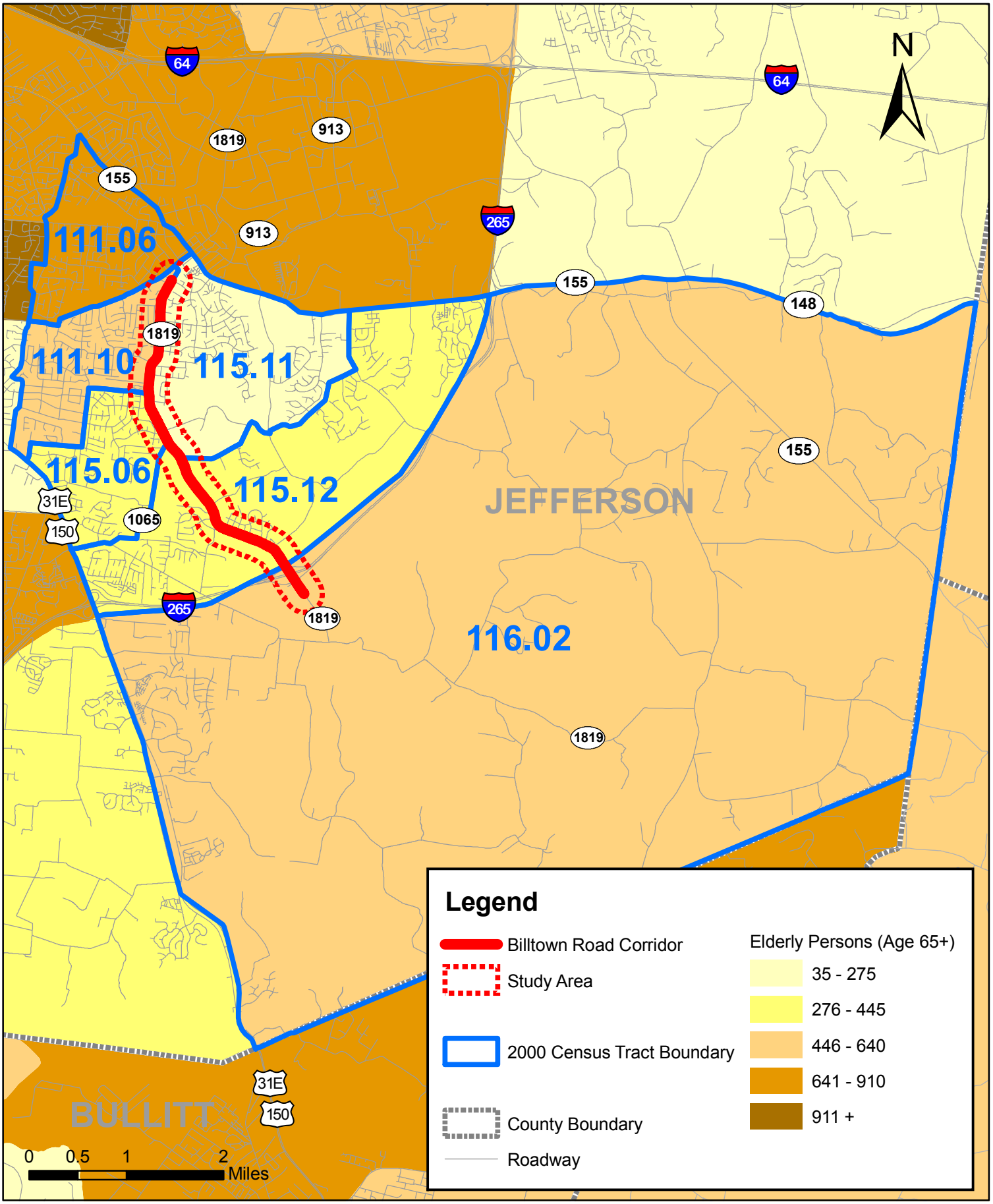

Figure 10

ELDERLY PERSONS BY CENSUS TRACT--2000

BILLTOWN ROAD SCOPING STUDY
RUCKREIGEL PARKWAY TO I-265

(KYTC #05-8203 KIPDA #257)

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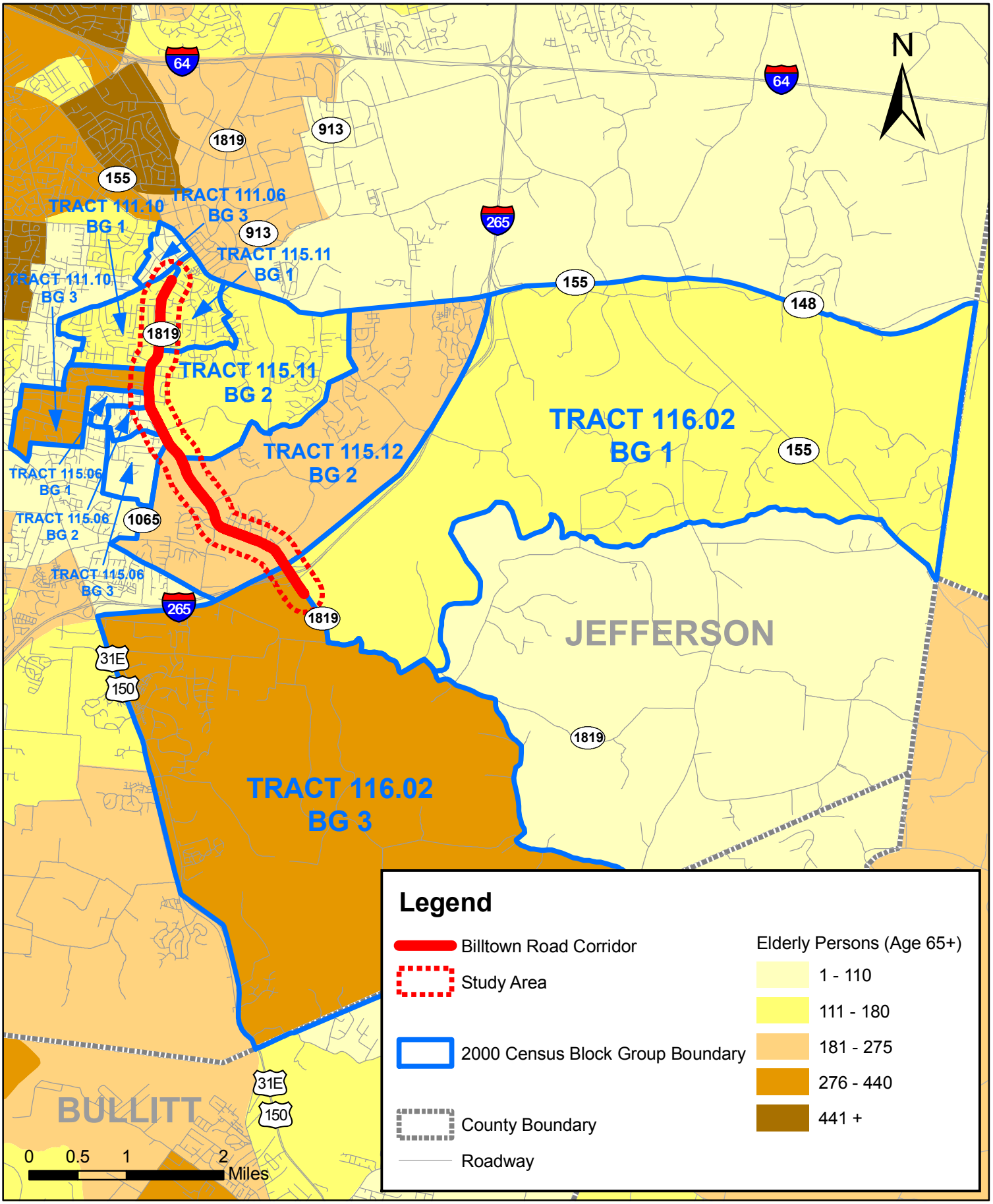

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Figure 11

ELDERLY PERSONS BY CENSUS BLOCK GROUP 2000

BILLTOWN ROAD SCOPING STUDY
RUCKREIGEL PARKWAY TO I-265
(KYTC #05-8203 KIPDA #257)

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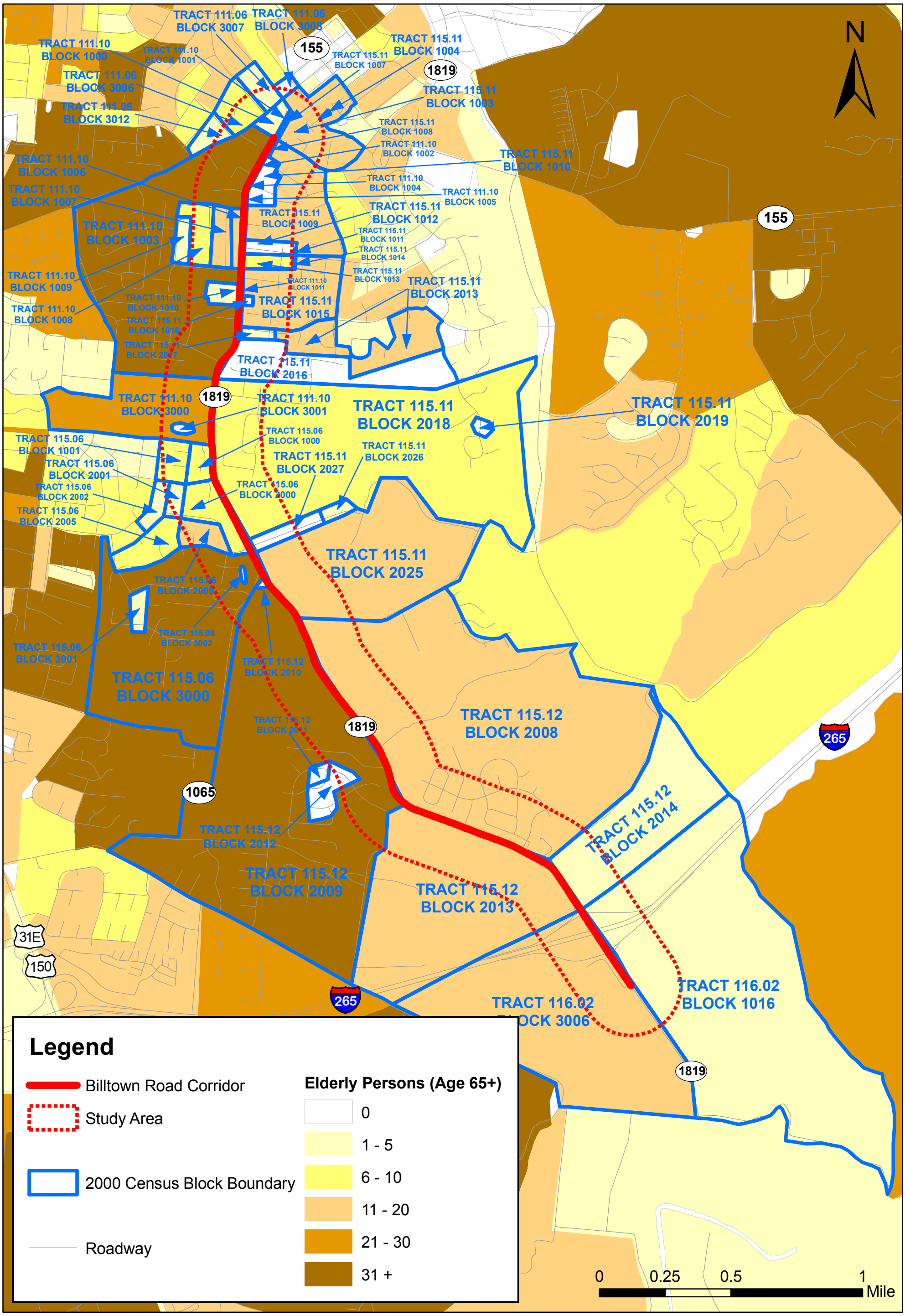

Figure 12

ELDERLY PERSONS BY CENSUS BLOCK--2000

BILLTOWN ROAD SCOPING STUDY
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TABLE 6
Elderly Persons—2000
Billtown Road Scoping Study—Ruckreigel Parkway to I-265

Area		Total Population	Under Age 65		Age 65+	
			Total	%	Total	%
United States		281,421,906	246,430,153	87.57	34,991,753	12.43
Kentucky		4,041,769	3,536,976	87.51	504,793	12.49
Jefferson County		693,604	599,622	86.45	93,982	13.55
Census Areas Intersecting and Surrounding the Study Area	Tract 111.06	7,432	6,525	87.80	907	12.20
	Block Group 3	665	580	87.22	85	12.78
	Tract 111.10	5,582	5,049	90.45	533	9.55
	Block Group 1	2,252	2,117	94.01	135	5.99
	Block Group 3	1,943	1,611	82.91	332	17.09
	Tract 115.06	4,990	4,664	93.47	326	6.53
	Block Group 1	1,196	1,142	95.48	54	4.52
	Block Group 2	991	937	94.55	54	5.45
	Block Group 3	926	892	96.33	34	3.67
	Tract 115.11	6,439	6,180	95.98	259	4.02
	Block Group 1	2,833	2,717	95.91	116	4.09
	Block Group 2	3,606	3,463	96.03	143	3.97
	Tract 115.12	3,992	3,705	92.81	287	7.19
	Block Group 2	2,659	2,454	92.29	205	7.71
	Tract 116.02	4,940	4,370	88.46	570	11.54
	Block Group 1	926	810	87.47	116	12.53
	Block Group 3	2,993	2,647	88.44	346	11.56

Note: Only selected Block Groups are represented and do not necessarily sum to Tract totals.
Data Source: 2000 Census SF1, Table P12

PERSONS WITH DISABILITIES

Persons with disabilities comprised 19% of the civilian noninstitutionalized population over the age of five in the United States in 2000 (Table 7). The percentages for Kentucky (24%) and Jefferson County (20%) were slightly higher than the national average. Within the study area, most of the tracts contained disabled populations slightly less than the national average. This trend also was seen at the block group level as well, with the exception of tract 116.02 block group 1, which had a disabled distribution closer to that of the state and county.

Tract 111.06, in the City of Jeffersontown, had the highest number and percentage of persons with disabilities (Figure 13). At the block group level, the highest number of persons with disabilities was located in tract 116.02 block group 3, east of I-265 and along US 31E/US 150, while the highest distribution was in tract 116.02 block group 1, east of I-265 and south of KY 155/KY 148 (Figure 14).

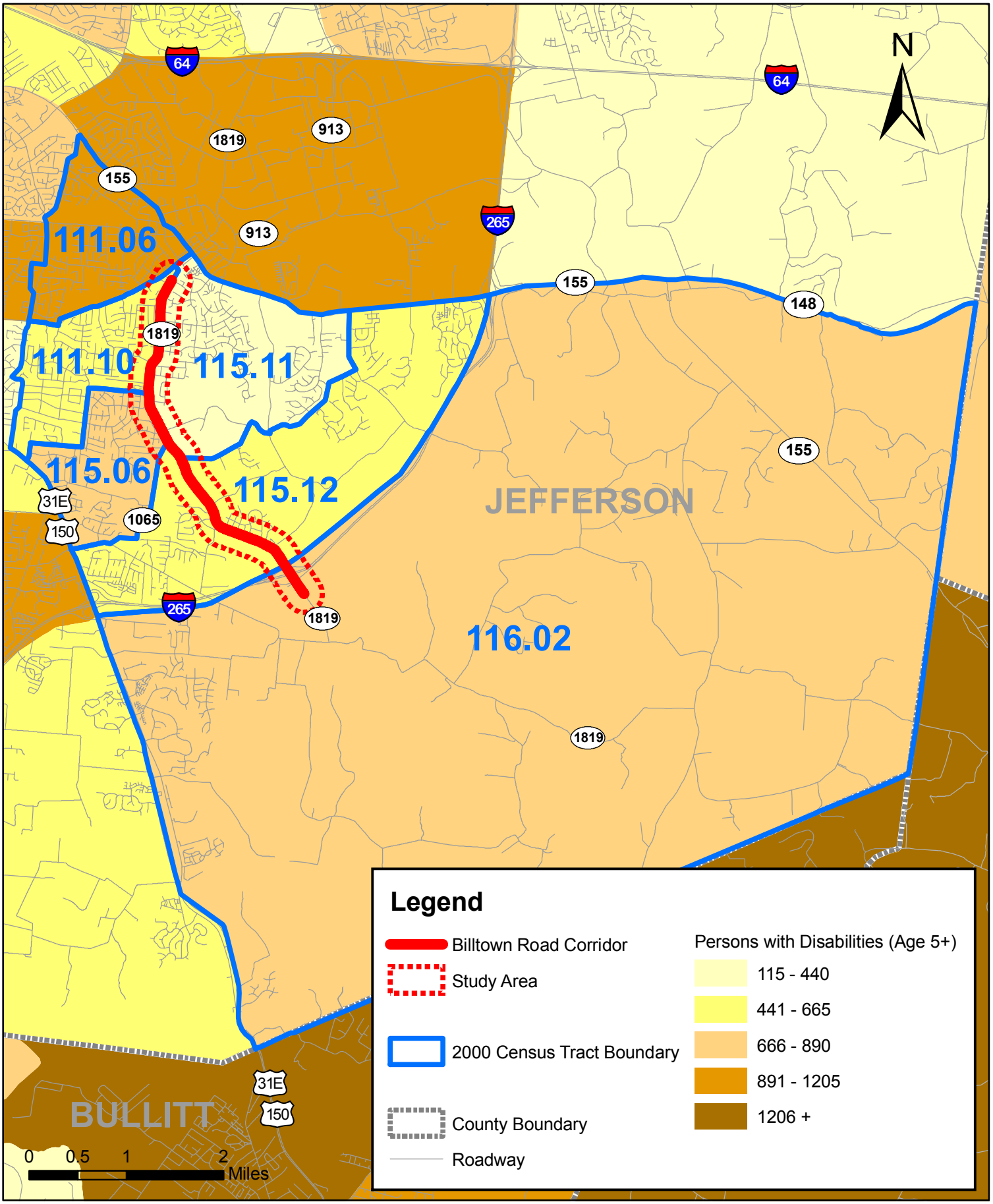

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Figure 13

PERSONS WITH DISABILITIES BY CENSUS TRACT 2000

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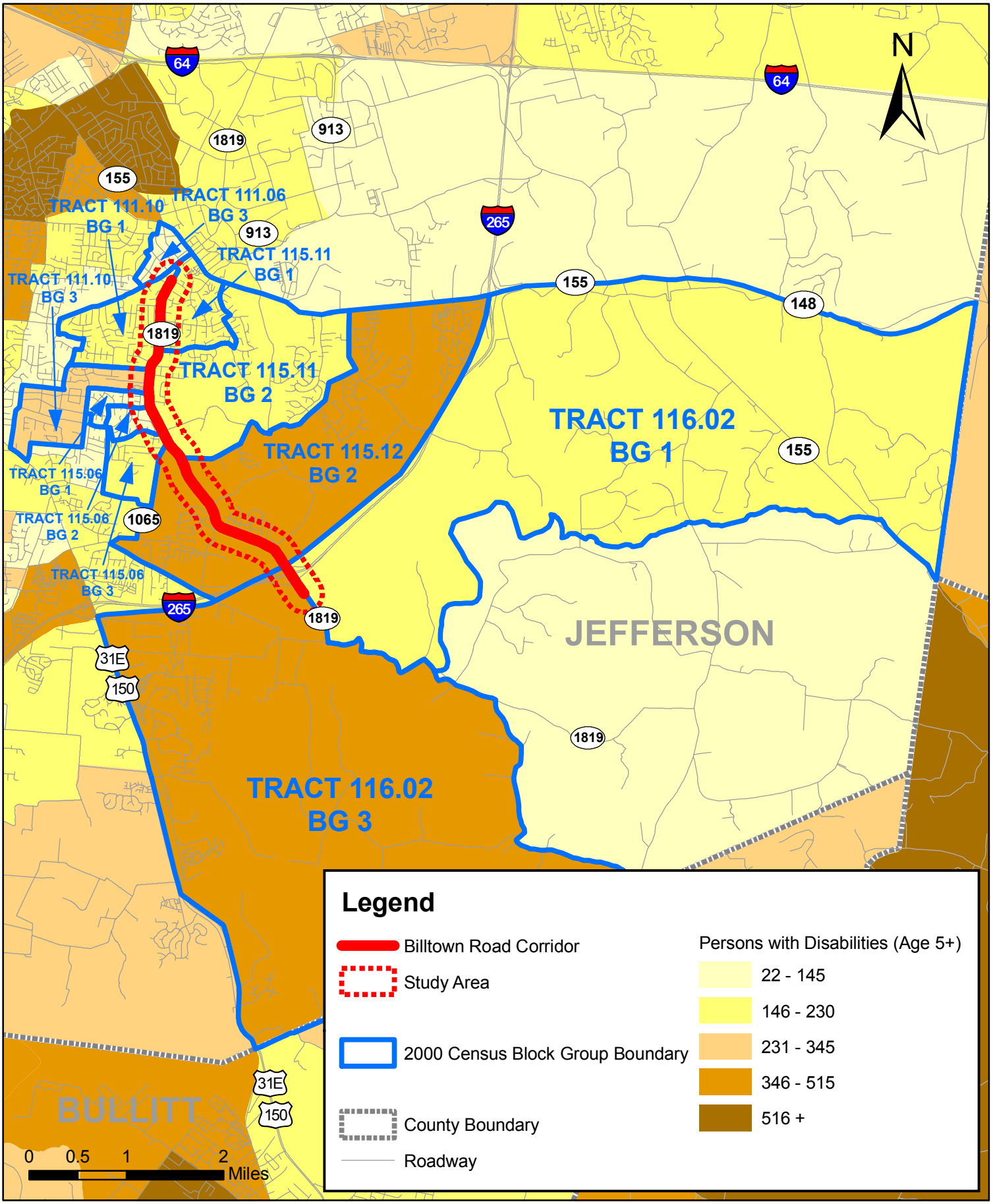
Kentuckiana Regional Planning and Development Agency



Created by KIPDA February 2007 (LAK)

Figure 14

PERSONS WITH DISABILITIES BY CENSUS BLOCK GROUP 2000

BILLTOWN ROAD SCOPING STUDY
RUCKREIGEL PARKWAY TO I-265
(KYTC #05-8203 KIPDA #257)

KIPDA
Kentuckiana Regional Planning and Development Agency

TABLE 7
Persons with Disabilities—2000
Billtown Road Scoping Study—Ruckreigel Parkway to I-265

Area		Total Civilian Noninstitutionalized Population Age 5+	No Disabilities		One or More Disabilities	
			Total	%	Total	%
United States		257,167,527	207,421,279	80.66	49,746,248	19.34
Kentucky		3,695,005	2,820,849	76.34	874,156	23.66
Jefferson County		638,762	508,186	79.56	130,576	20.44
Census Areas Intersecting and Surrounding the Study Area	Tract 111.06	6,698	5,535	82.64	1,163	17.36
	Block Group 3	621	519	83.57	102	16.43
	Tract 111.10	5,143	4,534	88.16	609	11.84
	Block Group 1	2,000	1,812	90.60	188	9.40
	Block Group 3	1,821	1,528	83.91	293	16.09
	Tract 115.06	4,600	3,899	84.76	701	15.24
	Block Group 1	1,119	983	87.85	136	12.15
	Block Group 2	899	755	83.98	144	16.02
	Block Group 3	838	688	82.10	150	17.90
	Tract 115.11	5,745	5,350	93.12	395	6.88
	Block Group 1	2,592	2,404	92.75	188	7.25
	Block Group 2	3,153	2,946	93.43	207	6.57
	Tract 115.12	3,663	3,059	83.51	604	16.49
	Block Group 2	2,414	2,034	84.26	380	15.74
	Tract 116.02	4,665	3,953	84.74	712	15.26
	Block Group 1	827	643	77.75	184	22.25
	Block Group 3	2,880	2,457	85.31	423	14.69

Note: Only selected Block Groups are represented and do not necessarily sum to Tract totals.
Data Source: 2000 Census SF3, Table P42

Information about persons with disabilities is not available at the block level, making identification of specific neighborhoods or facilities difficult.

OTHER COMMUNITY INFORMATION

Census profiles provided a great deal of information about the locations and magnitudes of potentially impacted residential populations in and around the study area. Other information was utilized as available to determine the existence of additional concentrations or places frequented by the populations of interest. Such groupings included:

- historic enclaves and communities
- post-2000 in- or out-migrations not reflected in the census data
- community gathering places, such as churches, community centers, or congregate meal sites

Several sources were used in the search for this information, including local area agencies and community groups (Figure 15, Appendix), as well as internet resources, such as Reference USA.

FIGURE 15
Local Agency/Community Group Contact List
Billtown Road Scoping Study—Ruckreigel Parkway to I-265

AARP
Center for Accessible Living
City of Jeffersontown
Highland Community Ministries
Jefferson County Public Schools ESL Program
KIPDA Area Agency on Aging
Louisville American Red Cross WHEELS
Louisville Metro Community Action Partnership
Louisville Metro Community Outreach Liaison
Louisville Metro Council District 11
Louisville Metro Council District 20
Louisville Metro Council District 22
Louisville Metro Housing Authority
Louisville Metro Housing and Community Development
Louisville Metro Human Relations Committee
Louisville Metro Nutrition Program
Louisville Metro Office for Aging and Disabled Citizens
Louisville Metro Office for International Affairs
Louisville Urban League
Metro United Way
NAACP
TARC Elderly & Disabled Advisory Council
YMCA of Greater Louisville

HISTORIC ENCLAVES AND COMMUNITIES

No other historic enclaves or communities of populations of interest were noted in the analysis or by any of the agencies or community groups contacted.

POST-2000 MIGRATIONS

No major post-2000 in- or out-migrations of the populations of concern were noted in the analysis or by any of the agencies or community groups contacted.

CHURCHES

In addition to the spiritual functions that churches perform, they also often serve as social centers of the surrounding community—gathering places for persons with similar beliefs and backgrounds. Some churches orient their services toward particular groups because of a common language (such as Hispanic-affiliated churches) or tradition (such as AME, or African Methodist Episcopalian churches) shared among their parishioners. There are no churches with any particular ethnic affiliation identified within the study corridor. There are, however, three churches with ethnic ministries located within approximately one mile of the Billtown Road corridor:

- Louisville Chinese Christian Church, 6120 Lovers Lane (distance approximately 0.5 mile from Billtown Road)
- Louisville SDA Hispanic Church, 3109 Thomas Lane (distance approximately 1.2 miles from Billtown Road)
- New Covenant Community AME Church, 9127 Galene Drive (distance approximately 1.1 miles from Billtown Road)

SENIOR CENTERS AND HOUSING

Additional places where concentrations and gatherings of senior citizens may occur include senior centers, congregate meal sites, adult day care facilities, senior housing, and long term care facilities. Several such facilities are located in or near the study corridor.

One senior center, the Jeffersontown Senior Citizens Center, at 10631 Watterson Trail, is approximately 0.6 mile from Billtown Road. The elderly nutrition sites and adult day care centers are more than 2 miles away from the corridor.

There are no senior apartments in the study corridor, but there are two nearby:

- Devex Apartments, 9912 Taylorsville Road (distance approximately 0.7 mile from Billtown Road)—45 units
- Gaslight Court, 3600 Good Samaritan Way (distance approximately 0.5 mile from Billtown Road)—24 units

There is one long term care facility within the study corridor, Glen Ridge Health Campus, at 6415 Calm River Way (83 beds). Glen Ridge was built in 2006; however, even at full maximum residential capacity, the surrounding area's elderly concentration is affected only slightly. There is also another long term care facility 0.5 mile from the corridor, Good Samaritan Center, at 3500 Good Samaritan Way (98 beds).

OTHER FACILITIES

There is an emergency food distribution center run by Jeffersontown Area Ministries at 10617 Taylorsville Road. The facility is approximately 0.6 mile from

the study area corridor. Potential clients may include low-income persons and the elderly.

CONCLUSION

The KIPDA staff assessment of demographic data from the 2000 Census, consideration of information from other sources, and conversations with individuals familiar with the area indicate the following:

- Resident minority populations do not appear to be concentrated in any one area within the study area; nor do they occur in any greater proportions than that expected within the general resident population for the United States, Kentucky, or Jefferson County. In fact, the average minority concentrations were most similar to that of the state level.
- For the most part, resident low-income populations within the study corridor exist in much lower proportions than those seen in the general population of the nation, state, and county; one block group had a low-income resident concentration close to, but slightly less than, the national and county averages.
- For most of the study corridor, elderly residents are present in concentrations similar to or less than those of the general population of the county, state, and nation; one block group was an exception and had an elderly proportion slightly higher than that found in the population-at-large.
- Persons with disabilities are not present in significantly different proportions from the county, state, or national percentages within the study area.

Given the level of detail of the available information, the community impact assessment did not uncover any significant concentrations of Environmental Justice populations, elderly, or persons with disabilities within the study area. Further, the information suggests that these persons are largely present within the general resident population of the study corridor in proportions similar to or less than county, state, and national levels. An exception to this pattern is the elderly population concentration of tract 111.10 block group 3, which is slightly higher than that of the population-at-large.

In the absence of defined concentrations of the groups of interest, project-level impact determination and mitigation measures and public involvement activities should be tailored to be inclusive of such persons as they exist within the general study area population. Also, the information gathered from local sources did highlight several facilities near the study corridor, including ethnic churches, senior centers and housing, and an emergency food pantry that may be useful in outreach efforts as the study progresses.

APPENDIX

Local Agency/Community Group Contact Letter

KIPDA
Kentuckiana Regional Planning and Development Agency

January 26, 2007

Kentucky Member Counties

Bullitt

Henry

Jefferson

Oldham

Shelby

Spencer

Trimble

Indiana Member Counties

Clark

Floyd

Dear Sir or Madam:

The Kentucky Transportation Cabinet is currently conducting a scoping study of the Billtown Road corridor between Ruckreigel Parkway and I-265 to determine needed improvements. As part of this study, the Kentuckiana Regional Planning and Development Agency (KIPDA) is gathering information about minority, low-income, elderly, and disabled populations located in or near the study area (see attached graphic). This information will be used to identify potential impacts of the proposed improvements and to establish points of contact with these groups in the community.

KIPDA has access to year 2000 census data for the populations of interest, but any additional information that you can provide would be helpful. Examples of such information include:

- Identification of historic enclaves or communities of the populations of interest,
- Post-2000 in- or out-migrations of the populations of interest that would not be reflected in the census data, and
- Identification of community gathering places that are frequented by the populations of interest in or near the study area, such as churches, community centers, and congregate meal sites.

If you can provide any of the above information, please send it to me by February 9, 2007. Feel free to direct this request to the appropriate department(s) within your agency or to your constituents. If you have any questions or concerns about this request, my contact information is as follows:

KIPDA (Attn: Lori Kelsey)
11520 Commonwealth Drive
Louisville, KY 40299
e-mail: Lori.Kelsey@ky.gov
phone: (502) 266-6084 fax: (502) 266-5047

Equal Opportunity Employer

Thank you for your time and attention in this matter.

Sincerely,

Lori A. Kelsey
Transportation Planner

APPENDIX C:

ENVIRONMENTAL OVERVIEW

BILLTOWN ROAD – JEFFERSON COUNTY
Item No. 5-8203.00
ENVIRONMENTAL OVERVIEW

Introduction

This report is an Environmental Overview for Pre-Design Scoping Study to identify potential highway improvements to Billtown Road (KY 1819) from the Gene Snyder Freeway (I-265) northwest to Ruckreigel Parkway in Jeffersontown. Both short and long term improvements will be evaluated in the study. The improvements could include widening, reconstruction, safety features, access control, and others. The approximate length of the project is 3.8 miles.

Environmental Elements

Air Quality

Jefferson County is currently designated by the U.S. Environmental Protection Agency (EPA) to be in non-attainment for ozone.

Projects within Jefferson County increasing roadway capacity will be required to comply with the fine particulate, PM2.5, hotspot consideration requirements.

For any improvement selected for implementation, the dispersion of CO in the project corridor would be simulated using CAL3QHC-a microcomputer dispersion model developed to predict the level of CO or other inert pollutant concentrations from motor vehicles traveling near roadway intersections. Data inputs to the CAL3QHC model will include motor vehicle emissions factors, worst-case meteorological conditions, and receptor and roadway site geometry.

Aquatic/Water Quality

Within the project corridor blue line streams do not directly cross Billtown Road. If a project is implemented with a disturbance of greater than 1 acre a Notice of Intent for Stormwater Discharges (KPDES) will need to be filed with the Division of Water.

Floodplain

According to FEMA Q3 floodplain maps any improvements to Billtown Road will not cross any floodplains. The Chenoweth Run Floodplain is east of the project corridor.

Wetlands

Several areas of hydric soils exist on the western side of the project area. These areas should be evaluated for the presence of hydrology and hydrophytic vegetation. If it is determined these are jurisdictional mitigation may be required for impacts over 0.1 acres.

Permits

Permit requirements will be determined in the future.

Wild and Scenic Rivers

No Wild and Scenic Rivers are located within the project corridor.

Terrestrial

The study area has seen significant residential growth since completion of the Gene Snyder Freeway (I-265) in 1987. Based on land use mapping provided by Lojic the study area encompasses 992 acres. Table 1 below summarizes land use.

Table 1: Approximate Land Use Acres and Percentages

Land Use Category	Approximate Acres	Percentage of Corridor
Residential	**833**	**84%**
General Commercial	**16**	**1%**
Industrial	**0**	**0%**
Multi-Family Residential	**5**	**1%**
Parks, Cemeteries	**12**	**1%**
Public and Semi-Public	**5**	**1%**
Undeveloped	**121**	**12%**
Total	**992**	**100%**

Threatened and Endangered Species

USFWS Federally Protected Species-Jefferson County

Group	Species	Common name	Legal* Status	Known** Potential
Mammals	*Myotis grisescens*	gray bat	E	K
	Myotis sodalis	Indiana bat	E	K
Mussels	*Pleurobema clava*	clubshell	E	K
	Cyprogenia stegaria	fanshell	E	K
	Potamilus capax	fat pocketbook	E	K
	Plethobasus cooperianus	orangefoot pimpleback	E	K
	Obovaria retusa	ring pink	E	K
	Lampsilis abrupta	pink mucket	E	K
	Pleurobema plenum	rough pigtoe	E	P
Plants	*Trifolium stoloniferum*	running buffalo clover	E	K
Birds	*Sterna antillarum*	interior least tern	E	K

KSNPC Listed Species-Jefferson County

Taxonomic Group	Scientific Name	Common Name	Statuses
PLANTS	SOLIDAGO SHORTII	SHORT'S GOLDENROD	E/LE
PLANTS	TRIFOLIUM STOLONIFERUM	RUNNING BUFFALO CLOVER	T/LE
BIVALVES	CYPROGENIA STEGARIA	FANSHELL	E/LE
BIVALVES	LAMPSILIS ABRUPTA	PINK MUCKET	E/LE
BIVALVES	OBOVARIA RETUSA	RING PINK	E/LE
BIVALVES	PLETHOBASUS COOPERIANUS	ORANGEFOOT PIMPLEBACK	E/LE
BIVALVES	PLEUROBEMA CLAVA	CLUBSHELL	E/LE
BIVALVES	POTAMILUS CAPAX	FAT POCKETBOOK	E/LE
BIRDS	STERNA ANTILLARUM ATHALASSOS	INTERIOR LEAST TERN	E/LE
MAMMALS	MYOTIS GRISESCENS	GRAY MYOTIS	E/LE
MAMMALS	MYOTIS SODALIS	INDIANA BAT	E/LE

KDFWR Listed Species-Jefferson County

Scientific Name	Common Name	Class	KY Status
ALOSA ALABAMAE	ALABAMA SHAD	OSTEICHTHYES	E
PLEUROBEMA CLAVA	CLUBSHELL	BIVALVIA	E
CYPROGENIA STEGARIA	FANSHELL	BIVALVIA	E
MYOTIS GRISESCENS	GRAY MYOTIS	MAMMALIA	T
MYOTIS SODALIS	INDIANA BAT	MAMMALIA	E
PLETHOBASUS COOPERIANUS	ORANGEFOOT PIMPLEBACK	BIVALVIA	E
FALCO PEREGRINUS	PEREGRINE FALCON	AVES	E
LAMPSILIS ABRUPTA	PINK MUCKET	BIVALVIA	E
OBOVARIA RETUSA	RING PINK	BIVALVIA	E

A Habitat Assessment will be required for any improvement project within the corridor.

Cultural Resources

Following is an overview of the historic resources within the project corridor. This overview consisted of a records research and a windshield survey to identify potentially historic structures.

Records Research

Survey and National Register Sites

There are three recorded individually listed National Register sites within the project study area:

- ***Leatherman House***, 3606 College Drive, listed in 1980.
- ***Confederate Martyrs Monument***, City Cemetery, corner of Billtown and Maple, listed in 1997.
- ***Omer/Pound House,*** 6609 Billtown Road, listed in 1983.

Windshield Survey

A windshield survey was conducted of the project study area on November 22, 2006. Numerous houses over 50 years old are within the project study area. In addition two existing cemeteries exist at the western portion of the project study area. Most likely these cemeteries will be eligible. If the project advances using federal funds a historical baseline analysis will be required.

Section 106 Coordination and Section 4(f) Involvement

Since a reconstruction project has the potential to have adverse impacts to historic resources, Section 106 initiation would begin once the environmental documentation and design of any future project started.

Should proposed roadway improvements require the use of historic resources, then a Section 4(f) evaluation will be necessary. If the project is determined to not have an adverse effect on a Section 4(f) resource it would meet "de minimis" criteria and the project may proceed. If it is determined to adversely effect and does not meet "de minimis" criteria a full Section 4(f) analysis will be required.

Archaeological Resources

An archaoelogical reconnaissance survey was conducted for the Jefferson Freeway project in 1975. None of the sites identified in the survey will be impacted by improvements to Billtown Road. The project corridor being primarily residential has been disturbed by utility installations adjacent to the roadway.

Many older standing structures have a high potential to be surrounded by archaeological sites. A windshield survey indicates several farmhouses with structures are present within the project study corridor.

Existing gas, electric, and water lines are present along Billtown Road. These utilities most likely disturbed any intact deposits, which may have been present.

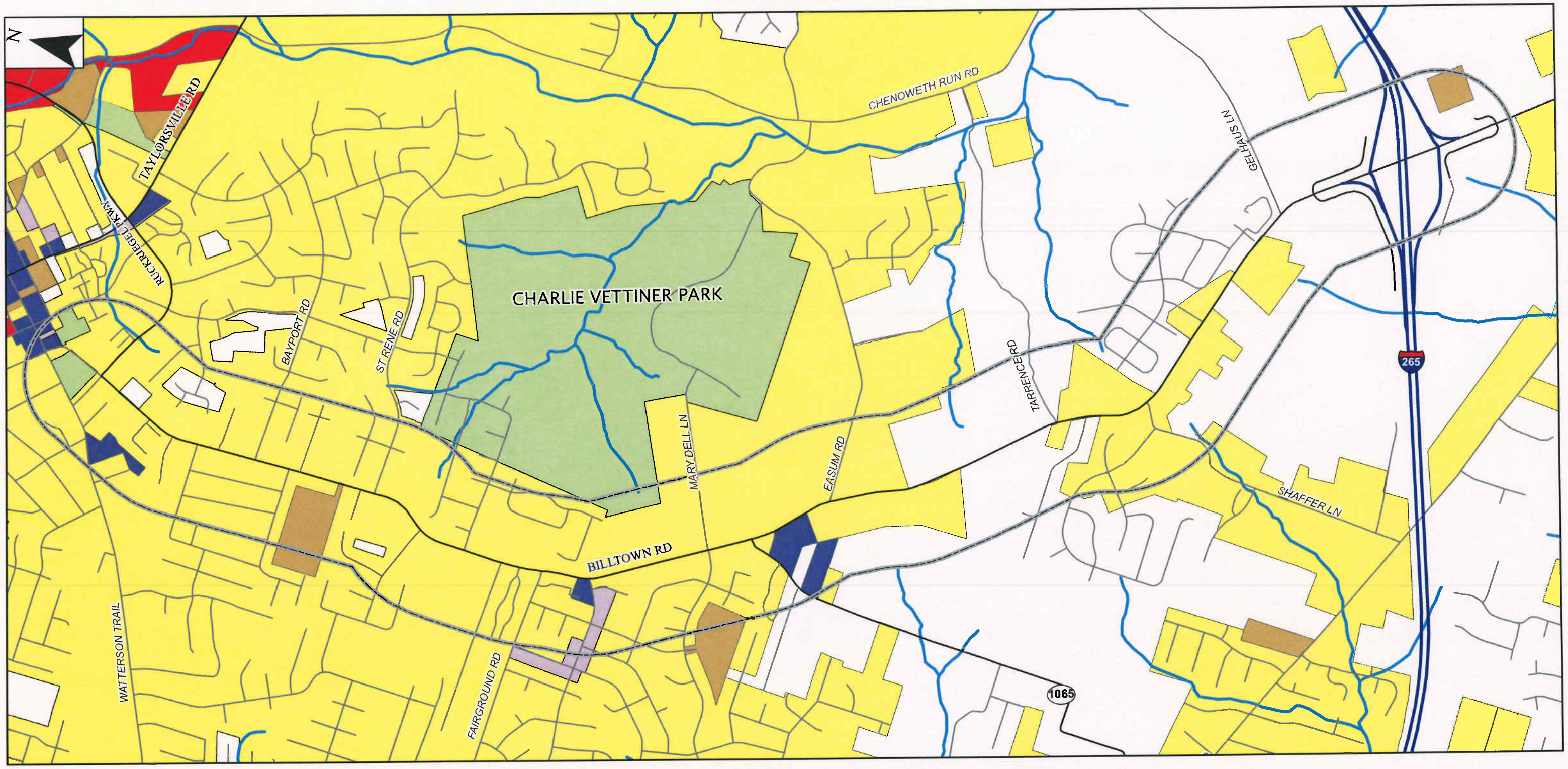
Community Impacts

Population

CENSUS TRACT	GROUP BLOCK	2000 POPULATION	POPULATION WHITE ALONE	BLACK OR AFRICAN AMERICAN	AMERICAN INDIAN AND ALASKA NATIVE ALONE	ASIAN ALONE	NATIVE HAWAIIAN AND OTHER PACIFIC ISLANDER ALONE	SOME OTHER RACE ALONE	TWO OR MORE RACES
JEFFERSON COUNTY		693,604	536,462	130,153	1,625	9,043	272	4,308	11,741
STUDY AREA:									
115.12	2	2,648	2,530	52	9	39	0	7	11
115.06	3	942	778	74	0	0	0	43	47
115.06	2	994	901	16	0	0	0	77	0
115.06	1	1,214	1,021	142	0	0	0	35	16
111.10	1	2,213	2,047	149	0	0	0	0	17
111.06	3	679	607	61	0	11	0	0	0
115.11	1	2,874	2,517	282	6	24	0	10	35
115.11	2	3,565	3,272	132	0	103	0	20	38
116.02	1	869	848	21	0	0	0	0	0
116.02	3	3,050	2,882	0	0	120	0	0	48
	TOTAL	**19,048**	**17,403**	**929**	**15**	**297**	**0**	**192**	**212**

The study area population comprises 2.75% of the Jefferson County total population. It is 91.36% white compared to the Jefferson County average of 77.34%. It is anticipated the project study area will see additional growth in the next five years. An important consideration for highway reconstruction or new development is impacts to minorities. The above census tracts were reviewed to determine if disproportionate impacts might occur to minority populations as a result of this project. Based upon the 2000 Census population information for the project area, disproportionate impacts to minority issues will not likely occur.

LANDUSE



Legend

- GENERAL COMM. AND OFFICE
- INDUSTRIAL
- MULTI-FAMILY RESIDENTIAL
- PARKS, CEMETERIES, ETC.
- PUBLIC AND SEMI-PUBLIC
- SINGLE FAMILY RESIDENTIAL
- VACANT AND UNDEVELOPED
- Interstates
- Local Roads
- State Roads
- 24K NHD Streams

0 875 1,750 3,500 5,250 7,000 Feet

JEFFERSON COUNTY
BILLTOWN ROAD IMPROVEMENT STUDY
5-8203.00

APPENDIX D:

AGENCY CORRESPONDENCE

Richardson, Jason R (KYTC-D05)

From: Wilkins, Joe N MR NGKY [joe.wilkins@us.army.mil]
Sent: Friday, March 09, 2007 11:16 AM
To: Richardson, Jason R (KYTC-D05)
Subject: KY 155, Jefferson County, Taylorsville Rd and KY1819,Jefferson County, Billtown Road Scoping Projects

Mr. Richardson,

The Department of Military Affairs can not identify any issues or concerns that could affect the development of either of the subject projects.

Joe N. Wilkins
Director, Facilities Division
Boone National Guard Center
Frankfort, KY 40601-6168
502-607-1535
DSN 667-1535
502-382-7270 (Cell)
502-607-1270 (Fax)
Joe.Wilkins@ky.ngb.army.mil

Richardson, Jason R (KYTC-D05)

From: Olszowy, Diana (EPPC DNR DOF)
Sent: Friday, March 09, 2007 12:28 PM
To: Richardson, Jason R (KYTC-D05)
Subject: Environmental assessment for billtown road project

These comments serve as an environmental assessment of the Billtown Road widening project being initiated in Jefferson County. There are currently no state forests or champion trees located in the project study area. However, special care should be taken around existing trees that will remain after the construction is complete. Heavy equipment should be kept away from the base of the tree to prevent wounding of the trunk or surface roots. Construction traffic should be routed away from the dripline of the tree to lessen the severity of soil compaction. Compacted soil reduces the amount of water available to the tree, and this lack of water can cause added stress. Stressed trees are vulnerable to insect and disease infestation. After construction is completed, consider replanting back suitable tree species that will meet with Louisville/Jefferson County's tree planting ordinance. A copy of their ordinance is available from the City Arborist's office.

Diana Olszowy
Kentucky Division of Forestry
diana.olszowy@ky.gov

JUSTICE AND PUBLIC SAFETY CABINET

Ernie Fletcher
Governor

Kentucky Vehicle Enforcement
Frankfort, Kentucky 40601

BG Norman E. Arflack
Secretary

Gregory G. Howard
Commissioner

March 14, 2007

Mr. Matt Bullock, P.E.
Chief District Engineer
Kentucky Transportation Cabinet
PO Box 37090
Louisville, KY 40233

Dear Mr. Bullock:

I am in receipt of your request for our agency's comments in regards to a planning study for improvements to the Billtown Road (KY 1819) corridor in Jefferson County.

According to the information you provided, it appears there is an above average number of crashes on KY 1819, especially between Shady Acres Lane and Laurelynn Court. It appears the road upgrade is appropriate and needed. I can see no negative impact regarding the improvements and no impacts concerning Kentucky Vehicle Enforcement.

If you have any questions, please do not hesitate to contact our office.

Please note that our correct address is 125 Holmes Street, 3rd Floor, Frankfort, KY 40601.

Sincerely,

Gregory G. Howard
Commissioner
Kentucky Vehicle Enforcement

c: Major Phillip Frazier
Captain Mary Smalley

Jason

UNIVERSITY OF KENTUCKY

Kentucky Geological Survey
Research
228 Mining & Mineral Resources Bldg.
Lexington, KY 40506-0107
Phone: (859) 257-5500
Fax: (859) 257-1147
www.uky.edu/kgs

March 15, 2007

Mr. Matt Bullock, P.E.
Chief District Engineer
Kentucky Transportation Cabinet
P.O. Box 37090
Louisville, Kentucky 40233

Dear Mr. Bullock:

This letter is to summarize any geologic concerns for the planning study:
Jefferson County
Billtown Road (Ky. 1819) Scoping Study

Physiographic Region
The study area is located on the outer edge of the Outer Bluegrass physiographic region, which is underlain by limestone, dolomite, and shale.

Karst Potential
The study area might encounter karst features such as sinkholes.

Landslide Potential
The study area would not encounter units that would be prone to landslides.

Unconsolidated Sediments
The study area would not encounter unconsolidated sediments in drainage areas.

Resource Conflicts
The study area would not encounter any resource conflicts such as prior ownership of property for quarrying or mining. Some inactive or abandoned limestone mines might be in the area.

Materials Suitability
The study area would encounter rock units that would be suitable for construction stone such as the upper part of the Laurel Dolomite. Roads built on the Waldron Shale might be subjected to failure.

KGS

Fault Potential

The study area would not encounter any faulted areas.

Earthquake Ground Motions

The study area has a probable peak ground acceleration due to earthquake ground motion of 0.09g. There would be a low potential for liquefication or slope failure in the unconsolidated sediments at or near streams caused by earthquake bedrock ground motion.

Sincerely,

Richard A. Smath
Geologist

John C

Ernie Fletcher
Governor

Teresa J. Hill
Secretary

COMMONWEALTH OF KENTUCKY
ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION FOR AIR QUALITY
803 SCHENKEL LANE
FRANKFORT, KY 40601-1403

March 9, 2007

Matt Bullock, P.E.
Chief District Engineer
Department of Highways District 5 Office
977 Phillips Lane
Louisville, Ky. 40233

Re: Planning Study, Jefferson County, Taylorsville Road (KY155) Scoping Study
Planning Study, Jefferson County, Billtown Road (KY1819) Scoping Study

Dear Mr. Bullock:

Kentucky Division for Air Quality Regulation **401 KAR 63:010** Fugitive Emissions states that no person shall cause, suffer, or allow any material to be handled, processed, transported, or stored without taking reasonable precaution to prevent particulate matter from becoming airborne. Additional requirements include the covering of open bodied trucks, operating outside the work area transporting materials likely to become airborne, and that no one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway. Please note the Fugitive Emissions Fact Sheet located at:
http://www.air.ky.gov/homepage_repository/e-Clearinghouse.htm

Kentucky Division for Air Quality Regulation **401 KAR 63:005** states that open burning is prohibited. Open Burning is defined as the burning of any matter in such a manner that the products of combustion resulting from the burning are emitted directly into the outdoor atmosphere without passing through a stack or chimney. However, open burning may be utilized for the expressed purposes listed on the Open Burning Fact Sheet located at http://www.air.ky.gov/homepage_repository/e-Clearinghouse.htm

Finally, the projects listed in this document must meet the conformity requirements of the Clean Air Act as amended and the transportation planning provisions of Title 23 and Title 49 of United States Code.

The Division also suggests an investigation into compliance with applicable local government regulations.

Kentucky
UNBRIDLED SPIRIT

If there are any questions relating to this matter, please contact me at (502) 573-3382 Ext. 347.

Sincerely,

John E. Gowins, Supervisor
Evaluation Section
Program Planning and
Administration Branch
Division for Air Quality

Jo Soh

Richie Farmer, Commissioner
32 Fountain Place
Frankfort, KY 40601

Phone: (502) 564-5126
Fax: (502) 564-5016
E-mail: richie.farmer@ky.gov

Kentucky Department of Agriculture

A Consumer Protection and Service Agency

March 26, 2007

Mr. Matt Bullock, P.E.
Chief District Engineer
Kentucky Transportation Cabinet
Post Office Box 37000
Louisville, KY 40233

Re: Planning Study
Jefferson County
Billtown Road (KY 1819) Scoping Study

Dear Mr. Bullock:

Please be advised that this agency has no specific concerns or issues concerning the above-noted project.

Sincerely,

Ann Stewart

Ann Stewart

KIPDA
Kentuckiana Regional Planning and Development Agency

March 20, 2007

Mr. Matt Bullock, P.E.
Chief District Engineer
Kentucky Transportation Cabinet
P.O. Box 37090
Louisville, KY 40233

RECEIVED
APR 0 3 2007
D/5 PERMIT

Re: Planning Study
Jefferson County
Billtown Road (KY 1819) Scoping Study

Dear Mr. Bullock:

This is in response to your February 28, 2007 letter concerning early coordination for the referenced study. As requested, we offer the following comments:

1) One alternative under consideration for the proposed project is in the area's long range transportation plan;
2) Funding for a design phase of the project is included in the current Transportation Improvement Program; and
3) KIPDA is participating in the study by providing traffic projections and an environmental justice analysis.

In summary, the study is consistent with the plans and programs developed as part of the metropolitan transportation planning process administered by this agency. Thank you for the opportunity to provide comments. If you have any questions please feel free to contact me.

Sincerely,

Harold L. Tull

Harold L. Tull
Transportation Director

Kentucky Member Counties
Bullitt
Henry
Jefferson
Oldham
Shelby
Spencer
Trimble

Indiana Member Counties
Clark
Floyd

Equal Opportunity Employer

11520 Commonwealth Drive
Louisville, KY 40299
502-266-6084
Fax 502-266-5047
KY TDD 1-800-648-6056
www.kipda.org

CABINET FOR HEALTH AND FAMILY SERVICES
FACILITIES MANAGEMENT DIVISION

Ernie Fletcher
Governor

275 E. Main Street, 4E-C
Frankfort, KY 40621
(502) 564-6631
Fax: (502) 564-2608
www.chfs.ky.gov

Mark D. Birdwhistell
Secretary

April 17, 2007

Kentucky Transportation Cabinet
Dept. of Highways District 5 Office
Mr. Matt Bullock, P.E., Chief District Engineer
977 Phillips Ln.
P.O. Box 37090
Louisville, Ky. 40233

Subject: Jefferson County Planning Study
Billtown Road (KY1819)

Mr. Bullock;

The Kentucky Transportation Cabinet has asked that we identify specific issues or concerns which may affect the development of a road improvement project in Jefferson County; the project would involve improvements in the Billtown Road (KY 1819) Corridor. We have reviewed the project location map, the existing area highway management system data, geometric and traffic characteristics of the existing highways, and crash analysis provided by your office.

The Cabinet for Health and Family Services does not lease or own property located within the Billtown Road Corridor; therefore, we do not anticipate or have any specific issues or concerns with regards to this proposed project.

Thank you for giving consideration to our facilities, staff, and clients.

Sincerely,

Robert W. Wright
Leased Properties Branch

Cc: file

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

Ernie Fletcher
Governor

DEPARTMENT FOR ENVIRONMENTAL PROTECTION
14 REILLY ROAD
FRANKFORT, KENTUCKY 40601
PHONE (502) 564-2150
FAX (502)564-4245
www.dep.ky.gov

Teresa J. Hill
Secretary

Cheryl A. Taylor
Commissioner

April 16, 2007

Mr. Jason Richardson
Kentucky Transportation Cabinet
Department of Highways District 5 Office
P.O. Box 37090
Louisville, KY 40233

Re: Planning Study Jefferson County Billtown Road (KY 1819) Scoping Study (SERO 2007-6)

Dear Mr. Richardson,

The Environmental and Public Protection Cabinet serves as the state clearinghouse for review of environmental documents generated pursuant to the National Environmental Policy Act (NEPA). Within the Cabinet, the Commissioner's Office in the Department for Environmental Protection coordinates the review for Kentucky state agencies.

The Kentucky agencies listed on the attached sheet have been provided an opportunity to review the above referenced report. Responses were received from 3 of the reviewing agencies that were forwarded a copy of the document. Comments were received from the Kentucky Divisions of Water, Waste Management, and Air Quality.

If you should have any questions, please contact me at (502) 564-2150, ext. 112.

Sincerely,

Larry C. Taylor
State Environmental Review Officer

Enclosures

COMMONWEALTH OF KENTUCKY
STATE ENVIRONMENTAL REVIEW PROCESS

Project Number: SERO 2007 - 6

Scoping Document

Project Title:

Planning Study Jefferson County Billtown Road (KY 1819) Scoping Study

The following Commomwealth of Kentucky agencies make up the State Environmental Review Process. Their response is listed below. Agencies that did not receive the document for review or did not respond are also noted.

REVIEWING AGENCIES:	RESPONSE:
Division of Water	COMMENTS ATTACHED
Division of Waste Management	COMMENTS ATTACHED
Division for Air Quality	COMMENTS ATTACHED
Department for Public Health	Not Sent for Review
Cabinet for Economic Development	Not Sent for Review
Department of Forestry	Not Sent for Review
Department of Parks	Not Sent for Review
Department of Agriculture	Not Sent for Review
Nature Preserves Commisssion	Not Sent for Review
Kentucky Heritage Council	Not Sent for Review
Division of Conservation	Not Sent for Review
Department for Natural Resources	Not Sent for Review
Department of Fish and Wildlife Resources	Not Sent for Review
Transportation Cabinet	Not Sent for Review
Department for Military Affairs	Not Sent for Review

Division of Water Comments

Billtown Road (KY 1819) Scoping Study

Endorsement:

A request for review of the Planning Study for Jefferson County's Billtown Road (KY1819) Scoping Study was received on March 19, 2007. The Division of Water (DOW) completed this assessment review and found that the information provided warranted an endorsement of this project. Below are the comments that were received.

Water Quality Branch:

Endorse.

Groundwater:

Endorse.

Water Resources:

This project will not require a stream construction permit from the Division of Water. Endorse.

Enforcement Branch:

Endorse.

Division of Waste Management Comments

Project #: SERO 2007-6

All solid waste generated by this project must be disposed at a permitted facility. If underground storage tanks are encountered they must be properly addressed. If asbestos, lead paint, and/or other contaminants are encountered during this project, they must be properly addressed.

Division for Air Quality Comments

Kentucky Division for Air Quality Regulation **401 KAR 63:010** Fugitive Emissions states that no person shall cause, suffer, or allow any material to be handled, processed, transported, or stored without taking reasonable precaution to prevent particulate matter from becoming airborne. Additional requirements include the covering of open bodied trucks, operating outside the work area transporting materials likely to become airborne, and that no one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway. Please note the Fugitive Emissions Fact Sheet located at http://www.air.ky.gov/homepage_repository/e-Clearinghouse.htm

Kentucky Division for Air Quality Regulation **401 KAR 63:005** states that open burning is prohibited. Open Burning is defined as the burning of any matter in such a manner that the products of combustion resulting from the burning are emitted directly into the outdoor atmosphere without passing through a stack or chimney. However, open burning may be utilized for the expressed purposes listed on the Open Burning Fact Sheet located at http://www.air.ky.gov/homepage_repository/e-Clearinghouse.htm

The Division also suggests an investigation into compliance with applicable local government regulations.

KENTUCKY DEPARTMENT OF FISH & WILDLIFE RESOURCES
COMMERCE CABINET

Ernie Fletcher
Governor

#1 Sportsman's Lane
Frankfort, Kentucky 40601
Phone (502) 564-3400
1-800-858-1549
Fax (502) 564-0506
fw.ky.gov

George Ward
Secretary

Dr. Jonathan W. Gassett
Commissioner

April 4, 2007

Matt Bullock, P. E.
Chief District Engineer
Kentucky Transportation Cabinet
P. O. Box 37090
Louisville, KY 40233

Subject: Planning Study
Jefferson County
Billtown Road (KY 1819) Scoping Study

Dear Mr. Bullock:

The Kentucky Department of Fish and Wildlife Resources (KDFWR) have received your request for the above-referenced information. The Kentucky Fish and Wildlife Information System indicate that the federally endangered gray bat, *Myotis grisescens* and Indiana bat, *Myotis sodalis* are known to occur within close proximity to the project area. Please be aware that our database system is a dynamic one that only represents our current knowledge of the various species distributions.

- The Indiana bat utilizes a wide array of habitats, including riparian forests, upland forest, and fencerows for both summer foraging and roosting habitat. Indiana bats typically roost under exfoliating bark, in cavities of dead and live trees, and in snags (i.e., dead trees or dead portions of live trees). Trees in excess of 16 inches diameter at breast height (DBH) are considered optimal for maternity colony roosts, but trees in excess of 9 inches DBH appear to provide suitable maternity roosting habitat. Male Indiana bats have been observed roosting in trees as small as 3 inches DBH. Removal of suitable Indiana bat roost trees due to construction of the proposed project should be completed between October 15 and March 31 in order to avoid impacting summer roosting Indiana bats. However, if any Indiana bat hibernacula are identified on the project area or are known to occur within 10 miles of the project area, we recommend the applicant only remove trees between November 15 and March 31 in order to avoid impacting Indiana bat "swarming" behavior.
- In areas where bats are known to occur, cave entrances, mine portals, and/or rock shelters that exist within the project area should be surveyed for potential use by such species as gray bats and Indiana bats. KDFWR recommends avoiding those areas that provide adequate habitat for bats.
- To minimize indirect impacts to aquatic resources strict erosion control measures should be developed and implemented prior to construction to minimize siltation into streams and storm water drainage systems located within the project area. Such erosion control measures may include, but are not limited to silt fences, staked straw bales, brush barriers, sediment basins, and diversion ditches. Erosion control measures will need to be installed prior to construction and should be inspected and repaired regularly as needed.

KDFWR recommends that you contact the appropriate US Army Corps of Engineers office and the Kentucky Division of Water prior to any work within the waterways or wetland habitats of Kentucky. Additionally, KDFWR recommends the following for the portions of the project that impact streams:

- Channel changes located within the project area should incorporate natural stream channel design.
- If culverts are used, the culvert should be designed to allow the passage of aquatic organisms.
- Culverts should be designed so that degradation upstream and downstream of the culvert does not occur.
- Development/excavation during low flow period to minimize disturbances.
- Proper placement of erosion control structures below highly disturbed areas to minimize entry of silt into area streams.
- Replanting of disturbed areas after construction, including stream banks, with native vegetation for soil stabilization and enhancement of fish and wildlife populations. We recommend a 100 foot forested buffer along each stream bank.
- Return all disturbed instream habitat to a stable condition upon completion of construction in the area.
- Preservation of any tree canopy overhanging any streams within the project area.

I hope this information proves helpful to you. If you have any questions or require additional information, please call me at (800) 852-0942 Extension 366.

Sincerely,

Doug Dawson

Doug Dawson
Wildlife Biologist III

Cc: Environmental Section File

COMMERCE CABINET
KENTUCKY HERITAGE COUNCIL

Ernie Fletcher
Governor

The State Historic Preservation Office
300 Washington Street
Frankfort, Kentucky 40601
Phone (502) 564-7005
Fax (502) 564-5820
www.kentucky.gov

George Ward
Secretary

April 10, 2007

Mr. Matt Bullock, PE
Chief District Engineer
Kentucky Transportation Cabinet
P.O. Box 37090
Louisville, KY 40233

Re: Planning Study, Billtown Road (KY 1819) Scoping Study, Jefferson County

Dear Mr. Bullock:

The State Historic Preservation Office has received a request for comments regarding the above-referenced planning study. There are many cultural resources within the project area, including inventoried sites that have yet to be evaluated to be professional architectural historians. Additionally, there are a number of previously recorded archeological sites within the project corridor, and most of this area has never been surveyed by professional archaeologists.

Dependent up on the funding source, whether federally-funded or subject to Corps of Engineers permits, the Section 106 Review Process must be completed. A full survey of both archaeological and cultural resources should be conducted and submitted to this office for review, via the KYTC Central Office Division of Environmental Analysis.

We look forward to reviewing the archaeological and cultural resource reports. If you have questions regarding these comments, please contact Janie-Rice Brother of my staff at (502) 564-7005, extension 121.

Sincerely,

Donna M. Neary

Donna M. Neary, Executive Director
Kentucky Heritage Council and
State Historic Preservation Officer

Cc: David Waldner, KYTC-DEA
Amanda Abner, KYTC-DEA

APPENDIX E:

PUBLIC INPUT AND MEETING DOCUMENTATION

PROJECT: Taylorsville Road & Billtown Road Scoping Studies

MEETING: Elected Officials Briefing

DATE & TIME: December 14, 2006 – 6:00 PM

LOCATION: Jeffersontown Community Center
Louisville, Kentucky

ATTENDEES:

NAME	AGENCY/COMPANY	Telephone	Email
Jason Richardson	KYTC – Project Manager	502-367-6411	JasonR.Richardson@ky.gov
Matt Bullock	KYTC – District 5	502-367-6411	Matt.Bullock@ky.gov
Jim Wilson	KYTC – Central Office Planning	502-564-7183	Jimmy.Wilson@ky.gov
Harold Tull	KIPDA	502-266-6084	Harold.Tull@ ky.gov
Chris Phillips	Louisville Metro	502-574-3888	-
John Riley	Spencer County	502-477-3232	-
Milana Boz	Louisville Metro Parks	502-456-8141	-
Stuart Benson	Louisville Metro Council	502-574-1120	stuart.benson@louisvilleky.gov
Maj. Steven	Jeffersontown Police	502-267-0503	sdebell@jtownkypd.org
Anita L. Johnson	Jeffersontown City Council	502-267-6018	Aljohn1@bellsouth.net
Aida Copic	Louisville Metro Planning and	502-574-0947	Aida.Copic@louisvilleky.gov
Sen. Dan Seum	Kentucky State Senate	502-749-2859	Dan.seum@lrc.ky.gov
Shawn Dikes	Parsons Brinckerhoff	502-479-9312	dikes@pbworld.com
Lindsay Walker	Parsons Brinckerhoff	859-245-3869	walkerLi@pbworld.com
Scott Walker	Parsons Brinckerhoff	859-245-3873	walkersc@pbworld.com

MEETING SUMMARY:

The purpose of this meeting was to discuss the Taylorsville Road and Billtown Road Scoping Studies and solicit issues / concerns / improvement options from the elected officials in attendance. Even though these are two separate studies, the meeting was being held to discuss both projects due to their similarity and close proximity.

The meeting began with Jason Richardson, the Kentucky Transportation Cabinet (KYTC) Project Manager, welcoming everyone to the meeting. He provided a brief background regarding each study, highlighting the fact that the Billtown Road Scoping Study has more funding than Taylorsville; therefore more intersections are being evaluated as part of this study. He then introduced Shawn Dikes, the Project Manager for Parsons Brinckerhoff (the consulting firm selected to perform the studies), and also requested everyone in the room to introduce themselves to the group.

Following the self introductions, the meeting was turned over to Shawn Dikes, who proceeded to lead the group through the different phases of the project, including the study areas, scope of work, schedule, and existing conditions. It was noted that the studies will produce both short-term and long-term improvement options, with KIPDA performing the traffic analysis for the long-term improvement options using their regional travel demand model.

Initial public input was received at the Gaslight Festival held in Jeffersontown in September 2006. A second public meeting is expected to be held in late February / early March 2007 to discuss possible improvement options / recommendations. Once recommendations have been made, PB will coordinate with KYTC to ensure recommendations are received by KYTC in time for inclusion in the upcoming KYTC Six-Year Highway Program.

A handout for each study was provided at the meeting which included some study background information, existing conditions information and the draft purpose and need for each study. Some of the existing conditions information that was briefly discussed included average right-of-way, high speeds recorded throughout the study areas (particularly Billtown Road), poor levels of service, and high crash rates near the Jeffersontown area. The study purpose and need for both studies is similar. Each will address various traffic, access, safety, and operational factors along the study corridors. And, the recommended improvements will seek to identify the existing conditions and address the studies' purpose and need as well as goals and objectives.

As the first part of the meeting was scheduled to focus on Taylorsville Road, the initial comments / discussion from the group following the presentation of the background study materials focused on that project. The Billtown Road portion of the meeting was scheduled to begin at 7:30 P.M.; however, some people arrived early and provided input on both studies, while others left the meeting after providing their comments on the Taylorsville Road project only. The comments received during this portion of the meeting were noted and are included below by study:

Taylorsville Road:

- How much right-of-way is available? Initial estimates were provided in the handout materials. Better estimates are available through examination of the right-of-way mapping files. These files will be used to determine the available right-of-way and assess what improvements (if any) can be implemented within the existing right-of-way. If it is not possible to stay within the existing right-of-way, the recommendations will include a preliminary planning level assessment of locations where additional right-of-way may need to be acquired. It was reiterated that this project is not to the level of engineering detail which will take place later once the various improvement options are advanced.
- Approximately 400 acres along Taylorsville Lake Road will be subdivided for future development.
- Currently bike lanes are not provided on Taylorsville Road. In previous discussions with other Louisville Metro staff, it was mentioned that Taylorsville Road is to be designated as a high-priority corridor and included in the master bike route plan for the city to provide connections to the major parks in the area, including 21st Century Parks. It may be possible to accommodate a multi-use path / bicycle lanes within the existing right-of-way with an on-street facility and/or an off-street facility.
- The Tucker Station Road / Taylorsville Road intersection was not included in this current study as it is being worked on currently by KYTC District 5 as part of their Hazard Elimination Safety (HES) Program due to safety issues and crash problems. The intersection improvements are currently in the design phase. The Taylorsville Study will take into account what is going on at this location.

- Doesn't a 3-lane section work as well as a 4-lane section? PB will be evaluating several options for an ultimate section including a 3-lane, 4-lane, 5-lane, 6-lane, and no-build options for both studies. In some instances, a 3-lane section may function just as well as a 4-lane section; however, it was decided to evaluate all options initially to test ranges of options, impacts, costs, etc.
- It is possible to get too wide with regard to cross-section. Addressing the needs of one road isn't enough – we need more roads that are interconnected to distribute traffic and plan for future.
- Neighborhoods need to be safer, and more roads are needed with 35 mph speed limits to limit cut-through traffic, keep more local roads safer and to accommodate travel.
- During the development phase, planners / engineers and others need to modify site plans and work with developers to put in roads that provide connections and can alleviate other existing roads.
- Taylorsville Lake Road needs to connect to US 60 and alleviate traffic on I-265 (Gene Snyder Freeway).
- Improvements are needed at the KY 148 / KY 155 intersection – this (improvement) is six years behind.

Billtown Road:

- Some comments were made with regard to both studies, including the comments about development and needing more roads that connect and alleviate current traffic problems, making neighborhoods safer, and needing to work with developers.
- The intersection of St. Rene Road was identified by an attendee as needing a traffic signal. Traffic turning left from this intersection must wait beyond an acceptable time to complete their turn. Signalization and turn lanes are being considered for all study area intersections.
- Concern was raised that the money allocated for improvements along Billtown Road and the fact that the original allocation of funding was done a couple of years ago, yet a study is just now being performed.

Next Steps

A public meeting will be held in late February / early March to discuss recommendations. Any recommendations that come out of both studies will be provided to KYTC for inclusion in the upcoming Six-Year Highway Plan. Both studies are expected to be completed with final reports by late spring / early summer.

PROJECT: Taylorsville Road & Billtown Road Scoping Studies

MEETING: Meeting with Jeffersontown Planning and Design Department

DATE & TIME: December 7, 2006 – 2:00 PM

LOCATION: Jeffersontown Community Center
Louisville, Kentucky

ATTENDEES:

NAME	AGENCY/COMPANY	Telephone	Email
Jason Richardson	KYTC – Project Manager	502-367-6411	JasonR.Richardson@ky.gov
John Callihan	KYTC – District 5	502-367-6411	John.Callihan@ky.gov
Matt Meunier	Jeffersontown Planning and Design	502-267-8333	mmeunier@jeffersontownky.com
Mark Adams	QK4	502-585-2222	madams@qk4.com
Shawn Dikes	Parsons Brinckerhoff	502-479-9312	dikes@pbworld.com
Lindsay Walker	Parsons Brinckerhoff	859-245-3869	walkerLi@pbworld.com
Scott Walker	Parsons Brinckerhoff	859-245-3873	walkersc@pbworld.com

MEETING SUMMARY:

The purpose of this meeting was to discuss the Taylorsville Road Scoping Study, in particular, along with the Billtown Road Scoping Study, in conjunction with on-going projects in Jeffersontown.

Matt Meunier, the Director of Jeffersontown Planning and Design, discussed several projects / studies that have been completed or are on-going within and surrounding the downtown Jeffersontown area. These include:

- "Renaissance on Main" – a teaming project with the University of Kentucky that is looking to improve downtown Jeffersontown through streetscape, mobility, and people/places/open spaces aspects. The final report is expected to be completed in spring 2007 in conjunction with the University's spring semester.
- Jeffersontown Downtown Parking and Traffic Study – QK4 is working on evaluating the current traffic conditions in Jeffersontown for the City. Mark Adams, with QK4, was present at the meeting and discussed implications/overlap that might occur between the QK4 study and the PB studies. It was agreed that QK4 and PB would coordinate to ensure that the analysis was similar for overlapping intersections such as Watterson Trail / Taylorsville Road and Ruckriegel Parkway / Taylorsville Road. This study by QK4 should be completed in early 2007.
- Jeffersontown Wayfinding Study – FMSM is currently working on this study.

- 21st Century Parks – There is some overlap between this study and a study being performed to develop a bicycle network in southern Jefferson County.
- Jeffersontown Bicycle / Pedestrian Master Plan – A master plan for the downtown Jeffersontown area has been completed recently. Matt Meunier will provide PB with a copy of the plan.

Overall, Matt Meunier was interested in ensuring any recommendations from the PB studies are compatible with the vision and plans the City of Jeffersontown has for its downtown. This includes improving downtown through reduced speeds, slowing vehicles down through signalization, providing gateways at key city entry points such as Ruckriegel Parkway / Taylorsville Road, providing accommodation for bicyclists and pedestrians via a complete streets concept. It was noted that congestion downtown is sometimes a good thing since it slows people down and they can notice more, possibly encouraging them to stop and patronize local merchants. They would like to see their city center protected, and create an urban environment that encourages people to visit. They also want to create and preserve a separate identity for Jeffersontown that is different from that of greater Louisville Metro. They would not like to see a multiple lane, high speed road go through their downtown corridor.

Realizing the development pressures further east on Taylorsville Road, cross-connectivity to other roadways needs to be evaluated along with identifying new potential corridors to accommodate the additional traffic as opposed to adding capacity on major routes such as Taylorsville Road.

Schedule / timing were the last discussion item related to these two studies. An elected officials meeting was already scheduled for December 14, 2006. Everyone present was invited to attend. A second public meeting will be held in early spring of 2007 (late February / early March). PB will coordinate with the Kentucky Transportation Cabinet to ensure that they receive recommendations in time to include them in the upcoming Six-Year Highway Plan development process.

Gaslight Festival Summary

Saturday & Sunday, September 16-17, 2006

Public Workshop #1

Taylorsville and Billtown Road Scoping Studies
Jefferson County

The first public involvement activity for the Taylorsville and Billtown Road Scoping Studies was held during the 2006 Jeffersontown Gaslight Festival on September 16 and 17, 2006. Both the Kentucky Transportation Cabinet (KYTC) and PB participated in the festival as exhibitors in a booth during the course of the two days. The purpose of the booth was to inform as many citizens as possible about the Taylorsville Road and Billtown Road Scoping Studies and solicit feedback about the studies. Both Taylorsville Road and Billtown Road lead into Jeffersontown, with sections of each roadway within the city limits. As both studies are very similar and located in close proximity to each other, it was decided that both should be presented at the festival.

A total of 21 citizens signed in at the booth on Saturday, September 16, 2006. On Sunday, September 17, 2006 many people stopped by the booth but did not sign in. Two KYTC staff members and two members of the PB staff were present on Saturday and several KYTC staff members and one member of the PB staff was present on Sunday to distribute information and answer any questions.

The handouts included the following information:

- A fact sheet explaining the study purpose, process, and schedule as well as how the public can give feedback on the project; and
- A comment form.

In addition, poster-size graphics of the study area, traffic volumes, and crash locations were available for viewing.

The event was primarily informal with staff members attempting to engage passersby in discussion about the studies and distribute the handout information.

On Saturday, (September 16, 2006), a total of 74 comment forms for the Taylorsville Road Study and 70 comment forms for the Billtown Road study were distributed. On Sunday, (September 17, 2006), comment forms for the Taylorsville Road Study and comment forms for the Billtown Road study were distributed as well. As most people were interested in completing the forms at a later date, postage-paid envelopes were provided for returning them to the Division of Planning.

Summaries of the public comments received are presented on the following pages by study.

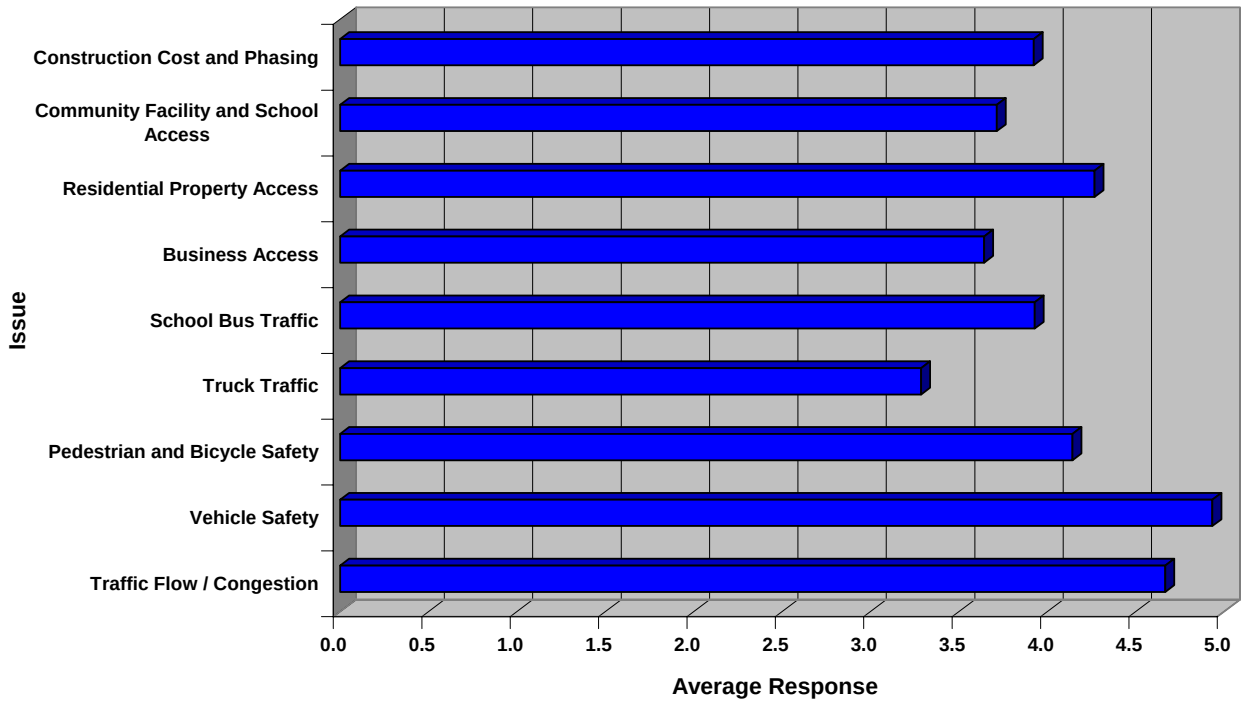
Taylorsville and Billtown Road Scoping Studies
Public Workshop #1
Public Comment Form Results Summary

The purpose of the first public involvement activity for the Taylorsville and Billtown Road Scoping Studies was to gain public input on the study's goals and issues as well as possible improvement alternatives. Comment forms were distributed to all attendees to provide a written record of this input. A total of 15 completed comment forms were received for the Taylorsville Road Study and 13 completed comment forms were received for the Billtown Road Study. A summary of the completed comment form results is presented below by study. For some questions from the survey, word for word responses are provided in the following summary and are not corrected for grammar to preserve the integrity of the comment.

Taylorsville Road

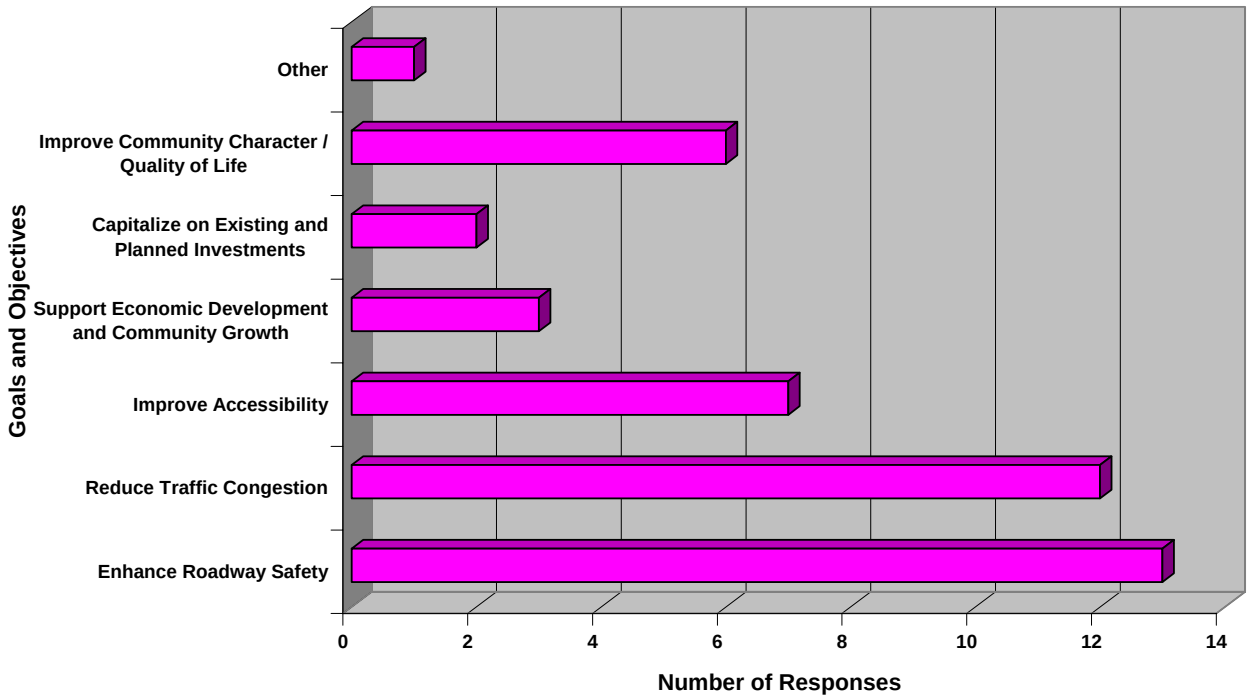
***Question 1**: How important are the following issues for this study?*
(Respondents were asked to circle the appropriate number from 1 and 5 with 1 corresponding to a score of NOT IMPORTANT and 5 corresponding to a score of VERY IMPORTANT).

Average Score of Study Issues



***Question 2**: What do you see as the Goals and Objectives for the study?*
(Respondents were asked to check all that apply).

Total Number of Responses for Goals and Objectives



***Question 3**: Please list any environmental or community features in the study area of which we should be aware.*

All Responses:

1. All roads that connect to Bluegrass Industrial Park.
2. Growth and development; Existing business access
3. Array of businesses and services in Gaslight Square area makes location attractive for residents. Could be even more attractive with less congestion (through traffic) and better access.
4. Since Taylorsville Lake Road (155) is the major artery to Louisville and Spencer County, being one of the fastest growing counties in the country, it is imperative this be taken into consideration. Traffic in the mornings on 155 is already massive. A major construction project would devastate the traffic flow but needs to be addressed relatively quick before it becomes worse and is inevitably needed.
5. Do not want a Dixie or Preston Highway look!
6. Deer and other wildlife frequently on road / Increasing industry on English Station Road / Curves in road at Saratoga and near Landberr? / Pegasus trackers are rude and dangerous on way in/out of English Station / Homes close to highway along this route / Boaters on way to Taylorsville Lake especially for 4 - 6 months of year (increased speed, decreased respect for conditions) / Recent and current construction with ingress / egress to Highway 155 / Bikers often enter at S. Pope Lick Road / Intersection and bridge (narrow with concrete at sides) at S. Pope Lick / Gas station and soccer fields and traffic from Indian Park / Middletown on Pope Lick - this is an extremely dangerous intersection - check police records.
7. Lowe Road turn-off; currently a dangerous intersection.
8. None

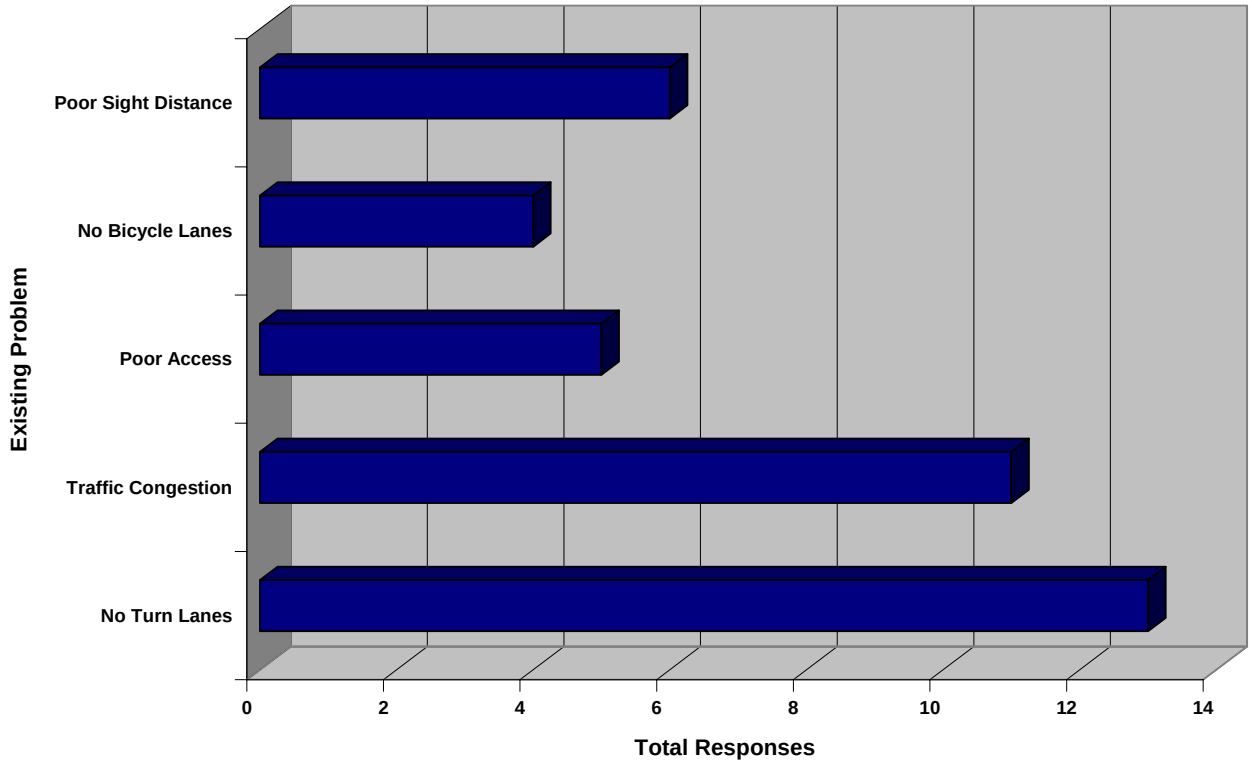
***Question 4**: Please list any specific community groups or individuals who should be involved in this study.*

All Responses:

1. Jtown development, Bluegrass Business Park, Fisherville Residents
2. Jeffersontown Mayor and Council; Metro government
3. Local homeowners, business owners, businesses and Jefferson County Public Schools
4. A) Me! I have been begging for decreased speed limit, widening, and improvements for at least ten years (especially since building boom in Spencer County). I live at Jefferson / Spencer county line.
   B) Stuart Benson - Metro Council
   C) Mayor
   D) Residents / businesses along this corridor / churches / daycares / St. Michaels / JCPS / schools / police / EMS / fire / Planning and Zoning / KIPDA / City of Jtown, mayor and council
   E) My children's bus drivers (JCPS)
5. 1) Spencer County for Responsible Growth - PO Box 669, Taylorsville KY 40071, Lesa Miller – President
   2) Spencer County Judge Executive David Jenkins
   3) Spencer County Economic Development

***Question 5**: What types of existing problems should the study examine?*
(Respondents were asked to check all that apply and indicate where the problems are).

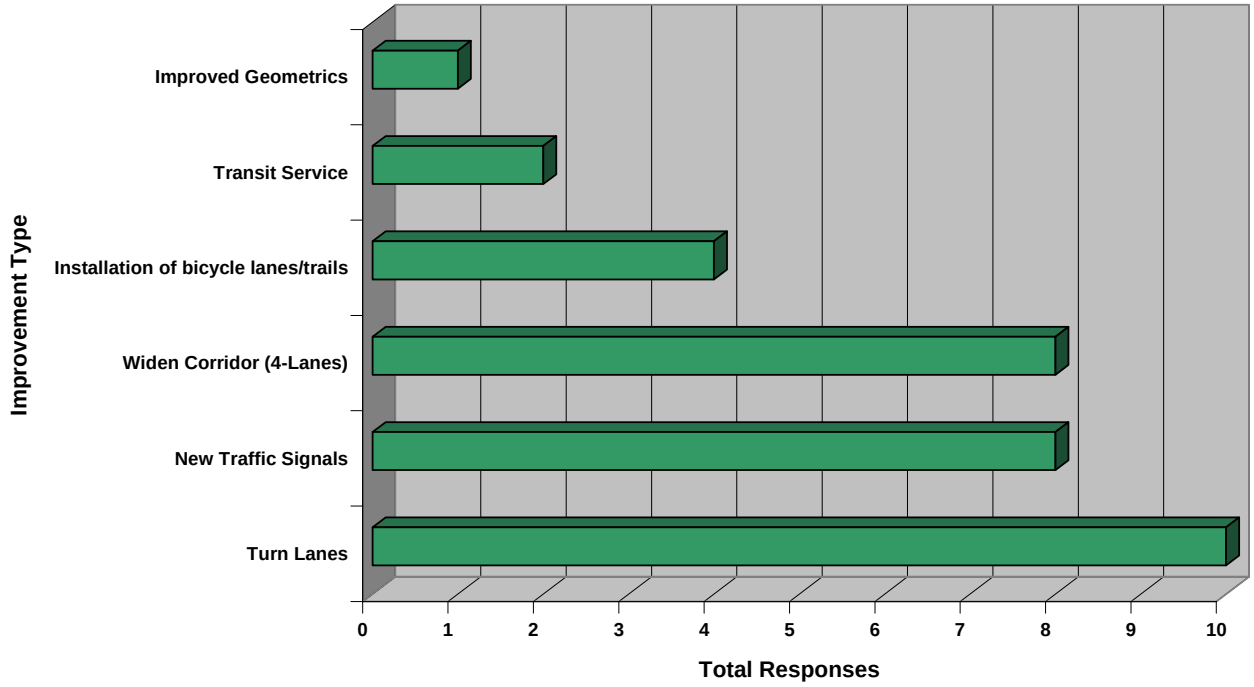
Total Number of Responses for Existing Problems



- Respondents who selected "No Turn Lanes" as an existing problem primarily listed the Old Heady Road, KY 148, and Tucker Station Road intersections as problem locations.
- Respondents who selected "Traffic Congestion" as an existing problem listed a variety of places including the Tucker Station Road intersection, the entire corridor, the KY 148 intersection, in front of the Kroger, and other pieces of Taylorsville Road before and after Tucker Station Road as problem locations.
- Respondents who selected "Poor Access" as an existing problem primarily listed Tucker Station Road, Pope Lick Road, and the entire corridor as problem locations.
- Respondents who selected "No Bicycle Lanes" as an existing problem primarily indicated that the entire corridor needed bicycle lanes, with particular need from South Pope Lick Road to KY 148 and beyond and the downtown Jeffersontown area.
- Respondents who selected "Poor Sight Distance" as a problem location primarily listed Pope Lick Road as a problem location.
- There were three write-in responses for "Other". One comment was that there needs to be a traffic light at Tucker Station Road. Another comment was that there needs to be a green arrow going west to turn left on Taylorsville Road from Taylorsville Lake Road. The final respondent commented that the speed along Taylorsville Road should be reduced from 55 mph to 45 mph.

***Question 6**: What type of potential solutions should the study examine?*
(Respondents were asked to check all that apply and indicate where the problems are).

Total Number of Responses for Potential Solutions



- Respondents who selected "Turn Lanes" as a potential solution primarily listed the Old Heady Road intersection, the Tucker Station Road intersection, and the KY 148 intersection as locations for improvements.
- Respondents who selected "New Traffic Signals" as a potential solution primarily listed the Tucker Station Road intersection and the Old Heady Road intersection as locations for improvements.
- Respondents who selected "Widen Corridor" as a potential solution primarily said that the entire corridor should be widened.
- Respondents who selected "Installation of Bicycle Lanes / Trails" as a potential solution primarily listed the entire corridor and downtown Jeffersontown as the location for improvements.
- Only two respondents selected "Transit Service" as a potential solution. One thought that adding a TARC Express line would be a good improvement, while the other thought that transit service should be available to the new Kroger's grocery store.
- Only one respondent selected "Improved Geometrics" as a potential solution. They mentioned that a 35 mph speed limit should be imposed in curves.
- There were two write-in responses for "Other". One mentioned a green arrow light which is assumed to refer to the KY 148 intersection while the other response indicated that the corridor should have a posted speed limit of 45 mph.

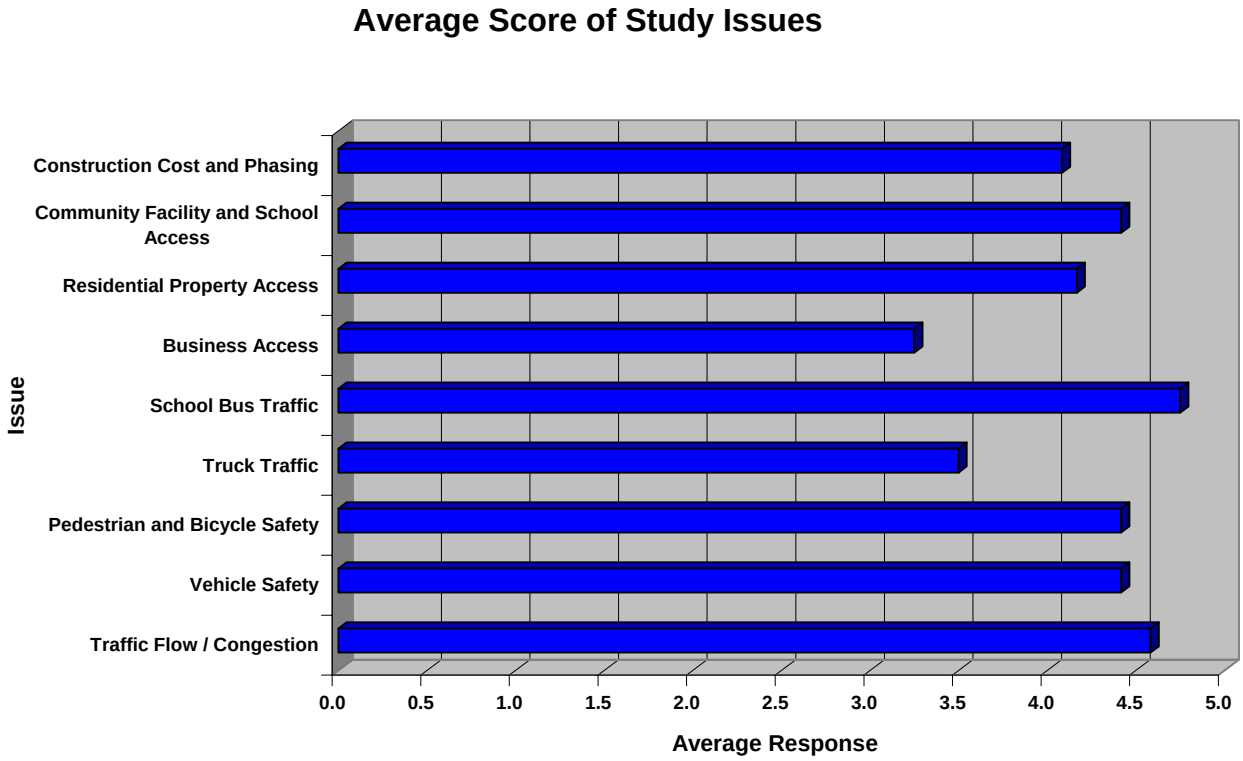
Question 7: *Additional Comments*

The comments in their entirety are listed below.

1. Cycling is a growing sport w / more participants and races each year - please consider bicycle lanes. High gas prices may increase bicycle riding.
2. Have reservations about widening Ruckriegel. Would hinder pedestrian use which is considerable around Wal-mart / Vantage Place.
3. As stated earlier, Spencer County is the fastest growing "bedroom" community in Kentucky - the majority of Spencer Countians work and shop in Louisville. Any changes to this area will impact the area as well and needs to be taken into consideration. Thank you.
4. Lower speed from 55 to 45. How many wrecks does it take to get something done?
5. Having a continuous sidewalk to Jtown from Gene Snyder would be excellent.
6. The corner at 155/148 is for sale (and has been for years). We need to consider potential for problems when this becomes a McDonalds's / service station / business. You need to count traffic when school is in session! Consider improvements onto Hwy 148 at least to English Station. Difficult to turn left onto Taylorsville Lake Road from Highway 148. Thank you for the traffic alerts (portable signs) recently with I-64 work. Immediate and money saving (possible short-term remedies): Reduced speed to 45 mph and 3-way stops (in lieu of stop lights) at Old Heady and 155, and Tucker Station. Possible at Springview but may interfere with light and backup at Ruckriegel. Thank you for asking my opinion!
7. Development keeps coming to Taylorsville Road with hundreds of additional cars traveling on the road but no improvements. People pull out in front of you at intersections during rush hour because they have to jump in at any open spot or they will be sitting waiting for traffic to clear for several minutes. The 4 lane section under the Gene Snyder is another accident waiting to happen. All that traffic bottlenecking from 2 lanes into 1. The traffic signal at 155 and 148 needs to be redone with turn lane. More traffic is coming from 148 into J-Town backing us up at the light because 155 out of Spencer County has most of the green lights. Also people riding bicycles on the road between the Gene Snyder and the intersection of 155 and 148 is very dangerous with no shoulders and backs up traffic. Thank you!
8. I don't know
9. This study is long overdue! This study should have been completed years before the expansions took place on Taylorsville Road between Watterson Trail and the Snyder Freeway. To compound the situation should any changes begin to take place will further traffic congestion and hazards.
10. I generally only ride 155/148 to Gene Snyder Freeway. I don't think it needs to be 4 lanes - but maybe 3 w / a middle lane for turns.
11. Numerous accidents at this location when traffic stops to turn left - but remaining traffic doesn't due to high speeds (over 35 mph).

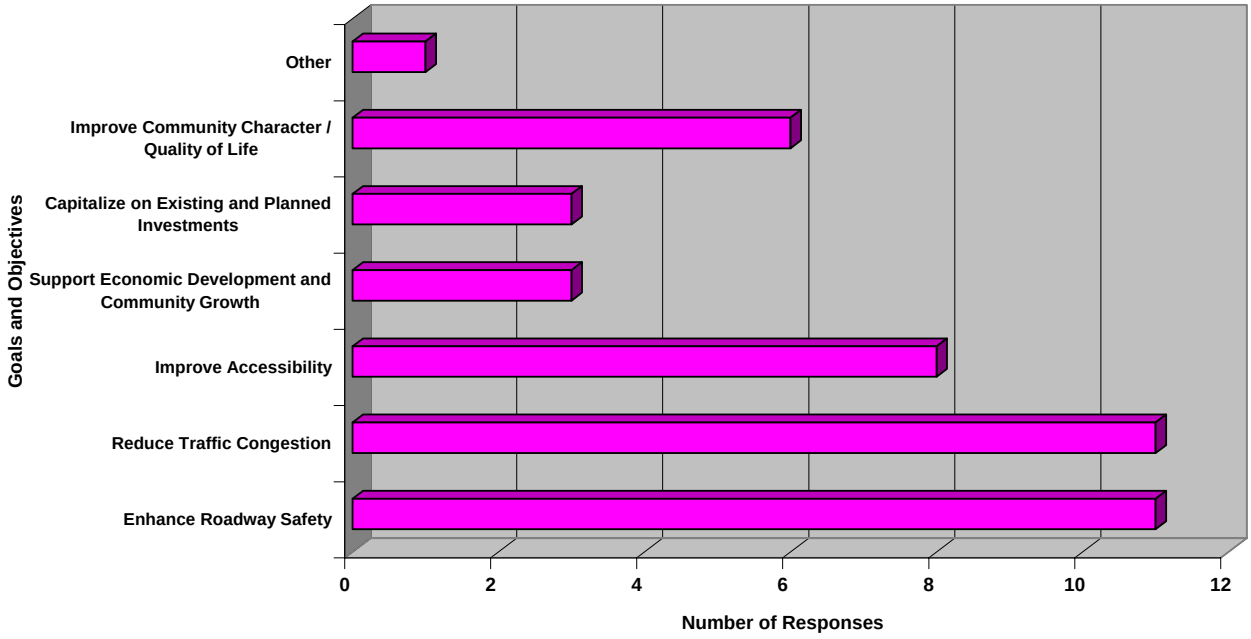
Billtown Road

***Question 1**: How important are the following issues for this study?*
(Respondents were asked to circle the appropriate number from 1 and 5 with 1 corresponding to a score of NOT IMPORTANT and 5 corresponding to a score of VERY IMPORTANT).



***Question 2**: What do you see as the Goals and Objectives for the study?*
(Respondents were asked to check all that apply).

Total Number of Responses for Goals and Objectives



***Question 3**: Please list any environmental or community features in the study area of which we should be aware.*

All Responses:

1. Wildlife displaced by new construction; curve at Gellhaus and new development; traffic lights too high - many drivers run light; outbound traffic headed into sun in AM and lights difficult to visualize; curves in areas of ingress/egress for churches/schools/residential development.
2. 2 schools generate a need for access and safety. Another school will open along this route next Fall and generate the same concerns.
3. When accidents happen gasoline, antifreeze, power-steering fluid, transmission fluid, engine oil drains into the drainage ditch into Floyds Fork Creek.
4. A light is needed at the corner of Fairground and Billtown Road for safety. There are bike tours sometimes on Billtown Road and they ride in the street. A bike trail would be good.
5. None
6. Water flow and runoff.
7. Billtown/Michael Edward intersection need traffic light and the curve dip there needs to be straightened (install guard rails? - may help for now). Needs widened with turning lanes. There have been way too many deaths there. Now it includes our Ashley.

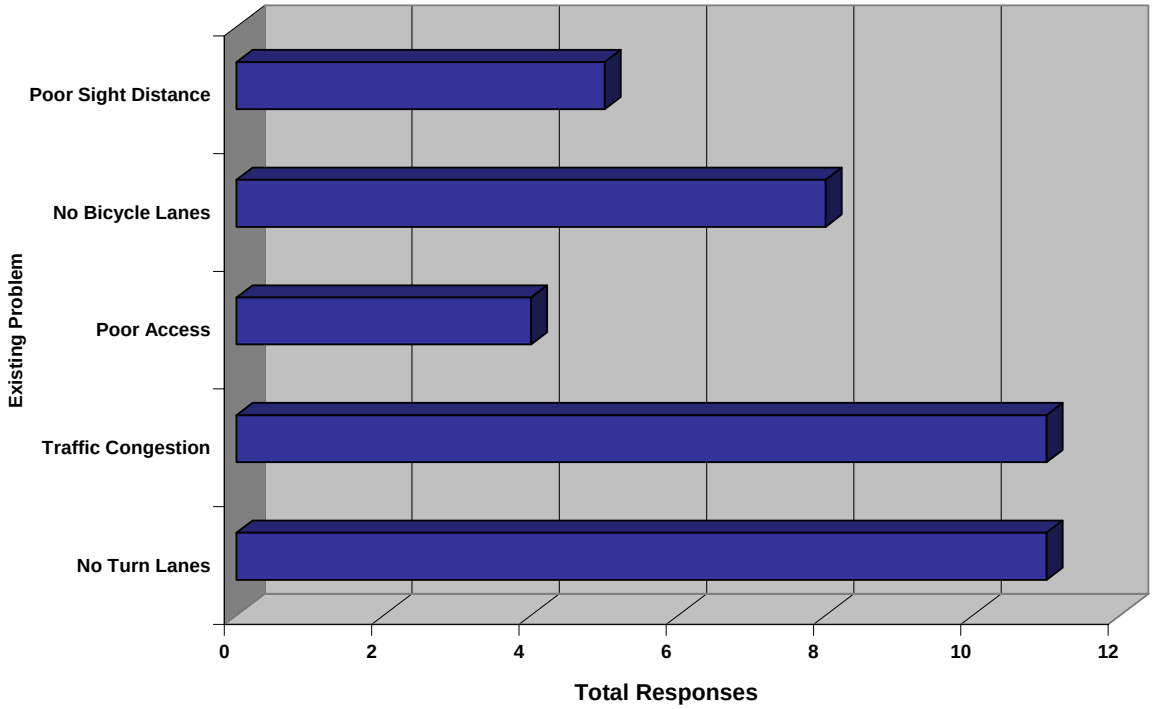
***Question 4**: Please list any specific community groups or individuals who should be involved in this study.*

All Responses:

1. A) Residents
   B) Churches/JCPS/other schools/daycares/J-town
   C) Louisville Metro Governments/business/police/fire/EMS/planning and zoning
   D) Developers
   E) School bus drivers
   F) me - I do not live along this corridor but travel almost daily
2. Residents
3. Jeffersontown Mayor and City Council; Metro Government; Jefferson County Public Schools
4. All home owners in the Billtown Road and Easum Road area.
5. Local homeowners, businesses, business owners and Jefferson County Public Schools
6. Jtown, Bluegrass Industrial Park, Kroger
7. Please keep me posted on progress and improvements

***Question 5**: What types of existing problems should the study examine?*
(Respondents were asked to check all that apply and indicate where the problems are).

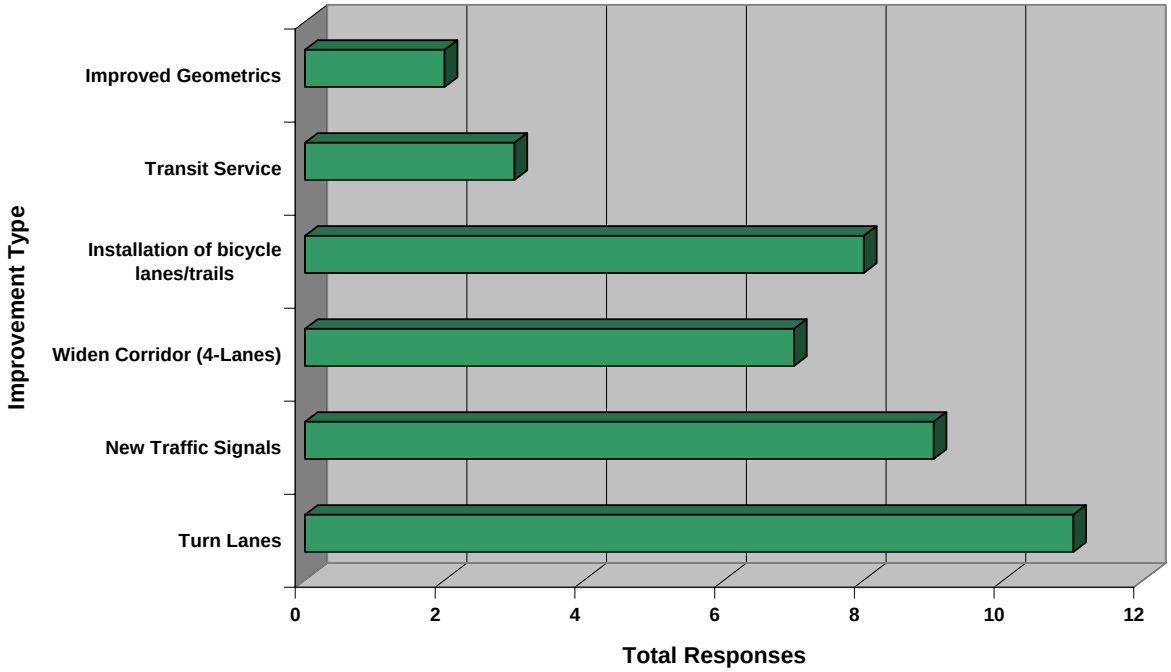
Total Number of Responses for Existing Problems



- Respondents who selected "No Turn Lanes" as an existing problem primarily listed the entire study area, Easum Road, and Mary Dell Lane as problem locations.
- Respondents who selected "Traffic Congestion" as an existing problem primarily listed the school areas, Michael Edward Drive, and Fairground Road as problem locations.
- Respondents who selected "Poor Access" as an existing problem primarily listed Easum Road, Michael Edward Drive, and Mary Dell Lane as problem locations.
- Respondents who selected "No Bicycle Lanes" as an existing problem primarily indicated that the entire corridor needed bicycle lanes.
- Respondents who selected "Poor Sight Distance" as a problem location primarily listed Easum Road as a problem location.
- The write-in response for "Other" was that there are no shoulders on the sides of the road.

***Question 6**: What type of potential solutions should the study examine?*
(Respondents were asked to check all that apply and indicate where the problems are).

Total Number of Responses for Potential Solutions



- Respondents who selected “Turn Lanes” as a potential solution primarily listed the entire study area, Easum Road, and near the middle school as locations for improvements.
- Respondents who selected “New Traffic Signals” as a potential solution primarily listed Easum Road, Michael Edward Drive, and Fairground Road as locations for improvements.
- Respondents who selected “Widen Corridor” as a potential solution primarily said either the entire route needs to be widened or it should be widened to 3 lanes with a center two-way left turn lane.
- Respondents who selected “Installation of Bicycle Lanes / Trails” as a potential solution primarily listed the entire corridor as the location for improvements.
- Only three respondents selected “Transit Service” as a potential solution. One thought the entire corridor could use a form of transit service while another respondent only said it should go to Gellhaus Lane.
- Only two respondents selected “Improved Geometrics” as a potential solution. They mentioned that there are probably too many homes to be able to straighten the roadway and that turning lanes are needed.
- The write-in response for “Other” was that there should be three lanes throughout the corridor.

Question 7: *Additional Comments*

The comments in their entirety are listed below.

1. Reduce speed to 35 mph on current route would improve safety, especially for school children who walk/ride bikes; just too much incoming/outbound traffic AM and PM to J-town area - I doubt drivers would obey 35 mph - they currently do not heed school zone controls. Please count traffic when school is in session. Jason - Traffic can be greatly improved if more kids rode school buses. Parents pick up kids.
2. We have lived at the intersection of Easum and Billtown Road for nearly six years. During this period of time we have witnessed dozens of accidents, with many vehicles ending up in our yard and our neighbors' yards. Someone is going to get killed!
3. Left turn lane onto Easum Rd. We have three different garbage vendors to pickup, about 10 school buses, mail delivery, delivery trucks, UPS, FedEx, etc. All drivers want to pass on a two lane road on Billtown Road.
4. Again, this study is long overdue. How long have we known two new schools are going in? Did no one think that a congestion problem will get worse? What are we paying taxes for? It is apparent that no one in Kentucky Government is reactive rather than proactive. Neither of surveys would need to be completed if folks in government were doing their jobs!
5. Please correct the tragic problems of this road. More people are traveling it and at faster speeds. Thanks.

Public Workshop #2

Tuesday, February 27, 2007

Taylorsville and Billtown Road Scoping Studies
Jefferson County

The second public involvement activity for the Taylorsville and Billtown Road Scoping Studies was held on February 27, 2007 in Jeffersontown, Kentucky. Both the Kentucky Transportation Cabinet (KYTC) and PB Americas, Inc. (PB) had staff present to answer any questions from the public. The purpose of the meeting was to relay to the public any information regarding analysis that had been performed since the first public involvement activity held as part of the 2006 Jeffersontown Gaslight Festival. In addition, the meeting was used to present and solicit feedback about the various improvement alternates proposed by the Project Team. As at the previous informational event, both Taylorsville Road and Billtown Road were discussed at this meeting; however, the display boards and information were placed on separate sides of the room to provide some differentiation between the two studies.

A total of 112 citizens signed-in at the meeting. It is possible that more people were in attendance but did not sign in as the sign-in table was very crowded at the start of the meeting. Some KYTC and PB staff members noticed some people bypassed the crowd, and they were encouraged to sign-in before they left the meeting.

The meeting was held in an open house format with no formal presentation. Informational boards were arranged on both sides of the room for each study and included the following information:

- Study area maps with color-coded intersections that corresponded to the individual intersection boards.
- Crash analysis.
- Individual intersection boards detailing the problems identified at each intersection as well as several improvement alternates.
- A board depicting different typical sections that could be applied to the entire corridor.

Handouts and survey forms were also available and included the following information:

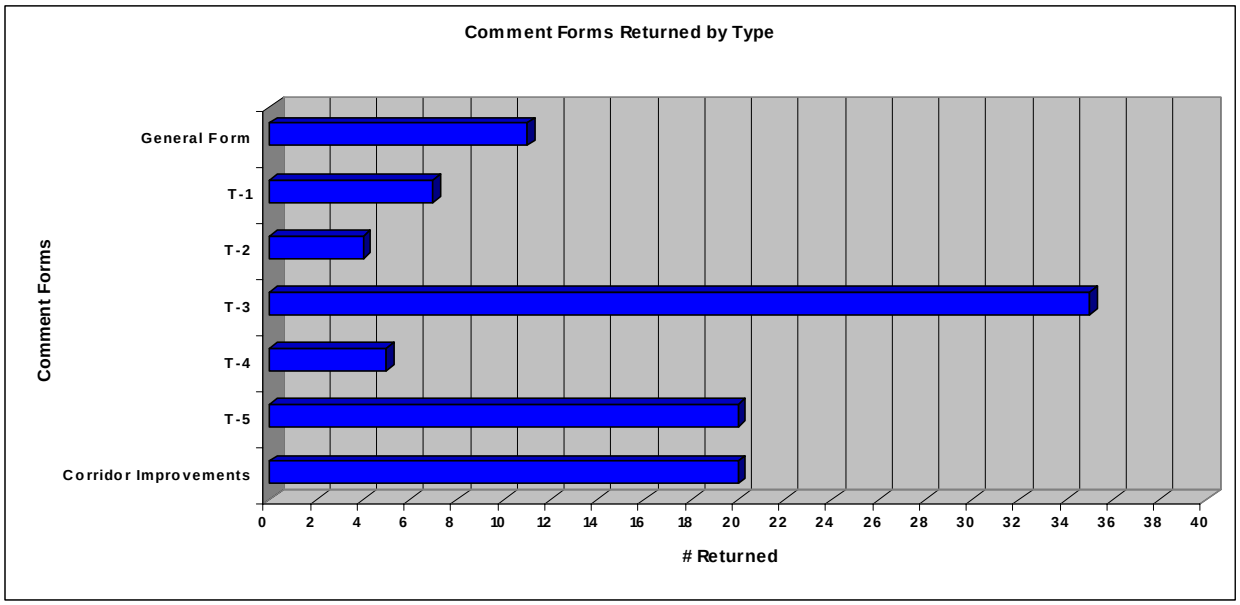
- A fact sheet explaining the study purpose, process, and schedule as well as how the public can give feedback on the project.
- A general comment form with questions related to project prioritization, transit, pedestrian improvements, and evaluation criteria.
- Individual intersection comment forms with questions about the alternates.
- A comment form with questions about the typical section for the corridor.

Summaries of the public comments received are presented on the following pages by study.

Taylorsville Road

Comment forms were available at the public meeting and could be returned either at the meeting or sent via mail or fax following the meeting. Three types of forms were available – a general form, individual intersection forms, and a corridor improvement form. The total number of forms returned was 102 for Taylorsville Road. The breakdown of forms returned by type is provided below.

Number of Comment Forms Returned

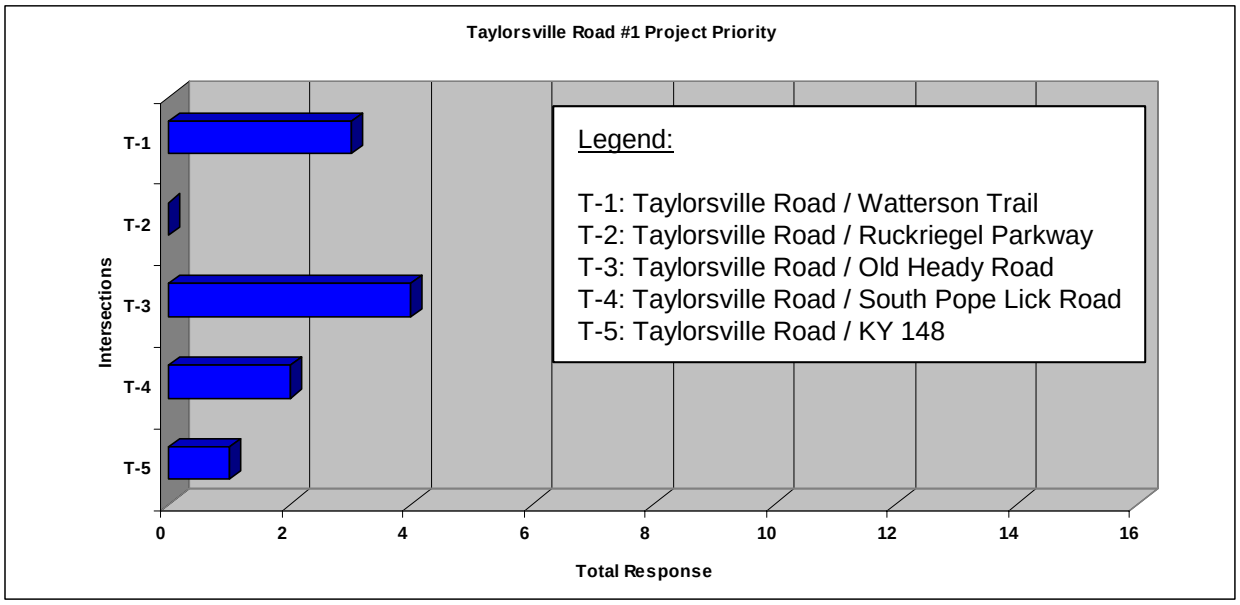


Legend:

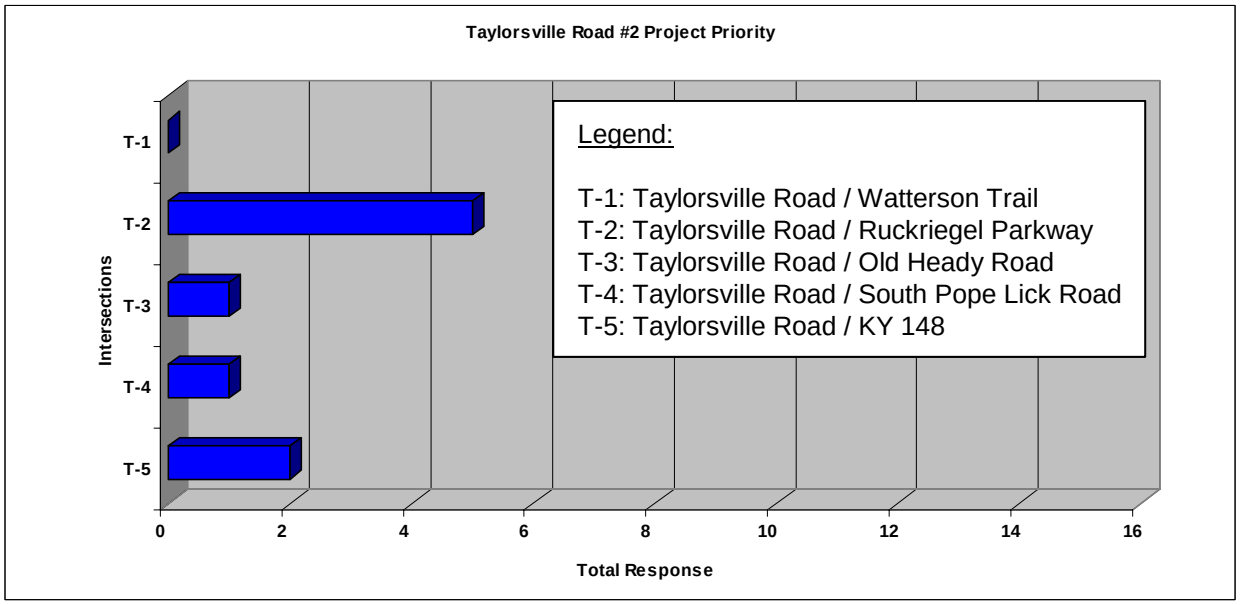
T-1: Taylorsville Road / Watterson Trail
T-2: Taylorsville Road / Ruckriegel Parkway
T-3: Taylorsville Road / Old Heady Road
T-4: Taylorsville Road / South Pope Lick Road
T-5: Taylorsville Road / KY 148

Taylorsville Road General Comment Form

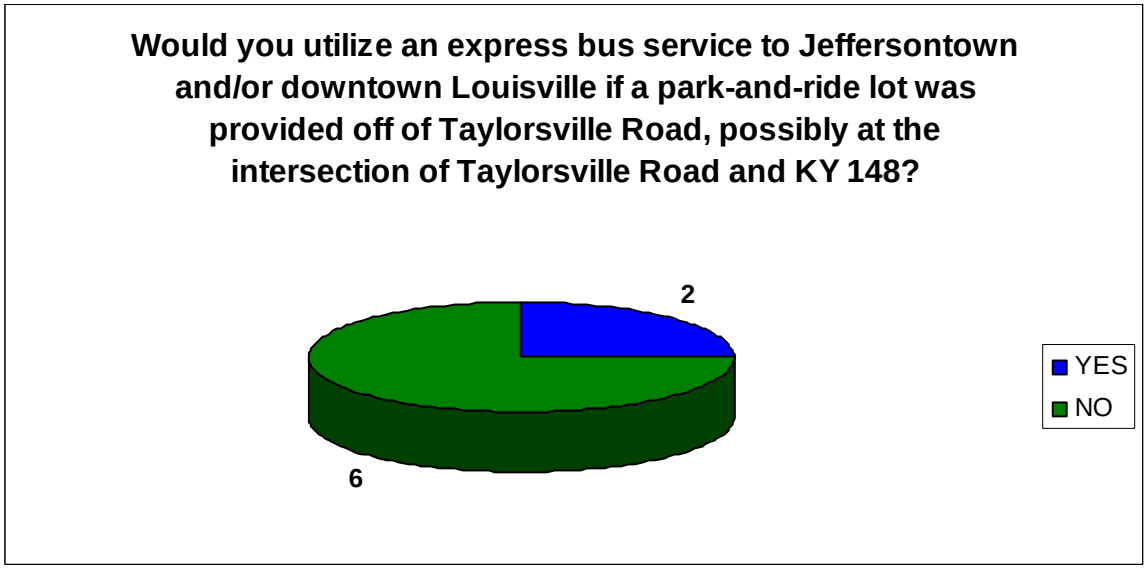
1) <u>Highest</u> priority location where improvements are needed along Taylorsville Road:



2) <u>Second highest</u> priority location where improvements are needed along Taylorsville Road:



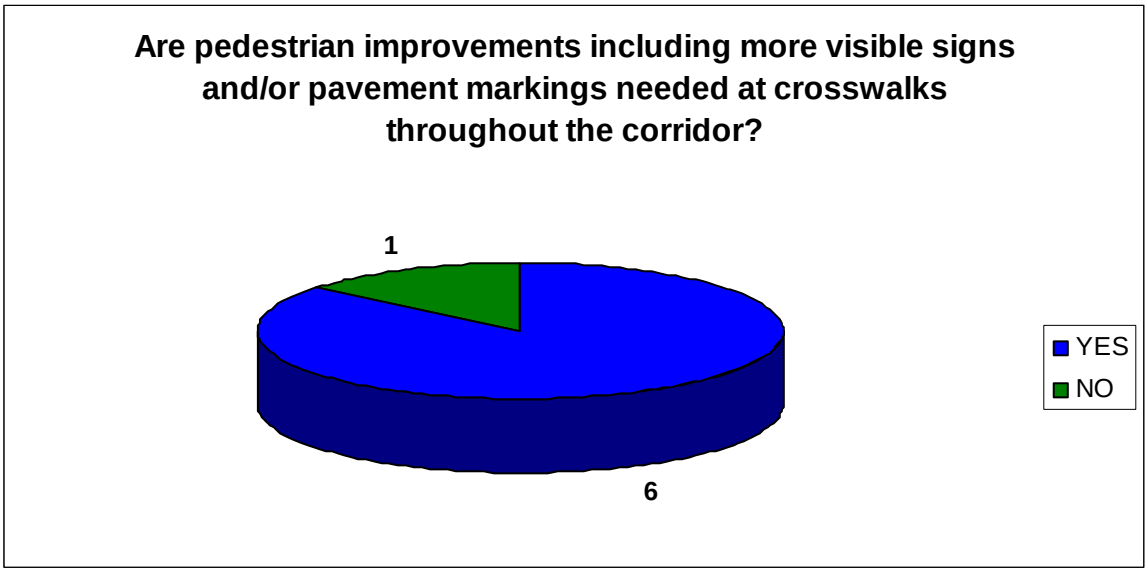
3) Taylorsville Road Corridor Transit:



Additional Comments:

- I am retired and do not regularly go to town.
- Distance to location - we're retired and do not have a regular need.
- That is a great idea. But do not believe people would use it. Love their cars too much. Hence problem with traffic in first place! Would be waste of money.
- Do not like bus service - stinks up air, taxpayer subsidized; will not give up private auto because of convenient comfort needs, purposes and handiness. Bus does not provide this.
- I do not travel outside I-265 unless going to lakes.

4) Taylorsville Road Pedestrian Enhancement

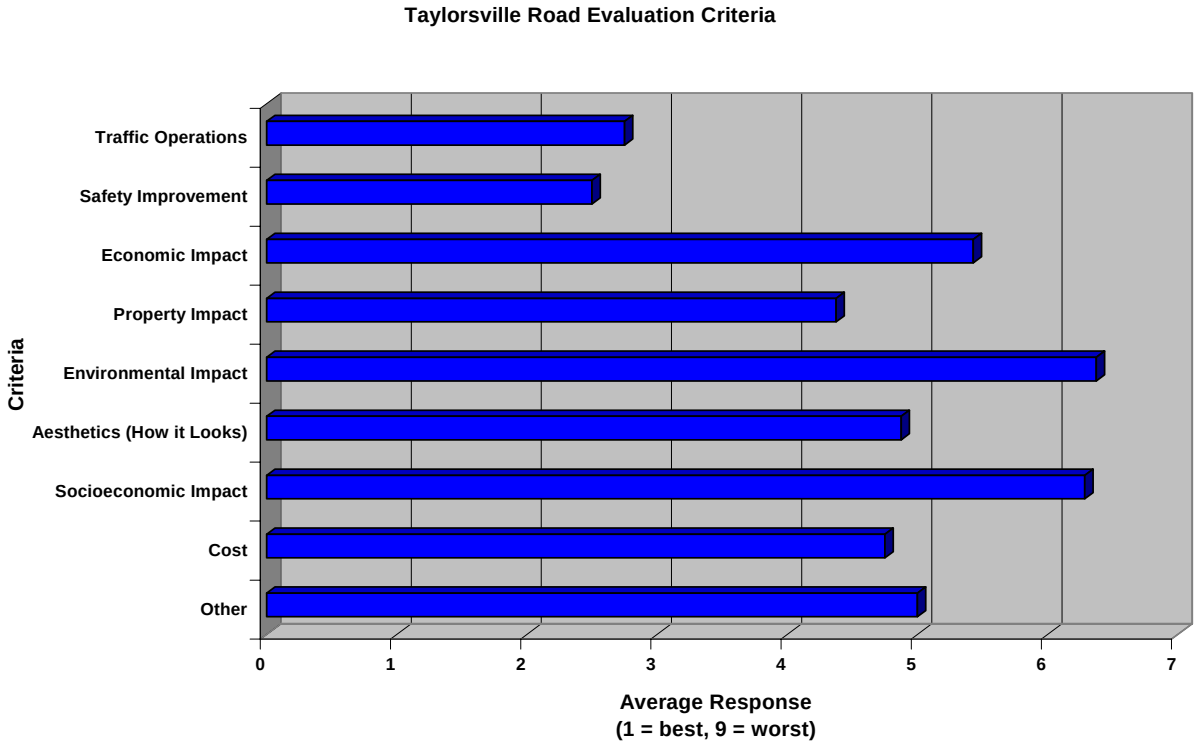


Additional Comments:

- Pedestrian and bicycle lanes would be helpful.
- Safe curbs with markings for handicapped.
- Walking and bicycle path - we and others in our community (Landherr Estates) have expressed interest and would use regularly going to parks, walking to J-town, exercise, etc.
- Sidewalks are always nice - away from road - further in.
- Sidewalks or gravel paths along KY 155.

5) Taylorsville Road Evaluation Criteria:

When selecting a preferred alternate for improvements to specific intersections and/or the corridor, what other factors do you think are important to take into consideration in addition to public input? (Please rank these in order of importance – i.e. 1 is the best and 9 is the worst).



6) Taylorsville Road Additional Comments:

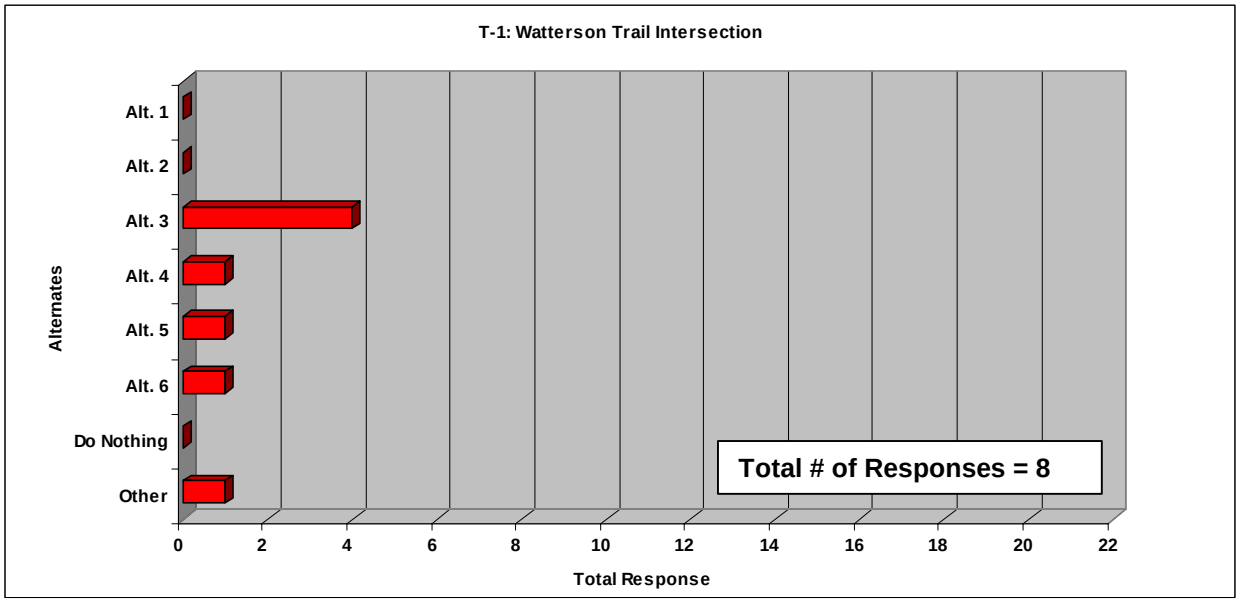
- T-5 really needs a westbound left turn storage lane on 148. Left turns off S. Pope Lick are impossible during rush hour.
- Traffic signal @ Taylorsville Road and Gene Snyder need sequencing; go east on Taylorsville wait at 1st light go under freeway and green light for off traffic turn green making eastbound Taylorsville traffic stop. If you set at 1st light off reverse sequence so you can have half chance of getting 2nd light green.
- Chenoweth Run Road can not handle the amount of cars (much less with new development). Please do a traffic study on Chenoweth Run Road. Also this road is in unsafe condition due to pot holes and road erosion. Safety needs to be our government's 1st concern. I hope it will not take a bad accident.
- With all the expansion that is planned in eastern Jefferson County, it appears that Taylorsville Road improvements should be ahead of the Blankenbaker extension. Bike and walking paths would be used by all - current roads are too dangerous for that.
- Please put me on the list to receive info about the studies and future updates.
- Reduce speed limit - isn't 55 at Stone Lakes up to Chenoweth too fast? It's hard to turn left out of Saratoga Woods w/cars speeding toward J-town.
- State has more right-of-way in open space areas on Taylorsville Road than Billtown Road so I am not concerned about environmental impact (tree removal) as on Billtown Road.
- Do nothing - that is not part of the long-term plan permanent improvements!

7) General Comments Heard by KYTC / PB Staff Members at the Meeting:

- Most people want a spot improvement ASAP.
- One person supported the short-term projects if “good improvements” were made at each intersection. In the end, a series of “good improvements” would make it much easier to construct the ultimate build corridor.
- Another person was very much against short-term improvements and would prefer to wait on funding for the ultimate widening.
- There was a lot of concern about the Urton Lane Corridor and the study that Louisville Metro is doing in the KY 155 – Tucker Station area. In general there was a lot of interest in these projects as well as the Blankenbaker extension.
- People did not understand why only crash data through December 31, 2005 was used. Year 2006 crash data should be available in about a month and this should be looked at to see if anything changes with the analysis.

T-1: Watterson Trail Intersection

1) Preferred Alternate:



Legend:

- Alt. 1 – Add Westbound Right Lane from Taylorsville Road to Watterson Trail
- Alt. 2 – Add Two Through Lanes on Taylorsville Road and Westbound Right Lane from Taylorsville Road to Watterson Trail
- Alt. 3 – Add Two Through Lanes on Taylorsville Road, a Westbound Right Lane from Taylorsville Road to Watterson Trail, and 2nd Northbound Left Lane from Watterson Trail to Taylorsville Road
- Alt. 4 – Add Pedestrian Countdown Signal
- Alt. 5 – Add Advanced Warning Signs for Pedestrian Crossings
- Alt. 6 – Replace Retro-Reflectivity

2) Additional Comments about Watterson Trail Intersection:

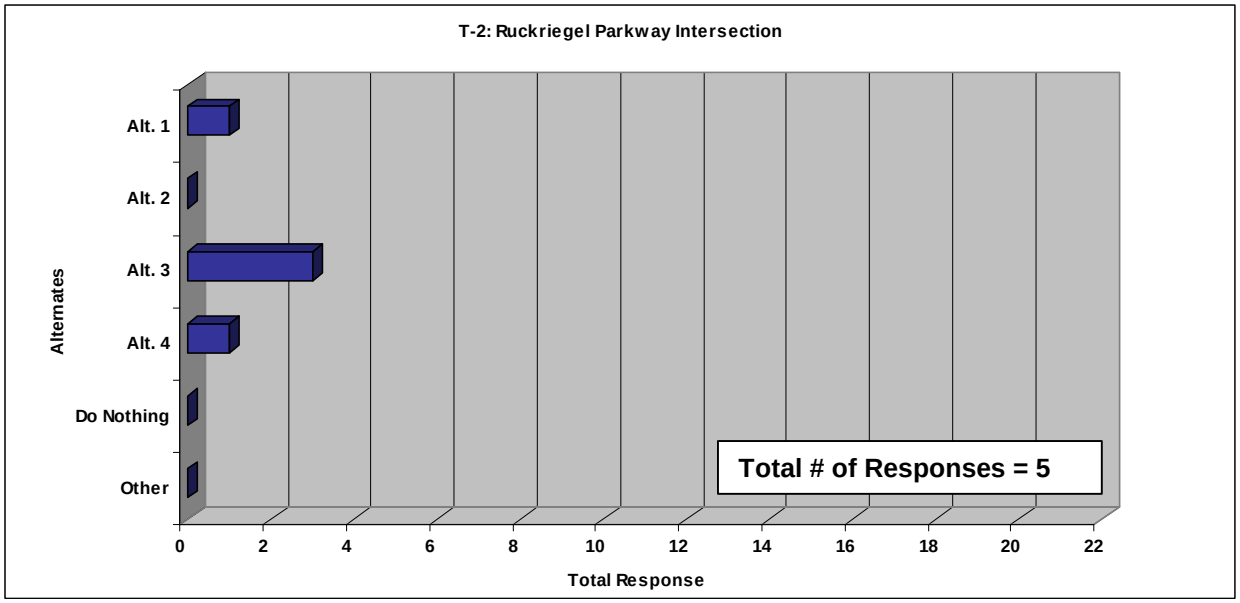
- Preserve current traditional look.
- It is an extreme bottle-neck and Alt. 3 provides the maximum relief.
- Clarify lanes northbound Taylorsville Road between Ruckriegel and Watterson Trail.
- Stopping on hill at stoplight when going west on Taylorsville Road is difficult, adding another through lane would help some.
- This should eventually be done as well as badly needed realignment eastbound on Taylorsville Road. Do T-5 first!

3) Comments Heard by KYTC / PB Staff Members about Watterson Trail Intersection:

- Some questions about showing two lanes on northeastbound Watterson Trail between College Drive and Taylorsville Road.
- Improvements are needed but tough with buildings.
- The general consensus was that people liked the downtown area "as is" and would be opposed to major upgrades to this intersection.

T-2: Ruckriegel Parkway Intersection

1) Preferred Alternate:



Legend:

- Alt. 1 – Add Eastbound Right Lane from Taylorsville Road to Ruckriegel Parkway, Southbound Right Lane from Ruckriegel Parkway to Taylorsville Road, and Westbound Right Lane from Taylorsville Road to Ruckriegel Parkway
- Alt. 2 – Add 2nd Through Lane on Taylorsville Road and Eastbound Right Lane from Taylorsville Road to Ruckriegel Parkway, Southbound Right Lane from Ruckriegel Parkway to Taylorsville Road, and Westbound Right Lane from Taylorsville Road to Ruckriegel Parkway
- Alt. 3 – Add 2nd Through Lane for All Approaches and Exclusive Turn Lanes for All Movements
- Alt. 4 – Add Sidewalk to South Side of Taylorsville Road

2) Additional Comments about Ruckriegel Parkway Intersection:

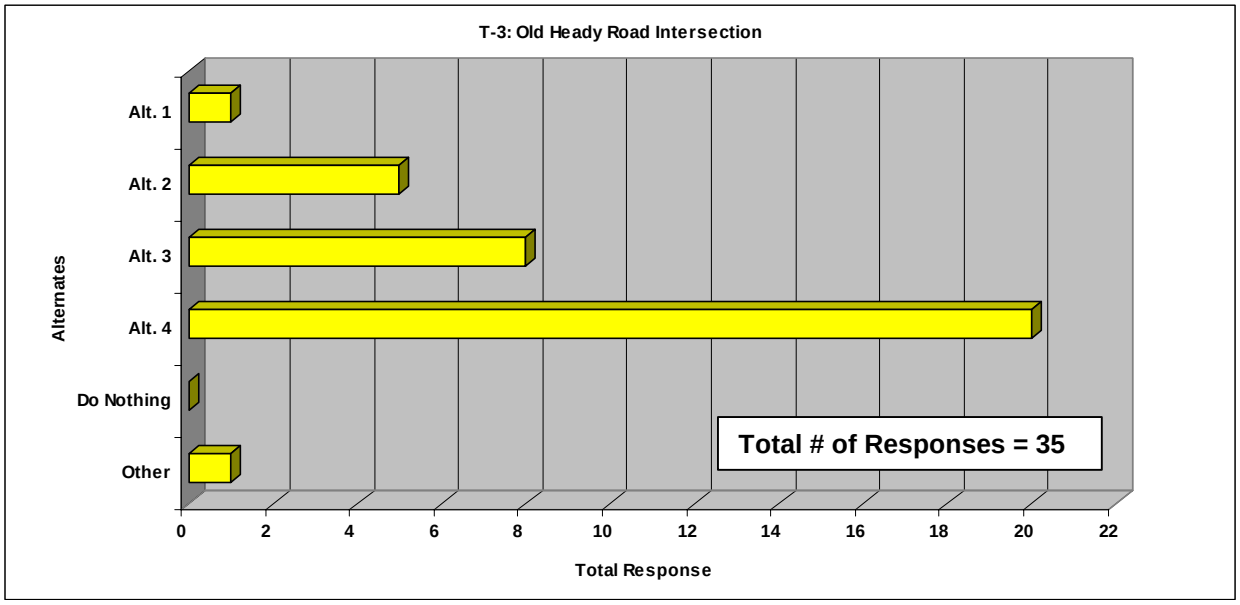
- Please do not add a sidewalk to sections of Taylorsville Road that have not finished being widened. Please complete only when enough funds are available to do Alt. 3. Do T-5 first!

3) Comments Heard by KYTC / PB Staff Members about Ruckriegel Parkway Intersection:

- Not a lot of comments about this intersection. One person said a left-turn phase is needed for the northbound Taylorsville movement to westbound Ruckriegel, and then said that there was one there already.
- One person mentioned to a staff member that they liked Alternate 3 the best.
- There were some complaints about the high volumes at this intersection; however, there was understanding that the addition of through lanes would be limited due to the right-of-way constraints along Taylorsville Road closer to Watterson Trail.
- One individual mentioned that they do not want to see small improvement constructed and then be destroyed when a turn lane is constructed later or if the road is widened. Therefore, he was opposed to a new sidewalk though he would consider a gravel path.
- The current mayor of Jeffersontown indicated that there are safety issues with the westbound traffic wanting to turn onto Ruckriegel Parkway. Often the traffic crosses the double yellow line to enter the left turn lane queue.

T-3: Old Heady Road Intersection

1) Preferred Alternate:



Legend:

- Alt. 1 – Add Eastbound Right Turn Lane from Taylorsville Road to Old Heady Road and a Northbound Right Turn Lane from Old Heady Road to Taylorsville Road
- Alt. 2 – Signalization
- Alt. 3 – Signalization and Add Westbound Left Turn Lane from Taylorsville Road to Old Heady Road
- Alt. 4 – Signalization and Exclusive Turn Lanes for All Movements

2) Additional Comments about Old Heady Road Intersection:

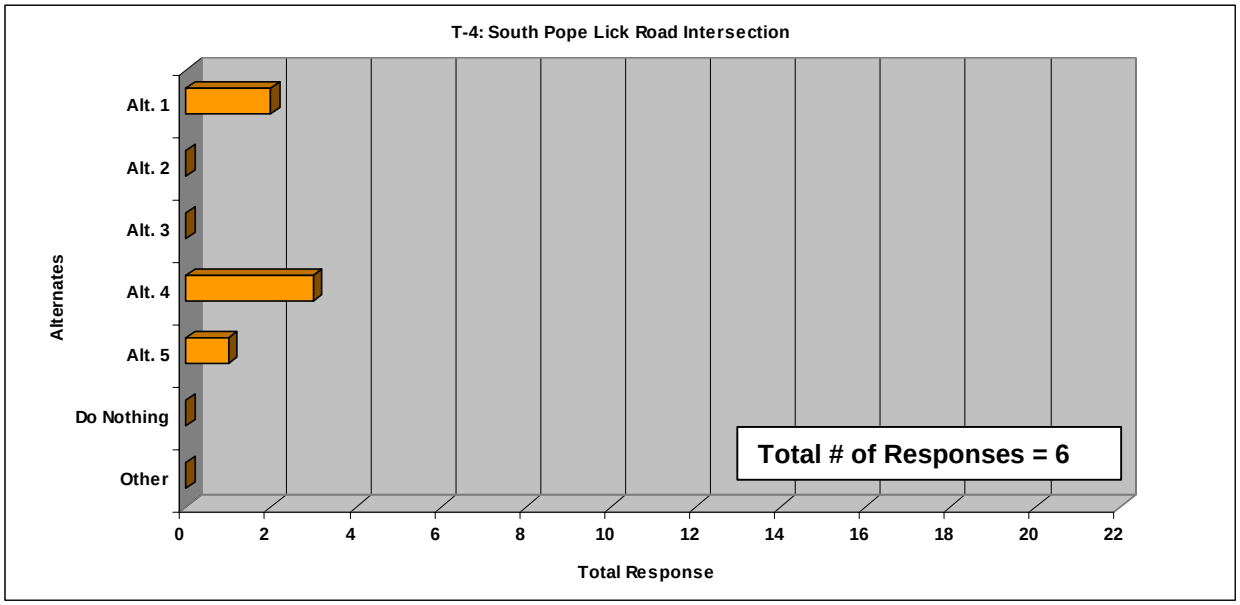
- This intersection is very dangerous. People have to help each other get out, and sometimes people take real chances to pull out in a short gap. I have to use the intersection 2 to 3 times daily. Help!
- Are you kidding? Eight accidents in two years and you submit "Do Nothing" as an option? The problem at this intersection is more accurately described as a safety issue. I've been writing for over two years. My comments have been submitted. I've attached them to this form.
- I believe this intersection is very dangerous and have seen and heard several accidents. I have three teenagers and worry about this intersection the most, and they have even expressed how difficult it is to get onto Taylorsville Road.
- This is needed greatly! Thank you!
- Most definitely, at the very least Alt. 2 is needed desperately at this intersection. Increased volume of traffic from Old Heady Road from new developments have created an increased potential for serious accidents to occur at this intersection.
- We have lived in Dove Point subdivision for over 9 years. Each year keeps getting more dangerous to get onto Taylorsville Road from Old Heady because of the speed of the traffic and the increase in traffic.
- During peak hours it is nearly impossible to get on Taylorsville Road from Old Heady.
- Because this area has been and continues to have so many new homes - businesses and new construction and has become so congested, I feel that the speed limit needs to be lowered to the Gene Snyder Freeway.
- Thank you for considering. This intersection is becoming very dangerous. I have almost been hit trying to get out myself.
- As with comment I made on other comment sheets, please do T-5 first, but when funds are sufficient to do this project please opt for Alt. 4, the traffic congestion will only increase over time. Thank you!
- I have seen numerous accidents in addition to close calls at this intersection. Too many houses have been added to this area - with Old Heady being one of the only exits! Why was this allowed?
- Turning out this intersection has always been dangerous and time consuming. Now that more developments arise, it only adds to it.
- Where Old Heady turns right onto Taylorsville Road, the road needs extending in the curve where the roads tie together.
- I drive this intersection at least two times a day. It forces one to take chances due to the waiting. With more housing down Old Heady, traffic has become heavier and more dangerous. If there is an accident on the Snyder, traffic comes down Taylorsville Road.
- Dangerous intersection.
- Many wrecks!
- Always backed up.

3) Comments Heard by KYTC / PB Staff Members about Old Heady Road Intersection:

- A lot of focus on the Old Heady Road intersection. Several people literally took offense that we said the issue was “delay” and not “safety”.
- Existing and proposed new residential development south of Taylorsville Road that would feed more traffic onto Old Heady Road in the future was mentioned.
- Some people feared that Blankenbaker would eventually be expanded to Taylorsville Road at Old Heady Road.
- There was also a lot of concern that Tucker Station was being improved before Old Heady Road. One person had heard (apparently from the KYTC) that there had been 20 crashes at Tucker Station and 8 at Old Heady but were concerned that nothing would be done at Old Heady Road.
- A couple who lives off of Old Heady Road was very concerned about the number of accidents that occur at the intersection weekly according to them. Anything that could be done would be a vast improvement.

T-4: South Pope Lick Road Intersection

1) Preferred Alternate:



Legend:

- Alt. 1 – Add Southbound Right and Northbound Right Turn Lanes from South Pope Lick Road to Taylorsville Road
- Alt. 2 – Signalization
- Alt. 3 – Signalization and Add Westbound Right and Eastbound Left Turn Lanes from Taylorsville Road to South Pope Lick Road
- Alt. 4 – Signalization and Add Turn Lanes for All Movements
- Alt. 5 – Re-align Intersection

2) Additional Comments about South Pope Lick Road Intersection:

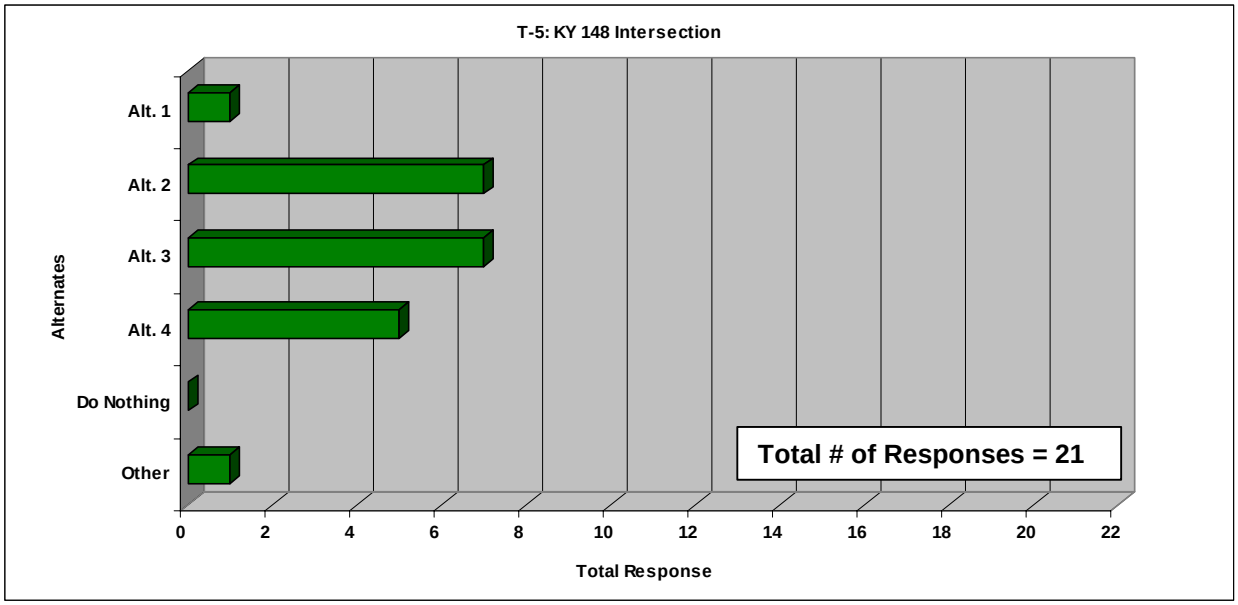
- Taylorsville Road should be improved to two lanes in each direction plus a center lane with turning light. Pope Lick should have changes as suggeted due to back entrance to Industrial Park. Bridge needs to be widened when there is an accident at this.
- This intersection is used as a shortcut to Middletown and the Industrial park and traffic backs up on Pope Lick at 5:00 causing motorists to take risks pulling out into traffic on Taylorsville Road turning left to Taylorsville Lake Road. This is an extremely hazardous intersection especially with the bridge obstructing view.
- Important: Please provide as much riparian buffer as possible (extending it beyond present width would be best) along Pope Lick Creek. Relocate S. Pope Lick Road further from the creek to increase buffer zone.
- Combine Alt. 4 and 5 but at least Alt. 4. Do it when money is available, but when money is available it should be done this way.

3) Comments Heard by KYTC / PB Staff Members about South Pope Lick Road Intersection:

- It is difficult to turn left in the PM (board depicting intersection confirms this).
- The use of South Pope Lick as a "shortcut" to Rehl Road/Blankenbaker/Plantside Drive and even to Middletown was cited by many.
- A lot of concern about the future of this intersection related to impacts from anticipated residential housing developments.

T-5: KY 148 Intersection

1) Preferred Alternate:



Legend:

- Alt. 1 – Add 2nd Northbound Left Turn Lane
- Alt. 2 – Add 2nd Northbound Left Turn Lane and Exclusive Eastbound Right Turn Lane
- Alt. 3 – Reconfigure Intersection to Make Taylorsville Road / Taylorsville Lake Road the Major Movement
- Alt. 4 – Continuous Flow "T"

2) Additional Comments about KY 148 Intersection:

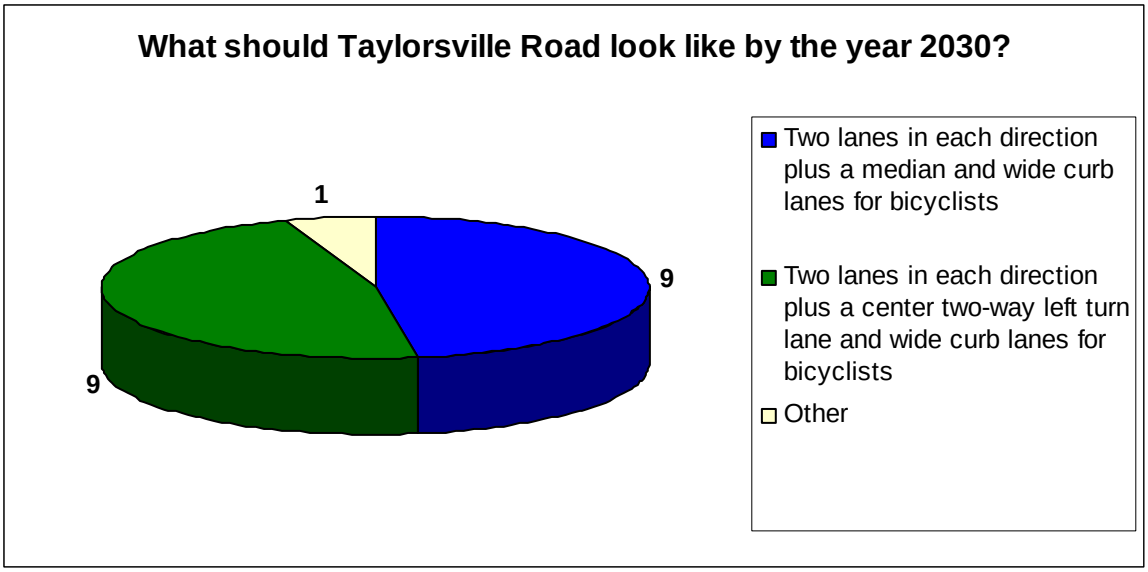
- Traffic is going to be increased due to development, growth, ?/Fisherville ramp to the ?. It makes sense to extend Taylorsville Road to 4 lane with turning - 2 lanes North and South 155 - all this is predicated that the new road to 64 doesn't.
- Continuous flow to allow for increase in traffic with the traffic and population increase.
- This should have been done two years ago. Also expand Taylorsville Road to two lanes each direction plus a median and wide curb lanes for bicylists. This road (Taylorsville) is a disaster all the way up to the Gene Snyder (especially in front of Hatmakers).
- Taylorsville Lake Road needs to continue north to I-64 as a scenic parkway; this will alleviate most Taylorsville Road backup. Taylorsville Road east of this intersection, Hwy 148 needs to remain scenic 2-lane highway, not a major traffic artery.
- Please work with Park system, Planning and Design in Louisville. Keep it looking rural as possible. Limit tree cutting. Let's do it right instead of having another "Shelbyville Road".
- This project should be priority #1! It would be better to spend the higher amount of money on this project now than try to "re-fix" a partial fix in the future, not to mention acquiring right of way which would be much harder once the land around it is developed.
- Another thought on the above - what about getting Spencer County money? This is where most of traffic comes from.
- Based on information provided 2/27 meeting, this is the least expensive so most likey to be accomplished sooner - improvements needed.
- Most traffic flows from Taylorsville Road (west) to Taylorsville Lake Road. Traffic slows considerably to make the turn, changing the intersection to be a slight curve rather than 90 degree turn and allowing longer green lights for the major traffic would greatly improve traffic flow.

3) Comments Heard by KYTC / PB Staff Members about KY 148 Intersection:

- The diagram for Alternate 3 (intersection reconfiguration) confused people. Needs to be consistent with the way the other diagrams (Alternates 1 and 2) appear in the final report.
- One person was convinced that Alternate 3 was the best that could be done. According to him, cost should not be an issue and that action needs to be taken immediately to purchase the needed right-of-way at the southwest corner quadrant of the existing intersection before it gets even more expensive. Several people disagreed with this individual as to the preferred alternate, opting for the lower cost option instead.
- There were some people who liked Alternate 2.
- There were many comments and concerns regarding westbound vehicles using the shoulder to pass left turning southbound vehicles and right turning southbound vehicles using the shoulder to pass eastbound vehicles waiting at the signal.
- Some people also mentioned a connector to I-64 at this intersection.
- Everyone agreed that changes are necessary; however they disagreed on the preferred alternate. Most people were in favor of the addition of a second northbound left turn lane and an exclusive right turn lane. They liked the potential of the much improved LOS / delay.

Taylorsville Road Corridor Improvements Comment Form

1) Preferred Alternate:



Note: The one "other" response was for a typical section with a median and Taylorsville Road re-designated as a parkway.

2) Should this look be applied to the entire corridor or should different ones be used for different locations (i.e. inside and outside of I-265)?

- Definitely
- Entire corridor applied. For future growth in area and growth and traffic from surrounding counties that use it now.
- Same throughout the system. Citing a study in Indiana on Highway 9 Anderson, IN had the first choice then recently spent additional tax dollars to get of islands - now it looks like #2 - less congestion - less traffic issues.
- Entire corridor.
- Yes!!
- Taylorsville Road beyond 155 turnoff (at Taylorsville Lake Road) should remain 2 lanes.
- A parkway would be best.
- Entire corridor.
- A hybrid version would likely be the most practical, but the first option would be the safest.
- Yes - entire stretch from English Station to Kroger on Taylorsville Road.
- Use same look for both inside and outside of corridor.
- There are very few bicycle riders in this area.
- This would only be necessary to Taylorsville Lake Road, past that there isn't enough traffic.
- Entire corridor

3) What other corridor improvements would you like to see?

- Some signalization at some intersections.
- More restaurants and shopping on sides of road.
- This project getting started tomorrow!
- Trees and undergrowth in a wide buffer zone all along Taylorsville beyond I-265 and wherever possible inside I-265.
- Trees in the median areas (boulevard feel).
- Please include Park system and Planning and Design in your planning. Keep area looking rural - limit tree cutting. Do not have it look like Shelbyville or Hurstbourne.
- Widen all bridges, additional light signals, including timer sequenced in more congested areas.
- Connect with I-64.
- During business hours, there is more traffic and holdups at Watterson Trail and Chenoweth Road intersections than the road is designed to carry.
- I would like to see another road / alternate route put in to handle some Taylorsville Lake Road to Gene Snyder traffic. When there is roadwork or an accident, there is no good alternative.
- None

4) Any additional comments?

- This planning is definitely important and should be implemented prior to further construction.
- Most home on Taylorsville Road sit back far enough for Highway Department to have more leeway on expanding road and state right-of-way. People are driving above speed limit.
- This type of road system spun economic growth.
- If the lane is continuous there is no weed problem therefore no chance of obstruction of vision.
- This is what Taylorsville Road should look like by the year 2008!!! We wish somebody would get moving!!!
- Bicyclists prefer rural roads, not highways with fast-traffic - use this to connect bicyclists to the existing network of 2-lane rural roads in the neighborhood.
- In the meantime what is already there needs to be cleaned. Trash and signs are everywhere.
- Do not put gutters or sidewalks in until final widening is complete.
- Thanks for addressing the issue / need.
- Do not approve any more R-4 construction out here until the traffic situation has been fixed. Thanks!
- It is unfortunate that when the Kroger Shopping Center was built just a couple of years ago that a right turn lane on to Stone Lakes Drive and Tucker Station was not completed. It just needed about another 100 feet to complete a right turn lane continuously. What a waste of time and expense.
- The right turn lane from G. Snyder to Fville Rd, to Stone Lakes to Tucker Station should have been completed with the shopping center. Why the gaps? Foolish. Now more expensive!
- Thank you!

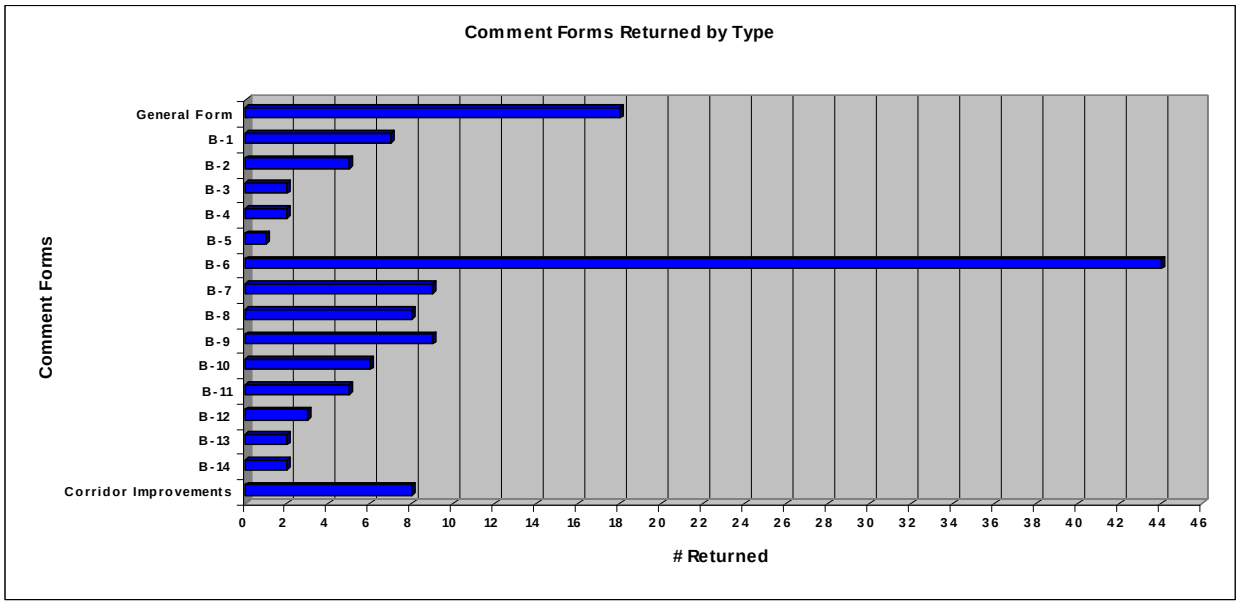
5) Comments Heard by KYTC / PB Staff Members about the Overall Corridor

- Build 5 lanes and keep it like it is.
- Many people would like to see Taylorsville Road widened as soon as possible.

Billtown Road

Comment forms were available at the public meeting and could be returned either at the meeting or sent via mail or fax following the meeting. Three types of forms were available – a general form, individual intersection forms, and a corridor improvement form. The total number of forms returned was 131 for Billtown Road. The breakdown of forms returned by type is provided below.

Number of Comment Forms Returned

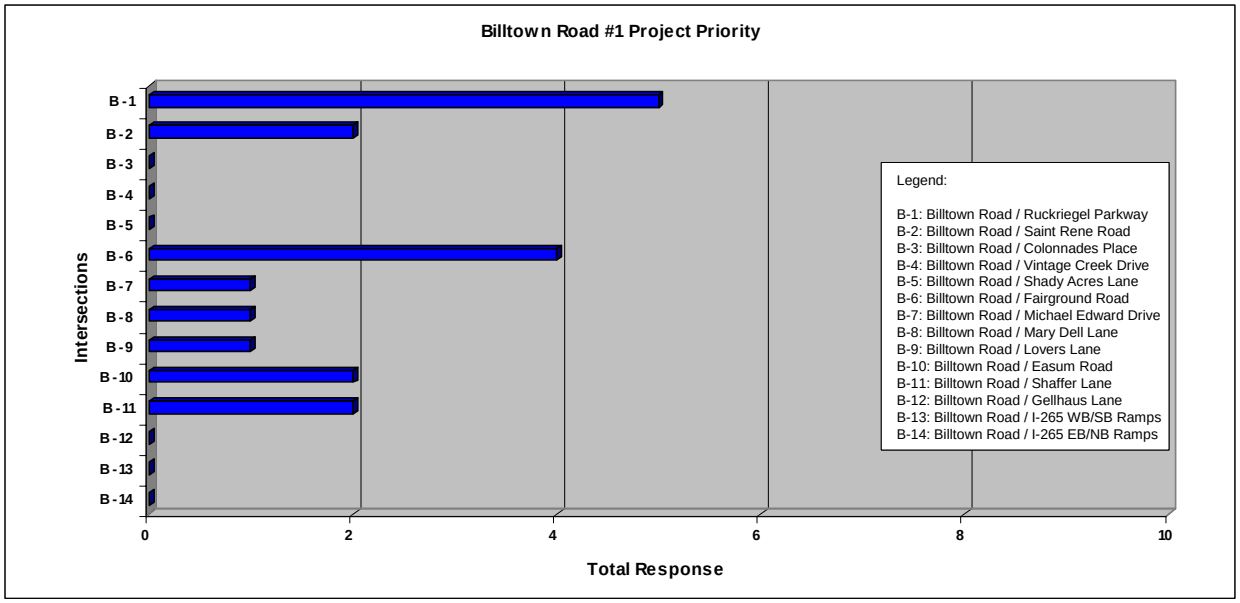


Legend:

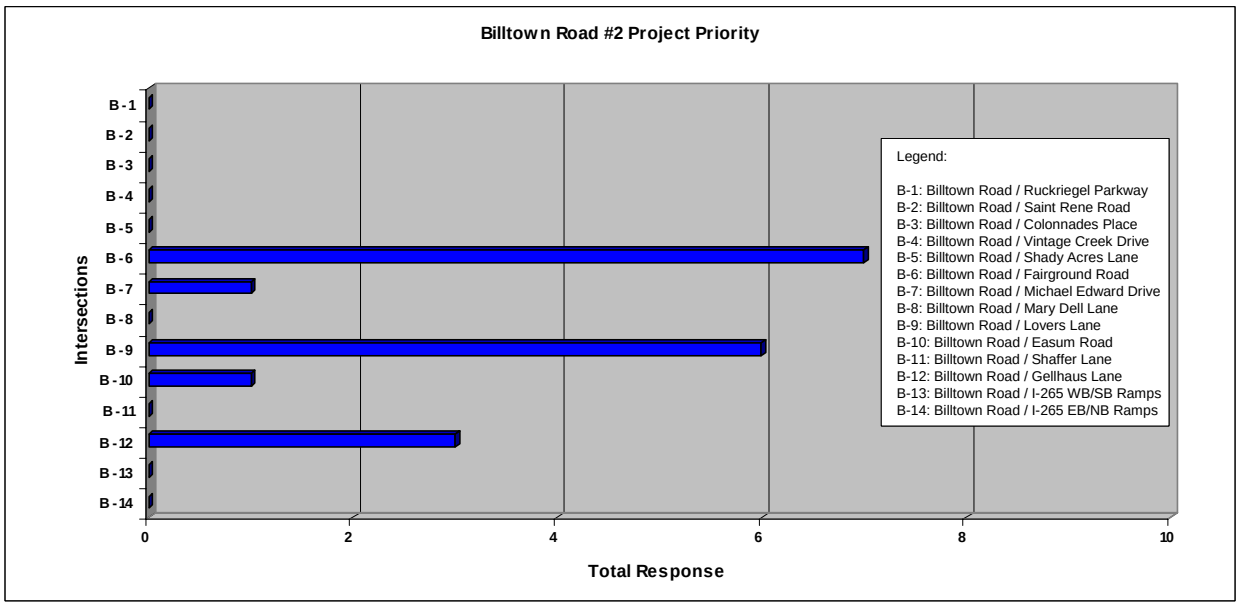
B-1: Billtown Road / Ruckriegel Parkway
B-2: Billtown Road / Saint Rene Road
B-3: Billtown Road / Colonnades Place
B-4: Billtown Road / Vintage Creek Drive
B-5: Billtown Road / Shady Acres Lane
B-6: Billtown Road / Fairground Road
B-7: Billtown Road / Michael Edward Drive
B-8: Billtown Road / Mary Dell Lane
B-9: Billtown Road / Lovers Lane
B-10: Billtown Road / Easum Road
B-11: Billtown Road / Shaffer Lane
B-12: Billtown Road / Gellhaus Lane
B-13: Billtown Road / I-265 WB/SB Ramps
B-14: Billtown Road / I-265 EB/NB Ramps

Billtown Road General Comment Form

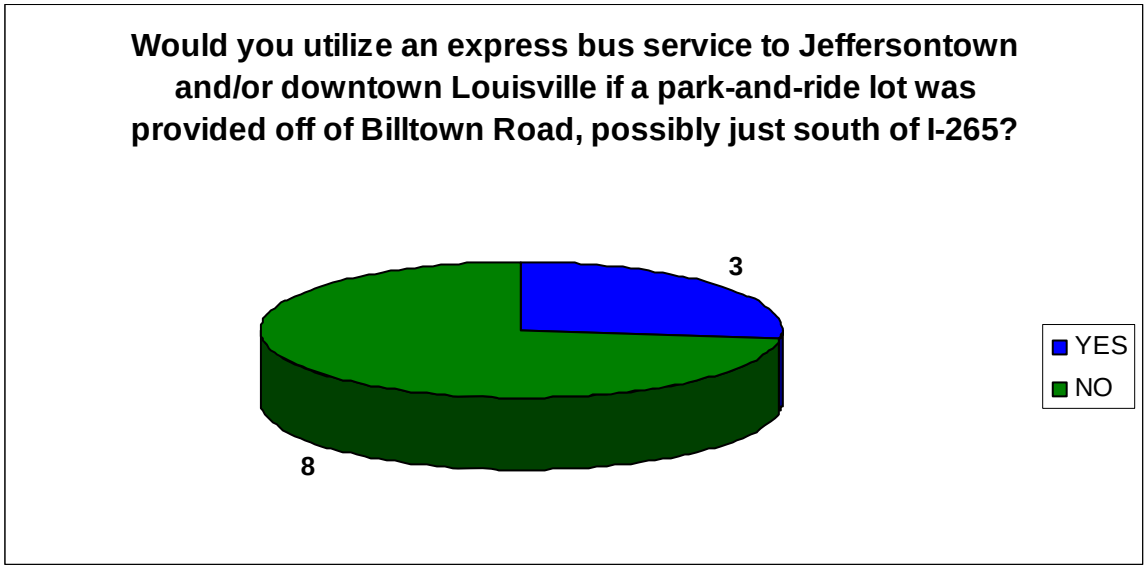
1) Highest priority location where improvements are needed along Billtown Road:



2) Second highest priority location where improvements are needed along Billtown Road:



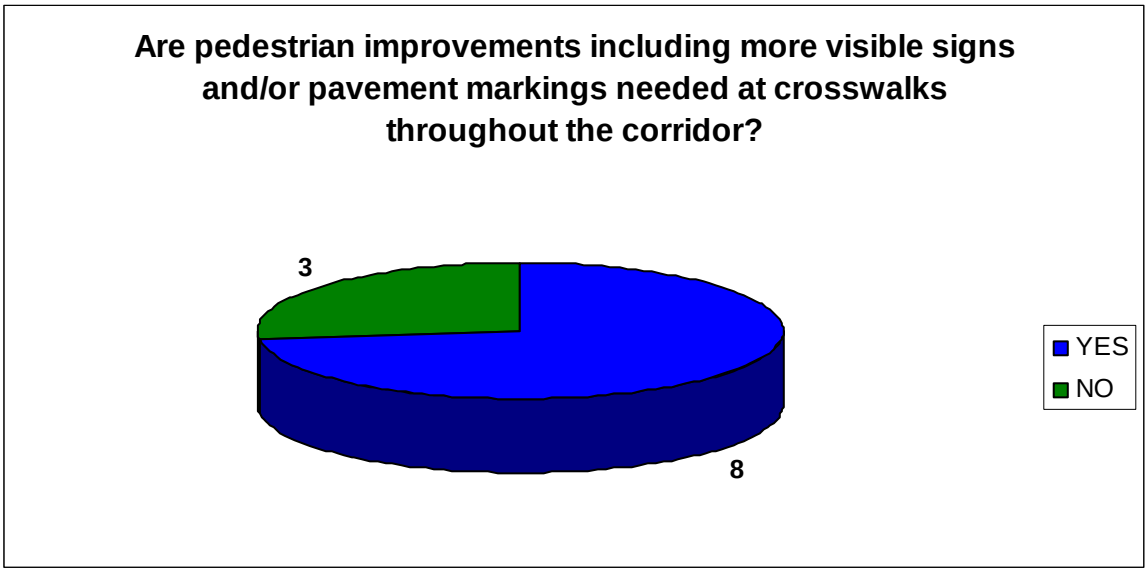
3) Billtown Road Corridor Transit:



Additional Comments:

- Not necessary for daily activities.
- I live closer to Jeffersontown than to the Gene Snyder, plus I do not work downtown. My errands are usually in Jeffersontown/Hurstbourne/Bardstown Roads corridor.
- Outside of job location. Not set work hours.
- I leave very early AM to work at a hospital.
- Does not suit my travel path to work.
- Do not like bus service - stinks up air; tax payer subsidized; will not give up private auto for convenient comfort, needs, purposes and handiness. Bus does not provide this.
- Convenience of my car and pollution of the bus.

4) Billtown Road Pedestrian Enhancement:

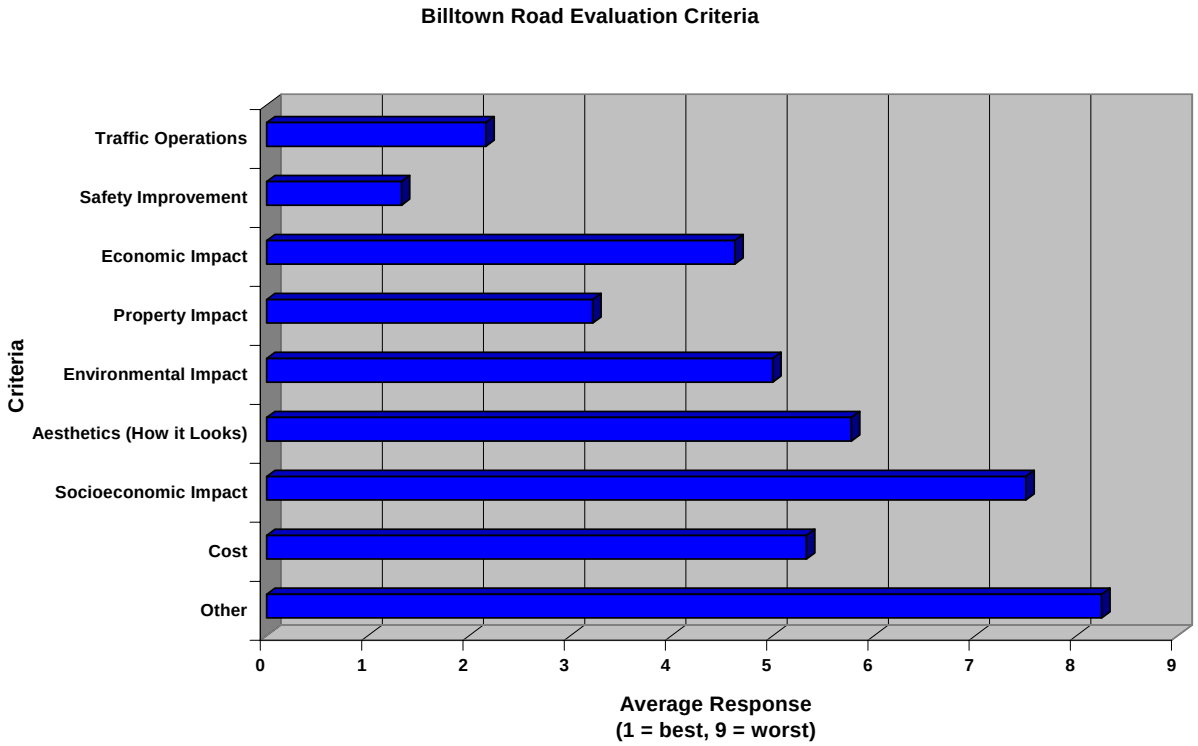


Additional Comments:

- Sidewalks - overpass for new schools across Gellhaus.
- Sidewalks from Lovers Lane to Michael Edward (Vettiner Park Entrance).
- Reduce school bus stops on Billtown by forcing School Board to pick-up / drop-off kids within subdivisions.
- Bike paths / walking paths would promote safety.
- Sidewalks
- Street Lights
- You must have more traffic stops - it's unsafe crossing the road due to speeders.
- Spend money on traffic flow improvements; not signs/markings/sidewalk.

5) Billtown Road Evaluation Criteria:

When selecting a preferred alternate for improvements to specific intersections and/or the corridor, what other factors do you think are important to take into consideration in addition to public input? (Please rank these in order of importance – i.e. 1 is the best and 9 is the worst).



6) Billtown Road Additional Comments:

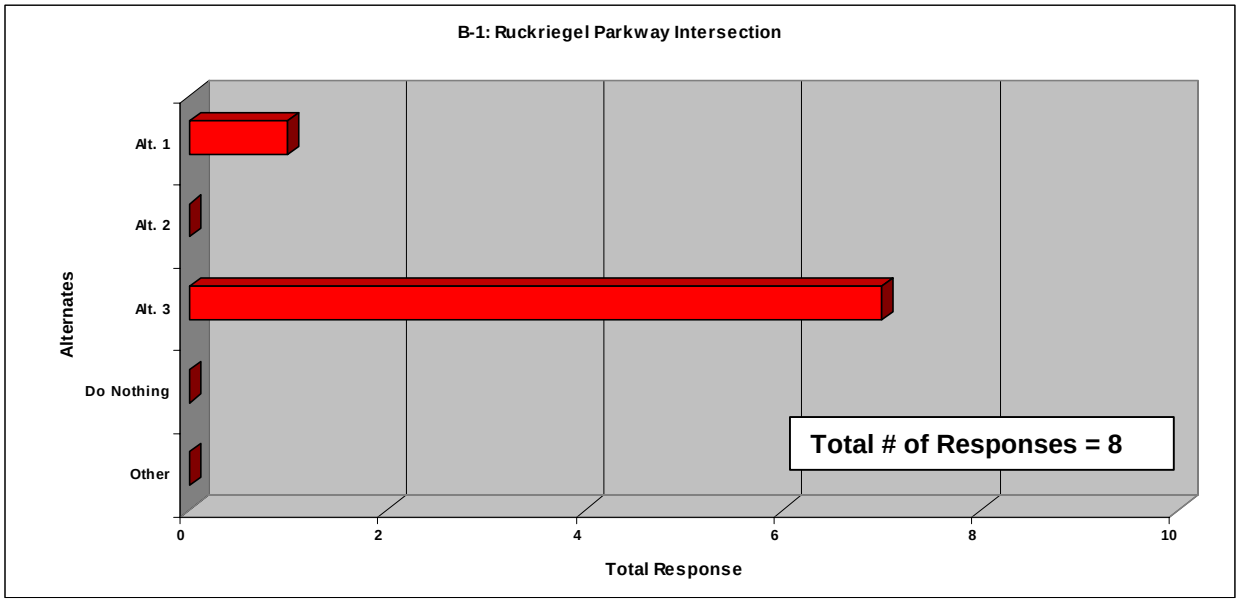
- Safety should be paramount. Need to accommodate the bus traffic current and for opening of Farmer Elementary School Aug. 07 and Middle School Aug. 08.
- #1 priority is Alt. 4 at B-6. #2 priority is Alt. 4 at B-9. Question would like to see a traffic computer simulation / model for Billtown Road in total.
- Something needs to be done soon! It is not getting any better.
- Safety is #1 concern, next flow of traffic for Billtown Road and roads that feed it.
- Would be satisfield with one lane in each direction with a center two way left lane. Some signalization at some intersections. No need to cut down all trees on both sides of roadway.
- Traffic entering and exiting Carithers Middle School use the back entrance off of Michele Drive rather than the front entrance off of Billtown Road. It would function better that way since the traffic signal at Michele and Billtown would be controlling traffic instead of a crossing guard at the main entrance.

7) General Comments Heard by KYTC / PB Staff Members at the Meeting:

- There was some concerns by homeowners about property impacts to their yards and questions about which side of the roadway would we widen to.
- There were several comments about crashes and the fact that our data might be lacking some crashes. The Jeffersontown Fire Department makes lots of runs to Billtown and Fairground Roads. This will be evaluated when the 2006 data is available. May also be many unreported "fender benders"
- There are a lot of concerns about development pressures in the area. People see land use changes and know roads are behind already and that makes them worried and angry.
- A few people said that Billtown Road is also a bike corridor and that we shouldn't forget those needs as well.
- Generally, people want to see improvements in the near-term as opposed to waiting 25 years for the road to be widened.
- Getting out onto Billtown Road from the neighborhood streets is the major problem.

B-1: Ruckriegel Parkway Intersection

1) Preferred Alternate:



Legend:

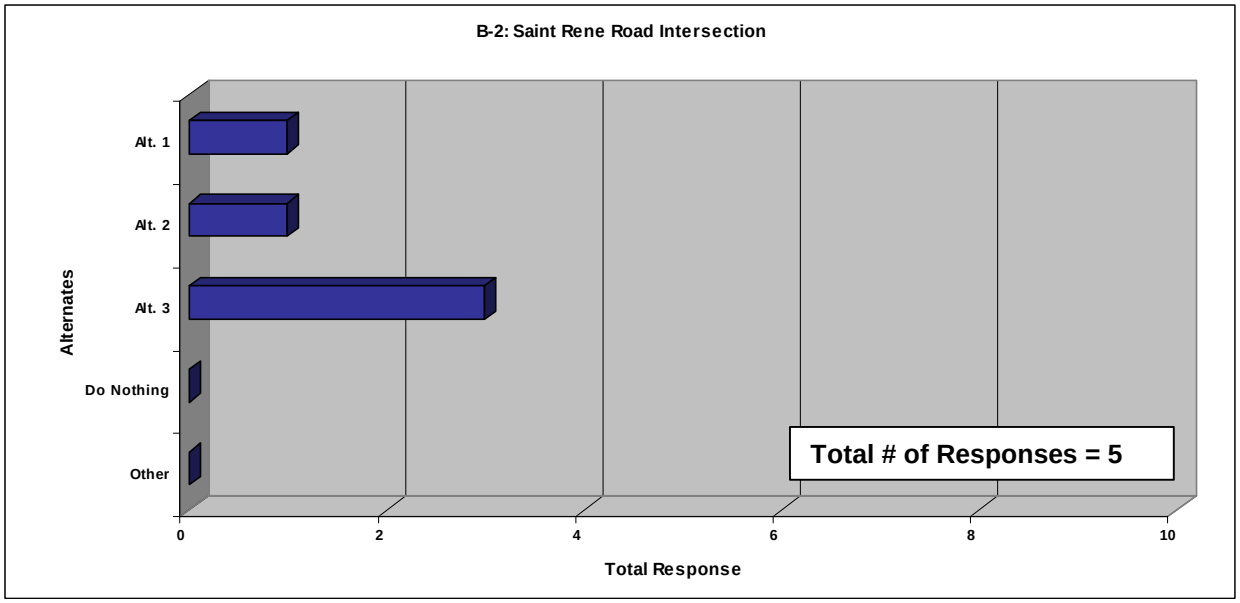
- Alt. 1 – Signal Optimization
- Alt. 2 – Add Exclusive Right Turn Bays
- Alt. 3 – Add Exclusive Turn Lanes and Through Lanes

2) Additional Comments about Ruckriegel Parkway Intersection:

- Figure out a better way to get to Billtown from the post office at 4:45 PM.

B-2: Saint Rene Road Intersection

1) Preferred Alternate:



Legend:

- Alt. 1 – Separate Turn Lanes on Billtown Road
- Alt. 2 – Signalization
- Alt. 3 – Signalization with Southbound Left Turn Lane from Billtown Road to Saint Rene Road

2) Additional Comments about Saint Rene Road Intersection:

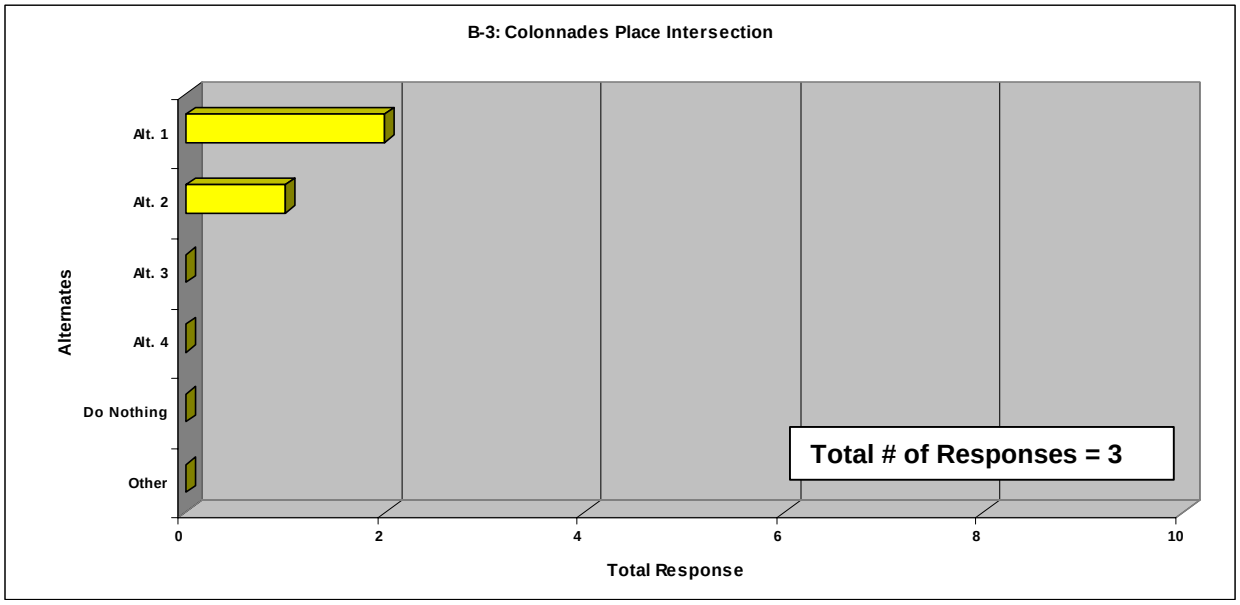
- In present form during morning rush hours especially when school is open it is next to impossible to exit from St. Rene Road in either direction. I use alternate way and come out at red light on Ruckriegel Parkway at Wal-Mart and back track on Billtown Road. Evening rush hour is the same situation. People driving in both directions on Billtown Road do not drive the speed limit.

3) Comments Heard by KYTC / PB Staff Members about Saint Rene Road Intersection:

- A Jeffersontown councilwoman, who was also in attendance at the Elected Officials Briefing in December 2006, reiterated her desire to have a traffic signal installed in this location since she said many of the people who live in the neighborhood have a hard time getting out on Billtown Road. Several other people mentioned they have the same problems and live in the neighborhood.

B-3: Colonnades Place Intersection

1) Preferred Alternate:

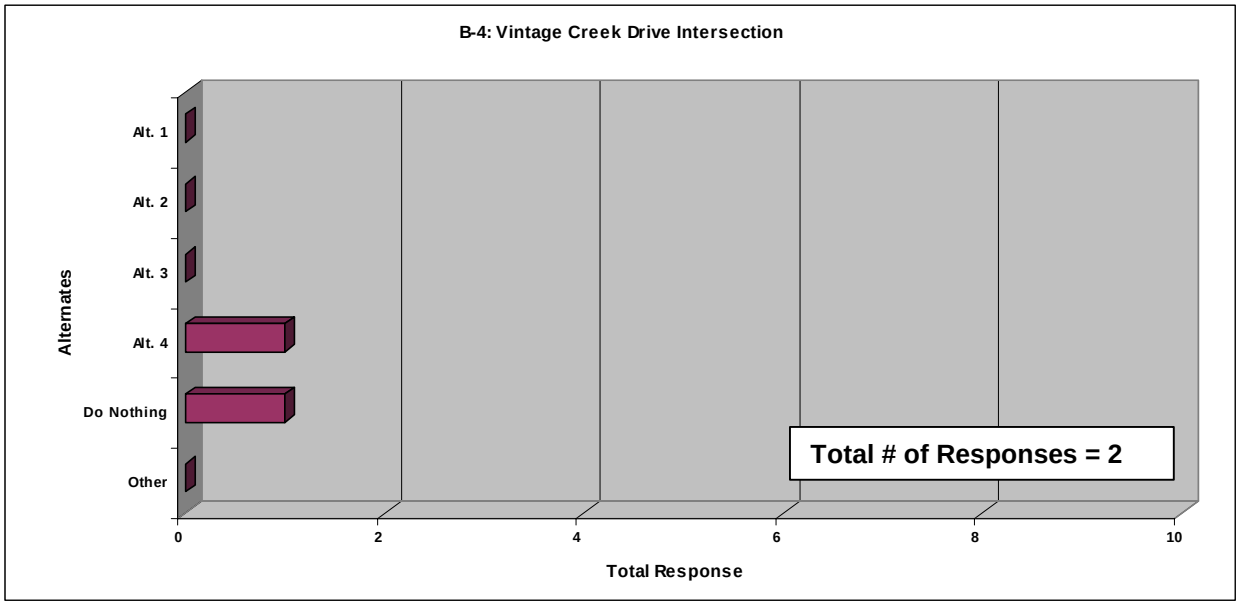


Legend:

- Alt. 1 – Separate Turn Lanes on Billtown Road
- Alt. 2 – Signalization
- Alt. 3 – Signalization with Southbound Right Turn Lane from Billtown Road to Colonnades Place
- Alt. 4 – Two-Way Left-Turn Lane Between Vintage Creek Drive and Colonnades Place

B-4: Vintage Creek Drive Intersection

1) Preferred Alternate:



Legend:

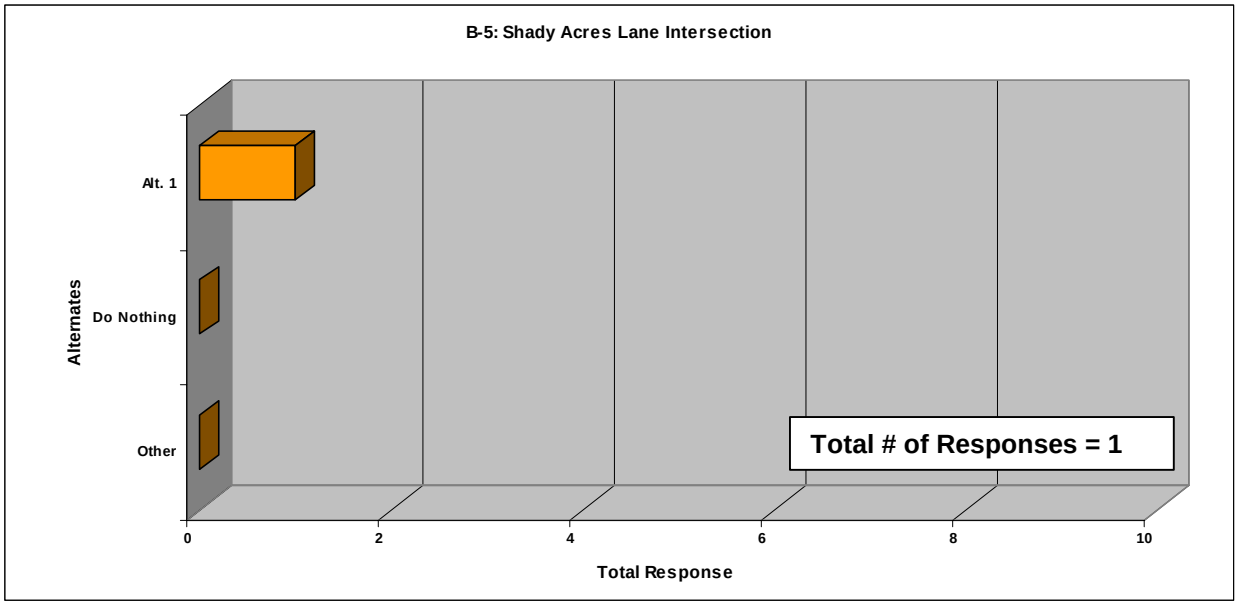
- Alt. 1 – Separate Turn Lanes for Westbound Approach (Vintage Creek Drive)
- Alt. 2 – Separate Turn Lanes on Billtown Road
- Alt. 3 – Signalization
- Alt. 4 – Signalization with Separate Turn Lanes

2) Additional Comments about Vintage Creek Drive Intersection:

- Any type of change here would cause problems for those of us that live across from Vintage Creek.

B-5: Shady Acres Lane Intersection

1) Preferred Alternate:

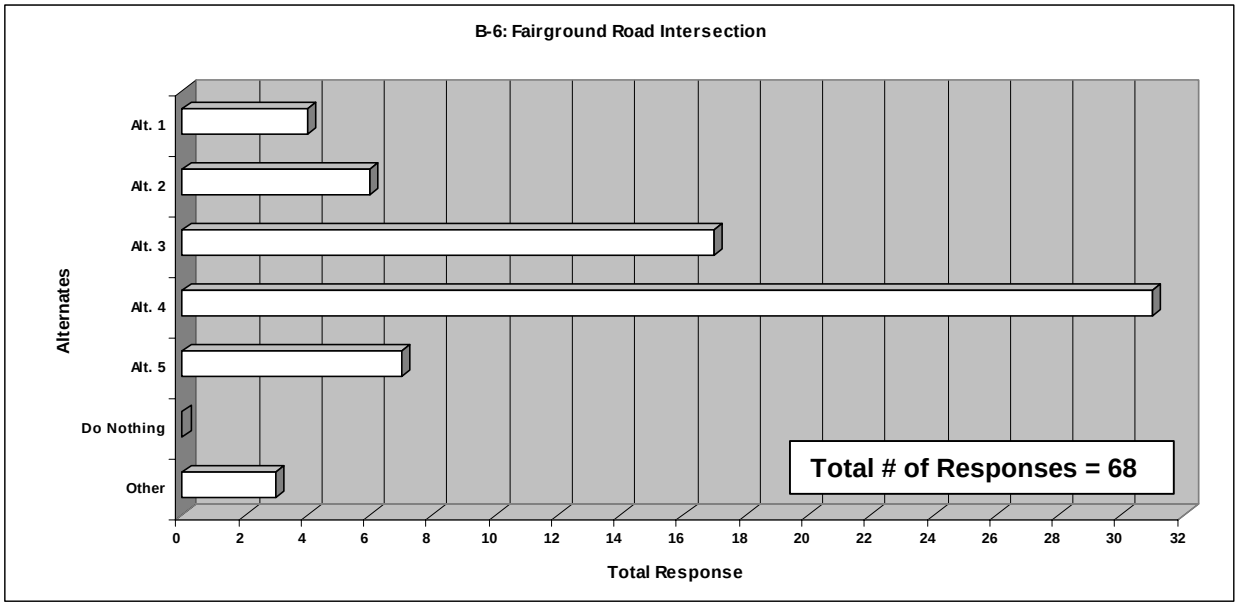


Legend:

- Alt. 1 – Separate Turn Lanes for Eastbound Approach (Shady Acres Lane)

B-6: Fairground Road Intersection

1) Preferred Alternate:



Note: One of the "other" responses mentioned signalization of Mary Dell Lane. Another one was to signalize the intersection, provide separate turn lanes, and right-in, right-out access at Fairground Road. The third one was to lower the speed limit to 35 mph.

Legend:

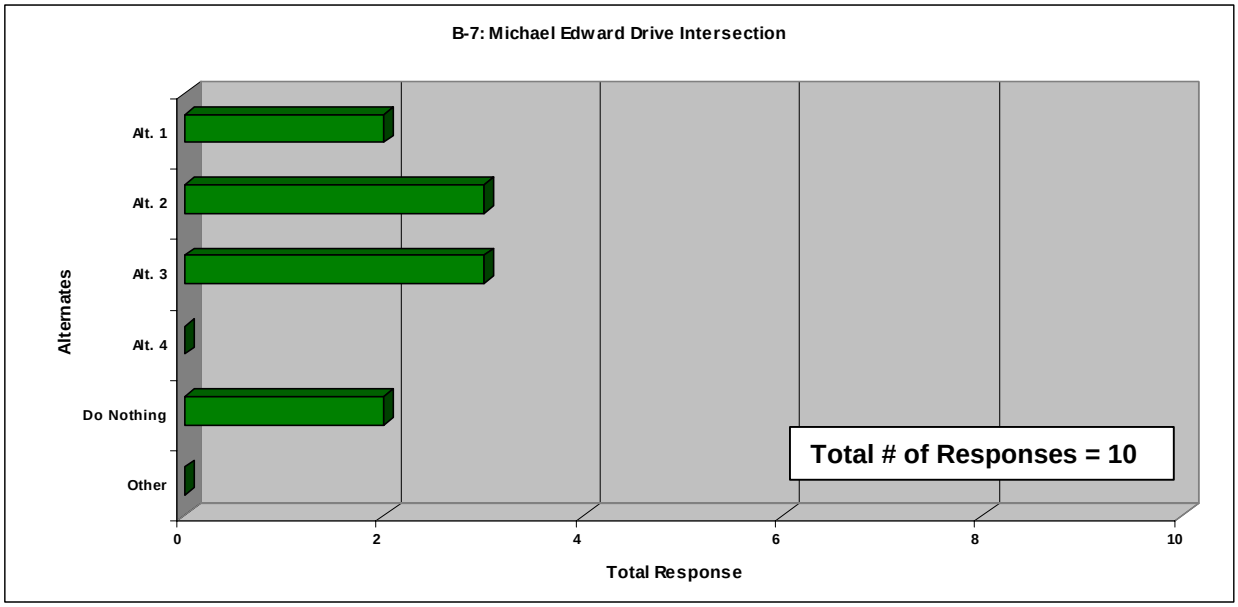
- Alt. 1 – Separate Turn Lanes for Eastbound Approach (Fairground Road)
- Alt. 2 – Separate Turn Lanes on Billtown Road
- Alt. 3 – Signalization
- Alt. 4 – Signalization with Separate Turn Lanes
- Alt. 5 – Signalization with Separate Turn Lanes and Right-in, Right-out Access at Michael Edward Drive

2) Additional Comments about Fairground Road Intersection:

- Need bicycle path on Billtown. Alt. 4 will also remove traffic off of Michael Edward. It is expensive but it will have a positive effect on all near roads.
- Base on B-6, B-8, B-7, B-10, and B-9: Alt 4 @ B-6 should be #1 priority.
- This location is my 1st choice for signalization w/ separate turn lane. I am 69 years old and have lived in this area for 36 years. So PLEASE do this before I kick the bucket!
- Alt. 4 will allow reduced time at intersection during rush hour, improve safety of drivers, but also of pedestrian traffic. There are many children in the area that walk or ride bikes.
- It is next to impossible to exit safely from Fairground Road during rush hours onto Billtown Road. If someone northbound on Billtown Road stops to allow a eastbound Fairground Road to turn north onto Billtown, the traffic will go around on shoulder of roadway the car that has stopped northbound Billtown Road. Also, if you are eastbound Fairground Road to turn northbound onto Billtown Road there is a pine tree (southwest corner of Fairground Road) in rear of apartment building - which partially block view of traffic coming northbound on Billtown Road. It is hard to judge speed of northbound Billtown Road traffic because of pine tree.
- Need to slow traffic speed limit 45. Most are going 50 mph or more.
- We need it at Mary Dell and Billtown Road!
- Mary Dell and Billtown Road – Signalization
- Signalization with separate turn lanes at Michael Edward and Fairground Road and signalization for Mary Dell.
- Nothing should be done at Fairground and Billtown, the traffic is not that bad that is requires fixing. There should be a stop light at Billtown and Mary Dell. There is a school at Cynthia and Mary Dell which creates significant traffic problems during morning and after school times when parents are dropping off or picking up kids. The traffic on Mary Dell and Billtown can backup 30-40 cars.
- Fairground Road gets more traffic than Michael Edward Drive. Mary Dell gets more traffic than Michael Edward.
- Why not Mary Dell and Billtown Road!
- Mary Dell / Billtown Road needs signal also!
- Signalization: Should be considered for Mary Dell and Billtown Road because of traffic coming through the park from Taylorsville Road, J-Town, and Blankenbaker areas.
- Widen Billtown Road to 4 lanes with lights at Michael Edward and Fairground Road.
- If a signal with turn light that then stays green for northbound traffic on Billtown turning left onto Fairground would make all the difference in the world to those of us that live in the area and it would slow traffic on Billtown.
- Desperately need signalization and turn lanes at Fairground Road, not Michael Edward Drive - would bring in too much more traffic to the neighborhood - too many children - dangerous.
- A traffic light at Fairground Road or Michael Edward will find traffic "accelerating" as they approach Mary Dell on Billtown. Dangerous with a nearby school and a park. Please study a light at Mary Dell. Even turning right is a challenge. School opening and dismissal a problem, as is the park on any nice day, especially golf course.

B-7: Michael Edward Drive Intersection

1) Preferred Alternate:



Legend:

- Alt. 1 – Separate Turn Lanes for Eastbound Approach (Michael Edward Drive)
- Alt. 2 – Separate Turn Lanes on Billtown Road
- Alt. 3 – Signalization
- Alt. 4 – Right-In, Right-Out Access for Michael Edward Drive

2) Additional Comments about Michael Edward Drive Intersection:

- By doing Alt. 4 at B-6 will curtail any requirement at B-7
- Alternate 1 will allow right hand turns from Michael Edward to Billtown Road to Gene Snyder.
- No left turn onto Billtown between 3 - 6 PM M-F with constant yellow flashing light or timed from 3 - 6.
- Trees obstruct the view to the right coming off of Michael Edward.
- We feel that for safety reasons the speed limit between Jeffersontown City Limits and 841 should be changed from 45 mph to 35 mph. (Most vehicles will travel above 45 mph now.) We feel a signal light should be installed at Michael Edward Lane and Billtown Road. This would give a break in traffic in both directions dealing with Fairground Road and Mary Dell Lane. This would help stop the high speed traffic at the curve in front of our home, that has resulted in the deaths of 2 young people in the last few years.

3) Comments Heard by KYTC/PB Staff Members about Michael Edward Drive Intersection:

- Several people were receptive to the right-in, right-out at Michael Edward Drive if it meant a signal at Fairground Road.
- Some people had trouble with the right-in, right-out concept at Michael Edward Drive. However, once it got explained and they say how it worked with a signal at Fairground Road, some liked it. Others were not as receptive and wanted all options open.

B-8: Mary Dell Lane Intersection

1) Preferred Alternate:

Legend:

- Alt. 1 – Separate Turn Lanes for Eastbound / Westbound Approaches (Mary Dell Lane)
- Alt. 2 – Separate Turn Lanes on Billtown Road
- Alt. 3 – Signalization

2) Additional Comments about Mary Dell Lane Intersection:

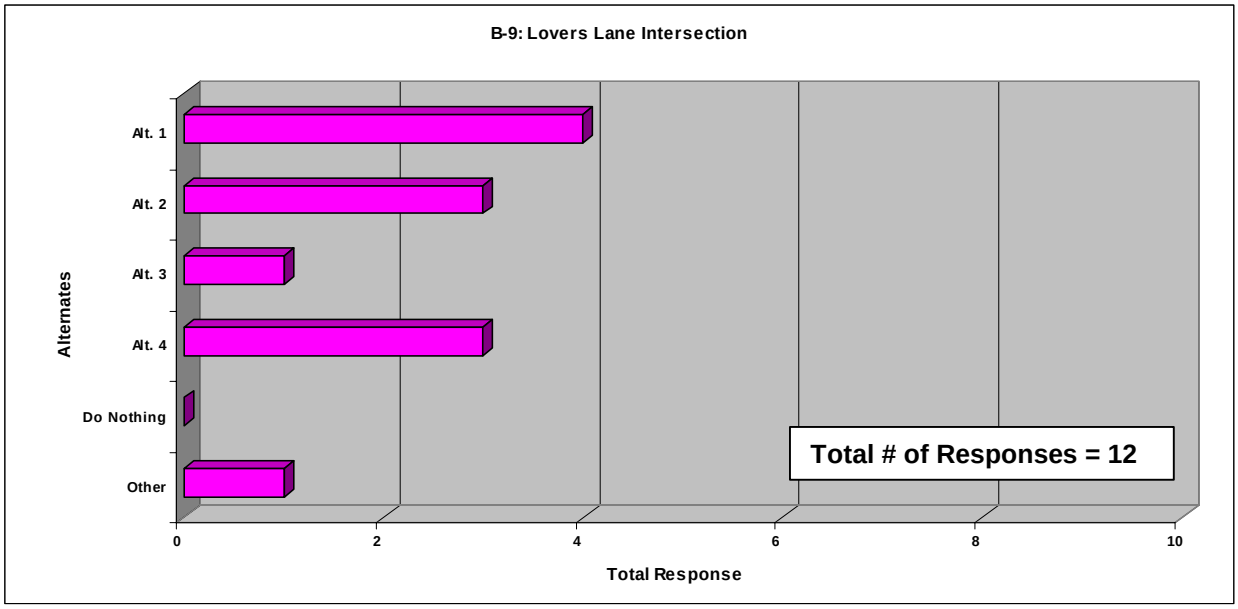
- Red, yellow, green signal not just the caution light
- A light is needed now. Someone is going to get killed.
- By doing Alt. 4 @ B-6 will curtail any requirement at B-8. [As president of Chenoweth Park Estates Neighborhood Association - This is my position.]
- Make buses go to Fairground Road to go to Wheeler Middle School. Detour people from using Billtown Road that work in Industrial Park.

3) Comments Heard by KYTC / PB Staff Members about Mary Dell Lane Intersection:

- Lots of activity at this intersection in the summer, many near miss crashes with pedestrians. Currently don't have vehicle counts in the summer or pedestrian counts. Need to work on solution to slow vehicles at this intersection and make it safer for pedestrians by creating some sort of gap.
- There were several comments from people living near Mary Dell Lane wondering why the little connector road was closed. They said it functioned pretty well before. One person did think that it was better with it closed off. (Is this more related to Lovers Lane?)

B-9: Lovers Lane Intersection

1) Preferred Alternate:



Note: The one "other" response was for street lights and sidewalks.

Legend:

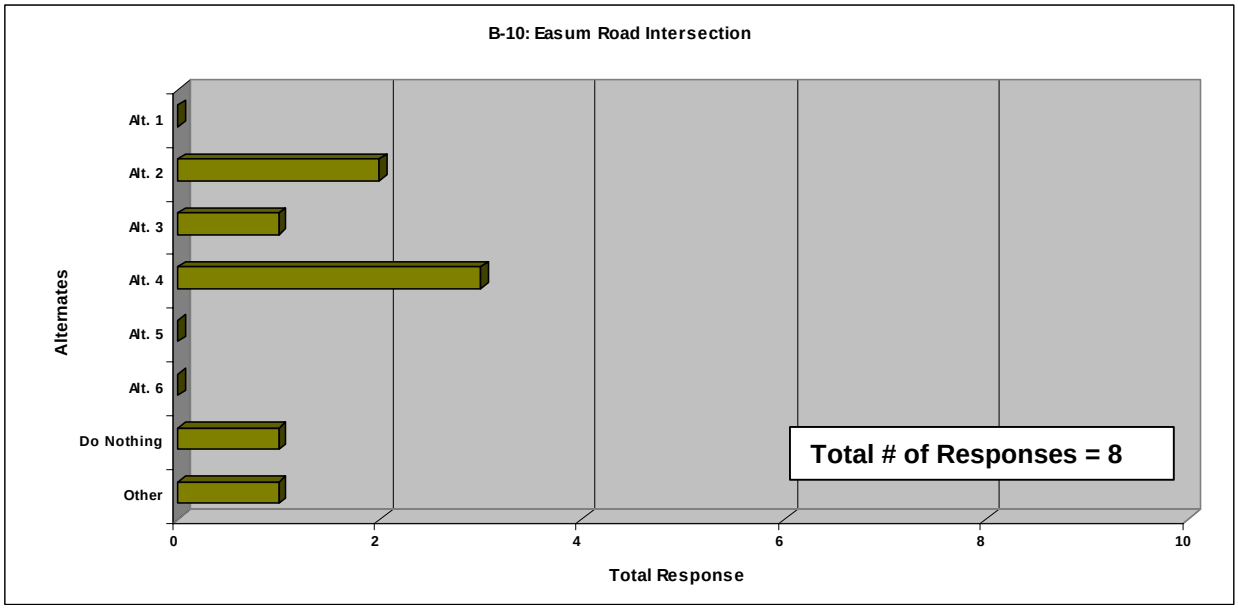
- Alt. 1 – Separate Turn Lanes for Eastbound Approach (Lovers Lane)
- Alt. 2 – Separate Turn Lanes on Billtown Road
- Alt. 3 – Signalization
- Alt. 4 – Signalization with Separate Southbound Right Turn Lane from Billtown Road to Lovers Lane

2) Additional Comments about Lovers Lane Intersection:

- Based on B-6, B-7, B-8, B-9 and B-10: B-9 Alt. 4 should be #2 priority.
- This is my 2nd choice for signalization with southbound right turn lane from Billtown Road to Lovers Lane.
- Why was Lovers Lane cut through closed? Reopening would allow for people needing to go south on Billtown to use this path.
- Why was the Lovers Lane cut through closed off? Having it open seemed to help!
- Old road now closed, could be reopened temporarily. Could no litter signs be posted on Lovers Lane? It is a dump.

B-10: Easum Road Intersection

1) Preferred Alternate:



Note: The one "other" response was to lower the speed limit.

Legend:

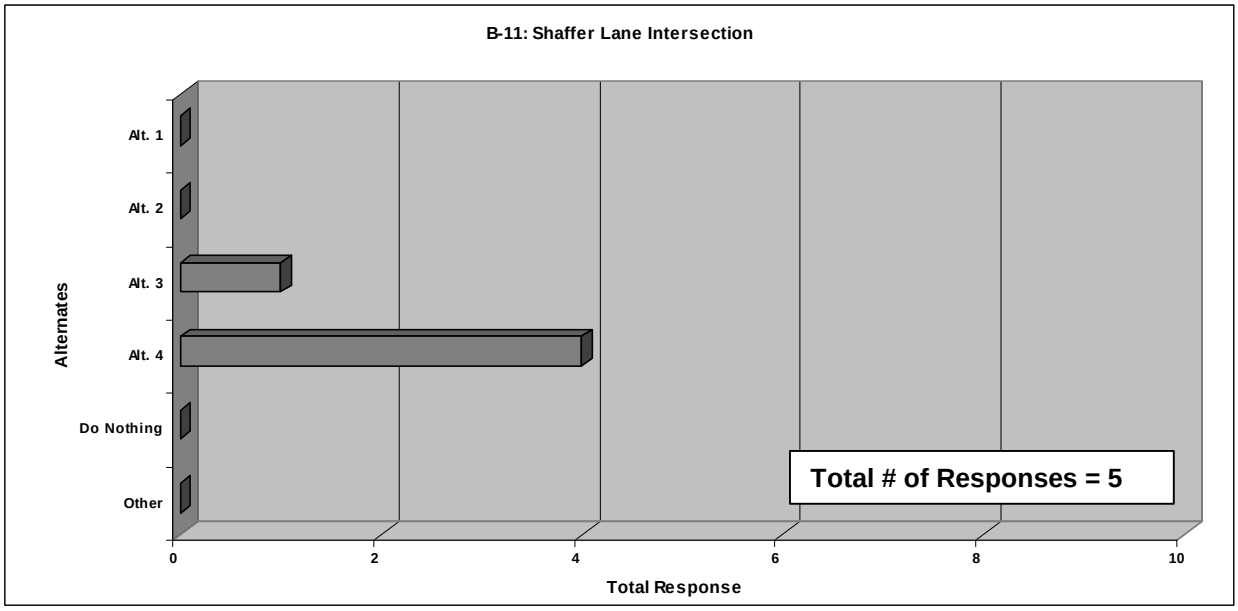
- Alt. 1 – Separate Turn Lanes for Westbound Approach (Easum Road)
- Alt. 2 – Separate Turn Lanes on Billtown Road
- Alt. 3 – Signalization
- Alt. 4 – Signalization with Separate Southbound Left Turn Lane from Billtown Road to Easum Road
- Alt. 5 – Straighten Curve
- Alt. 6 – Install Additional Warning Signs and Retro-reflective Markings

2) Additional Comments about Easum Road Intersection:

- Based on B-6, B-7, B-8, B-9, and B-10, B-9 Alt. 4 should be #2 priority.
- Control Speeding
- More police monitoring would help.

B-11: Shaffer Lane Intersection

1) Preferred Alternate:



Legend:

- Alt. 1 – Separate Turn Lanes for Eastbound Approach (Shaffer Lane)
- Alt. 2 – Separate Turn Lanes on Billtown Road
- Alt. 3 – Signalization
- Alt. 4 – Signalization with Separate Eastbound Left and Right Turn Lanes from Shaffer Lane to Billtown Road and Separate Northbound Left Turn Lane from Billtown Road to Shaffer Lane.

2) Additional Comments about Shaffer Lane Intersection:

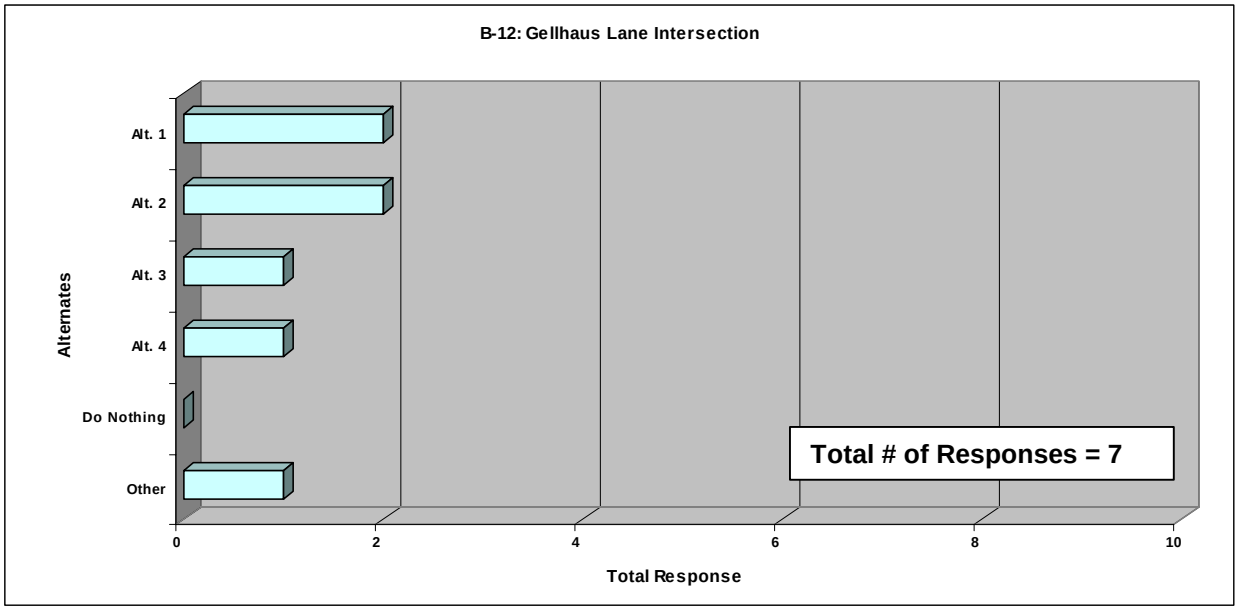
- Please check crash data between Easum Road and Tarrance Road as I believe there have been many wrecks in double blind curve (S curve) in that section - Please look at straightening S curve.
- Traffic leaving Gene Snyder are traveling at a great speed. A light at Shaffer Lane would help to slow this down. Another light at Fairground Road would help keep them from speeding up again. I feel the way it is now people exiting the freeway treat Billtown Road as one "long" exit ramp - no lights to make them stop. Please help - 2 schools and more cars - we need to "slow" things down.
- Would like to see signalization immediately, but Alt. 4 implemented shortly thereafter. Billtown Road is very hazardous - on any given day remains of wrecks are on corners. With a church and all the traffic from Gene Snyder traveling at a high rate of speed, a traffic light is need immediately and the road needs widening.
- May also help reduce speeds on Billtown between Shaffer and Easum.

3) Comments Heard by KYTC / PB Staff Members about Shaffer Lane Intersection:

- Just south of Shaffer Lane is a short 3-lane section of Billtown Road. Several people were interested in why the three-lane section drops before Shaffer and does so in a curve with poor sight distance. They would like to see the 3-lane section extend to at least the Shaffer Lane intersection (and possibly beyond) for safety.

B-12: Gellhaus Lane Intersection

1) Preferred Alternate:



Note: The one "other" response was for Gellhaus Road itself to be widened.

Legend:

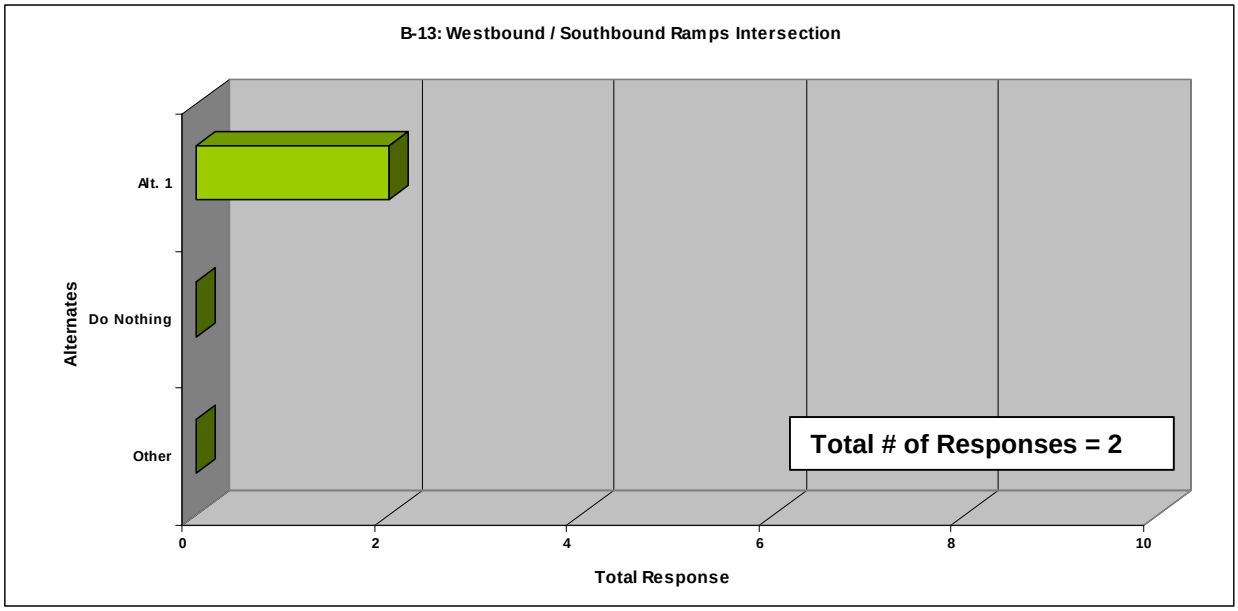
- Alt. 1 – Signal Optimization
- Alt. 2 – Add Northbound Right Turn Lane from Billtown Road to Gellhaus Lane
- Alt. 3 – Connect Sidewalks and Approaches
- Alt. 4 – Extend Westbound Left Turn Lane

2) Comments Heard by KYTC / PB Staff Members about Gellhaus Lane Intersection:

- Some of the developers that had worked on the Gellhaus Lane intersection were present at the meeting. The discussion focused on the lack of a northbound right turn lane onto Gellhaus Lane. They mentioned that it was not put in at the time since it was not necessary and the developer would not pay for it as a result. In retrospect, they agreed that it should have been put in, and to complicate things, the signal box was put in the area where the turn lane would go, causing additional expense to put in the lane now.
- With the new bus compound (70+ buses), 2 new schools, and the new residential development planned, Gellhaus Lane needs to be wider. It is also used as a short cut along with Chenoweth Run Road between the J-Town Industrial Park and Gene Snyder Freeway. There is more traffic than the roads were designed for.

B-13: I-265 Westbound / Southbound Ramps Intersection

1) Preferred Alternate:

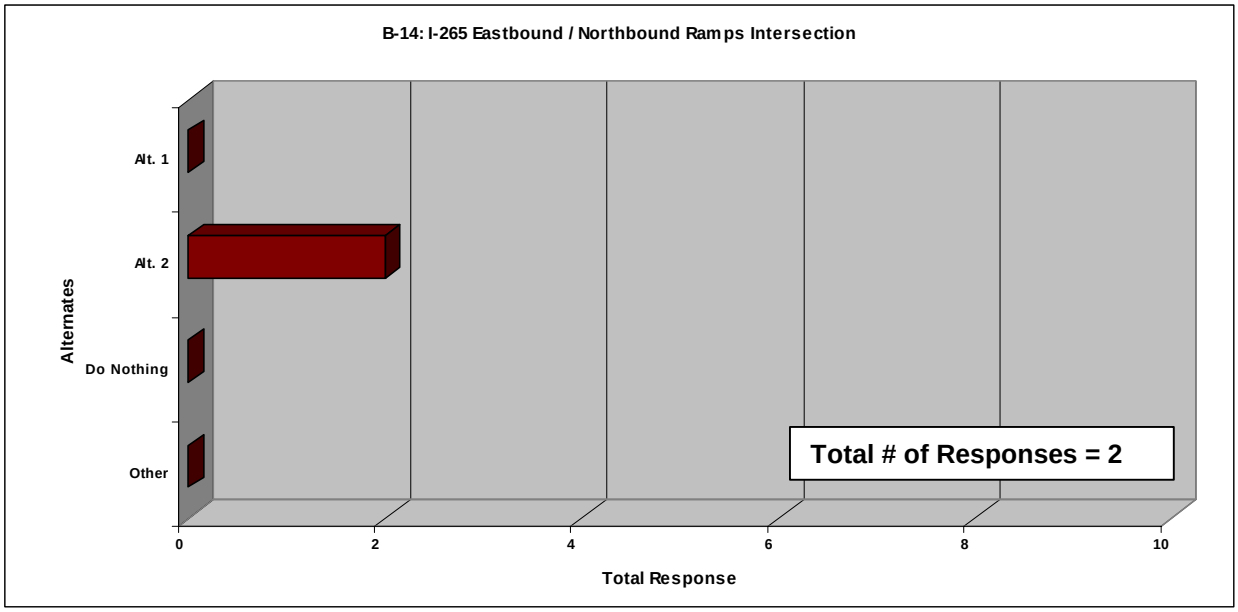


Legend:

- Alt. 1 – Signalization

B-14: I-265 Eastbound / Northbound Ramps Intersection

1) Preferred Alternate:

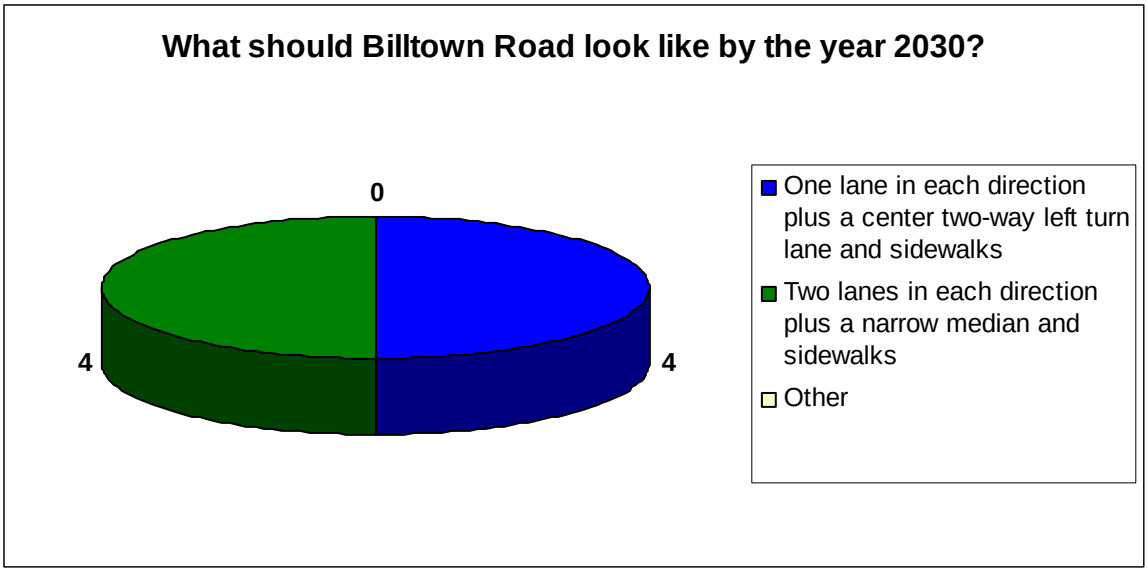


Legend:

- Alt. 1 – Signalization
- Alt. 2 – Signalization with 2nd Eastbound Left Turn Lane from the I-265 Eastbound Exit Ramp to Billtown Road

Billtown Road Corridor Improvements Comment Form

1) Preferred Alternate:



2) Should this look be applied to the entire corridor or should different ones be used for different locations (i.e. near I-265 or near Jeffersontown)?

- More signalization closer to Jtown. Additional lanes throughout corridor and straighten as much as possible.
- Entire Corridor
- Unsure
- One lane in each direction plus a center two way left turn lane entire corridor for all the future growth in area.
- Applied to entire corridor.

3) What other corridor improvements would you like to see?

- More signalization with turn only lights.
- Some signalization at some intersections.

4) Any additional comments?

- Billtown Road is about to become a major problem in Fall 07 and Fall 08 with school openings.
- We need bike paths along Billtown Road.
- People are driving above posted speed limits. People exiting from freeway drive like they are still on freeway when going north on Billtown Road usually until they get in the area of Mary Dell Lane or Michael Edward Drive.
- Not sure which would be best. Traffic is too heavy now for the current roadway.

PROJECT: Taylorsville Road & Billtown Road Scoping Studies

MEETING: Project Development Team Meeting

DATE & TIME: February 22, 2007 – 9:00 AM

LOCATION: Kentucky Transportation Cabinet District 5 –
Design Conference Room
Louisville, Kentucky

ATTENDEES:

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MEETING SUMMARY:

The purpose of this meeting was for the Project Development Team (PDT) to discuss the Taylorsville Road and Billtown Road Scoping Studies in preparation for the upcoming public meeting on February 27, 2007. This included a review of the project process to date, a discussion of the alternates development, the overall corridor profile, multimodal elements, and the public meeting format.

An overview of the two studies was provided for the benefit of those in attendance who were not familiar with the project, and introductions were performed. Following that, Shawn Dikes, the PB project manager began the meeting by leading the project update discussion. The following was noted:

- Environmental Overview – The Environmental Overview, being prepared by KYTC District 5 staff, needs to be completed for both studies.

- Environmental Justice Overview – The Environmental Justice (EJ) Overview, being prepared by the Kentuckiana Regional Planning and Development Agency (KIPDA), needs to be completed for both studies. There is some concern that an EJ community might exist near the Fairground Road / Billtown Road intersection.

- Geotechnical Overview – The Geotechnical Overview, being prepared by KYTC District 5 staff, needs to be completed for both studies.

- Agency Coordination – Letters soliciting impacts to the study areas are planned to be sent soon after this meeting for both studies.

- Traffic / Travel Forecasting Methodology – Prior to this meeting, a Traffic Forecasting Methodology was prepared and submitted to KYTC for review. Based on initial comments from the review, there was some difference / discrepancy between the growth rate proposed in the methodology report for Billtown Road as to what might be realistic in the future for 2010. It was determined at this meeting that further discussion would take place following this meeting with KYTC to determine what an appropriate growth rate would be.

Next, the Taylorsville Study was discussed in detail. A handout consisting of identified deficiencies, improvement alternates, and an initial assessment of traffic operations at each intersection was provided. In addition, estimated construction costs were provided for each improvement alternate. As these are preliminary alternates subject to further discussion, additional analysis work has not yet been completed including right-of-way impacts, environmental issues, environmental justice impacts, and aesthetics. The handout focused on both the intersection level as well as the entire corridor. The following discussion focused on the handout. Some formatting comments were provided by attendees and are not listed below. To summarize the discussion, the major points / comments are listed.

- For the Taylorsville Road / Watterson Trail intersection, it was noted that Jeffersontown (the city perspective) wants to preserve the nature and look of Jeffersontown. Essentially, they realize that the intersection operates poorly, but also would not like to add pavement where it is not essential. QK4 has been working on several studies related to the Jeffersontown area, and PB has already sent any pertinent project information to them so that through coordination, there will be compatible recommendations made. As of this meeting, PB is still waiting to receive any data from QK4.
- At the Taylorsville Road / Ruckriegel Parkway intersection, it was discussed that the pedestrian signal heads are too high on the poles and need to be lowered. This was considered by KYTC staff as a recommendation versus an improvement alternate and should be addressed as such.
- Extending the 35 mph speed limit further beyond the Jeffersontown area was discussed.
- Improvements have been discussed and are being looked into for the Tucker Station Road and Chenoweth Run Road, but they are not part of this study. If improvements are brought up by the public at the meeting, questions will be deferred to knowledgeable KYTC staff.
- At the South Pope Lick Road intersection, the discussion focused on the need for turn lanes. It is possible that the new developments along South Pope Lick Road could be required to build one or more turn lanes, particularly a westbound right turn lane onto

South Pope Lick Road. From a safety standpoint, a left turn lane in the eastbound direction is needed.

- The KY 148 intersection with Taylorsville Road had several different alternates proposed. One was a roundabout, which after further analysis was determined to not be feasible at this location. The point was made that if it will not be recommended, then it should not be shown to the public. Therefore, for the public meeting this alternate will be removed from the list. Other discussion focused on developing an alternate with some form of continuous flow for the primary movement. Based on sketches developed at the meeting an additional alternate will be developed for the public meeting.
- With regard to the entire corridor, it was mentioned that Louisville Metro has developed a cross section for Taylorsville Road as this has been identified as a major bicycle corridor for the city. It was determined that a realistic cross section in part based on right-of-way availability and cost should be shown to the public and not an unrealistic full-build out that may never be completed. Therefore, it was determined that the cross section should be two lanes in each direction plus either a median or a two-way left-turn lane. Bicycle lanes would be provided as wide curb lanes. Also, it was mentioned that the cross section selected needs to be compatible with the Jeffersontown area.

Following the discussion on Taylorsville Road, the PDT focused on the Billtown Road corridor. As there were more intersections in the Billtown Road Study, the discussion focused on major intersections and what should be shown to the public as alternates.

- The initial alternate development focused on traffic operations with the need for safety improvements limited to the high crash areas. Based on comments at the meeting, there is a perceived safety issue along the entire corridor, and it would be good to show an alternate option that considers this. Therefore, it was decided that the alternate that showed the addition of a through lane in each direction on Billtown Road would be removed since this may be unrealistic (and is captured by the corridor improvements) and an alternate depicting the addition of turn lanes on Billtown Road at each intersection (as appropriate) would be included.
- At the Billtown Road / Mary Dell Lane intersection, different improvement options were discussed since this intersection currently operates poorly and traffic operations are expected to decline even further in the future. A traffic signal is not warranted, but it was recognized that some improvements are needed given the poor traffic operations and the proximity of a school and park that lead to a higher pedestrian volume at this location. One suggestion was a roundabout. At the end of the meeting, preliminary calculations were performed and showed that with 2010 volumes a roundabout would not work at this location. It was agreed that other intersections would be checked along Billtown Road to see if there would be an appropriate location for a roundabout.

Another important component of this meeting was to determine the appropriate way to display project information (including alternates) to the public and solicit feedback from them. This discussion occurred throughout the meeting with the following points being decided:

- The boards / handouts used need to draw out what the public thinks. The public needs to be able to pick a preferred alternate.
- The alternate sheets shown at this meeting can be used as boards for the public meeting but should be shown at a 2 x 1 scale compared to the 11 x 17 handouts.
- Individual intersection sheets would be developed for soliciting feedback from the public along with a general form requesting project prioritization and thoughts regarding pedestrian and transit needs along the corridor. An additional form would also be

developed for determining the public's opinion of what the corridor should look like in a long-range time frame.

- A color-coding system could be used to reference forms to boards. This includes numbering the intersections and assigning a color that easily identifies the comment form that corresponds to the board.
- A formal presentation will not be given at the meeting. Once the open house has begun, a KYTC representative and the PB project manager will give a brief overview of the project and explain the purpose of the meeting. The remainder of the meeting is expected to focus on individual discussion at the intersection stations about public needs.

Given this feedback from the Project Team, the next step was for PB to adjust the public information boards and comment forms accordingly and prepare them for the public meeting on February 27, 2007.

The meeting was completed at approximately 11:30 AM.

PROJECT: Taylorsville Road & Billtown Road Scoping Studies

MEETING: Project Development Team Meeting

DATE & TIME: March 30, 2007 – 9:00 AM

LOCATION: Kentucky Transportation Cabinet District 5 –
Design Conference Room
Louisville, Kentucky

ATTENDEES:

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MEETING SUMMARY:

The purpose of this meeting was for the Project Development Team (PDT) to discuss the Taylorsville Road and Billtown Road Scoping Studies. This included a Project Status Report as well as a chance to review and summarize comments made by the public at the Public Meeting on February 27, 2007. The Public Meeting was held jointly for both studies due to their similarity and close proximity. An agenda handed out for this PDT meeting is attached to the meeting minutes.

The meeting began with Jason Richardson, the Kentucky Transportation Cabinet (KYTC) Project Manager, welcoming everyone to the meeting. Shawn Dikes, the Project Manager for PB (the consulting firm selected to perform the studies), then provided an update on project activities, which included:

- Environmental Overview – The Environmental Overview is being prepared by KYTC District 5 staff for both studies. As of this meeting, the document was very close to completion.

- Environmental Justice Overview – The Environmental Justice (EJ) Overview is being prepared by the Kentuckiana Regional Planning and Development Agency (KIPDA) for both studies. As of this meeting, the document was close to completion. (Note: The EJ Overview for Billtown Road was provided to PB later on the same day of the meeting).

- Geotechnical Overview – The Geotechnical Overview is being prepared by KYTC District 5 staff for both studies. As of this meeting, the document was not complete.

- Traffic / Travel Forecasting Methodology – As of the last Project Development Team meeting, KYTC Division of Planning and PB were analyzing and discussing growth rates used for the Billtown Road Scoping Study. It was decided that while the growth rates used by PB might be higher than the growth rates suggested by KYTC, the difference in the growth rates would result in only be a couple of years difference (i.e., 2010 versus 2012). Therefore, it was determined that the use of the growth rate as proposed by PB was acceptable.

- Agency Coordination – Jason Richardson indicated that he is still receiving agency coordination letters. From the responses received to-date, there has been no significant issue which may affect project recommendations.

- Crash Data – To date, 2006 crash data has not been released by the KYTC. Bruce Siria indicated that the data may be released sometime in April once the 2006 data has been finalized. At that point, the new data will be included in the crash analysis for both studies to determine if there are any significant changes in patterns.

The next phase of the meeting involved a summary of the public meetings. Each attendee was provided a copy of the following handouts:

- Survey results for both studies in graphical and text report, including:
    - Charts / graphs of number of responses
    - Additional comments provided by attendees on survey forms
    - Comments discussed with attendees at meeting by KYTC and PB staff
- Intersection project sheets as shown at the public meeting.

Lindsay Walker and Scott Walker of PB led the discussion of the survey results. The following are key points from the public open house applicable to both studies:

- 112 citizens signed in at the meeting for both studies.
- The majority of respondents was not interested in transit along the corridor and cited reasons such as hours and inconvenient destinations as the reasons they prefer to use their cars.
- The majority of respondents were in favor of pedestrian improvements, primarily sidewalks.
- For both studies, safety was identified as the most important evaluation criterion, followed closely by traffic operations. Socioeconomic impact was identified as the least important criterion.
- The general opinion at the meeting was that something should be done as soon as possible for both roadways.

The PDT then discussed the survey results for the Taylorsville Road Scoping Study, which included:

- General Comments
    - 98 individual comment forms were returned for this study. The majority (35) were for the Old Heady Road intersection.
    - The highest priority project location is Old Heady Road, but this is based on four respondents as there were few people who answered this question.

- The second highest priority project location is the Ruckriegel Parkway intersection, but again, this is based on a low number of respondents (five).
- In general, spot improvements are wanted by the public. Those in attendance at the meeting were also very interested in other area projects, and wanted to see more recent crash data.

- Intersection Comments
  - The highest rated alternates for the Watterson Trail and Ruckriegel Parkway intersections were the ones that included additional through lanes and additional exclusive turn lanes. While the most popular alternates appear to be ones with major construction, there seemed to be an understanding that these intersections are located in the Jeffersontown area and there is limited right-of-way.
  - The most popular alternate for the Old Heady Road intersection was Alternate 4 – Signalization and Exclusive Turn Lanes for All Movements. Many people identified this intersection as very dangerous, that there is too much traffic as a result of substantial new development, and that it takes too long to turn onto Taylorsville Road.
  - At the KY 148 intersection, most people agreed that changes are necessary; however, they disagreed on what should be done. Out of 19 responses, 7 respondents chose Alternate 3 – Reconfigure Intersection to Make Taylorsville Road / Taylorsville Lake Road the Major Movement and 6 respondents chose Alternate 2 – Add 2nd Northbound Left Turn Lane and Exclusive Eastbound Right Turn Lane.

- Corridor Comments
  - In the long term, respondents were split on whether Taylorsville Road should have two lanes in each direction and a center two-way left-turn lane or two lanes in each direction and a median. Regardless, most respondents indicated that they would like to see the same look throughout the corridor.

While discussing the results and the individual intersections, it was noted that several consultants are doing studies in the area. The PDT agreed that the coordination of these studies is critical to ensure consistency among recommendations. It was recommended that Louisville Metro be contacted since they are the common entity in each of the projects and it was suggested that they be the coordinating agency.

The Taylorsville Road / KY 148 intersection was also discussed. As a result of the multiple on-going studies, the traffic demand at this intersection may change in the future. Because of this, it was suggested that the recommendations include a couple of options (e.g., Option A and Option B) to allow for this.

The PDT then discussed the survey results for the Billtown Road Scoping Study.

- General Comments
  - 128 individual comment forms were returned for this study. The majority (42) were for the Fairground Road intersection.
  - The highest priority project location is Ruckriegel Parkway, but this is only based on five out of eighteen respondents.
  - The second highest priority project location is the Fairground Road intersection, but again, this is based on only seven out of eighteen respondents.
  - In general, safety is a big concern with the public, and they would like to see updated crash information that takes into account 2006 data. Many people

indicated their displeasure with the amount of time it takes to turn onto Billtown Road.

- Intersection Comments
  - The preferred alternate for the Ruckriegel Parkway intersection was Alternate 3 – Add Exclusive Turn Lanes and Through Lanes (7 out of 8 respondents).
  - The preferred alternate for the Fairground Road intersection was Alternate 4 – Signalization with Separate Turn Lanes (30 out of 65 respondents) with many other respondents in favor of Alternate 2 – Signalization only (17 out of 65 respondents).
  - There was no clear favorite alternate for the Michael Edward Drive intersection. Some people may not have clearly understood Alternate 4 – Right-In, Right-Out Access for Michael Edward Drive.
  - At the Mary Dell Lane intersection, the majority of respondents were in favor of Alternate 3 – Signalization (4 out of 8 respondents). In addition, signalization at this intersection was mentioned on multiple comment forms, including those for Fairground Road.
  - At the Lovers Lane intersection, the preferred alternate was Alternate 1 – Separate Turn Lanes for Eastbound Approach (Lovers Lane). Many people also questioned the removal of the cut through.

- Corridor Comments
  - In the long term, respondents were split on whether Billtown Road should have one lane in each direction and a center two-way left-turn lane or two lanes in each direction and a narrow median. Regardless, most respondents indicated that they would like to see the same look throughout the corridor.

As part of an effort to look at systemwide improvements to Billtown Road, PB conducted a Synchro / SimTraffic simulation analysis. Initially, PB created a base scenario network with no improvement (Year 2010) and analyzed traffic operating conditions and queue lengths. Through an iterative process, recommendations from the public surveys and capacity analysis were added to the network. The result was a combination of alternates which improved operation conditions along the corridor. Results of this analysis as well as the list of alternates that comprise the best overall network improvement are attached to these minutes on the sheet title “Corridor Analysis.”

Also, PB has contacted a vendor who supplies modern pedestrian warning signs with a flashing strobe to alert motorists. This concept works at unsignalized mid block crossings and has been used very successfully in Florida and may have relevant application as a mid-block fix at the Billtown Road / Mary Dell Lane intersection. As of this meeting, Shawn Dikes with PB is currently working on scheduling a session with the vendor to display these crossing guard systems.

The meeting was completed approximately 10:30 AM.

PROJECT: Taylorsville Road & Billtown Road Scoping Studies

MEETING: Project Development Team Meeting

DATE & TIME: July 6, 2007 – 9:00 AM

LOCATION: Kentucky Transportation Cabinet District 5 – Conference Room
Louisville, Kentucky

ATTENDEES:

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MEETING SUMMARY:

The purpose of this meeting was for the Project Development Team (PDT) to discuss the Taylorsville Road and Billtown Road Scoping Studies. This included a Project Status Report, an overview of the proposed alternates, and a discussion of and decisions regarding the recommended alternates. An agenda handed out for this PDT meeting is attached to the meeting minutes.

The meeting began with Jason Richardson, the Kentucky Transportation Cabinet (KYTC) Project Manager, welcoming everyone to the meeting. Shawn Dikes, the Project Manager for PB, then provided an update on project activities, which included:

- Environmental Overview – The Environmental Overview has been prepared by KYTC District 5 staff for the Billtown Road Study, and one will be prepared for the Taylorsville Road Study during the next stage(s) of project development.

- Environmental Justice (EJ) Overview – The EJ Overviews were prepared by the Kentuckiana Regional Planning and Development Agency (KIPDA) and are completed for both studies.

- Geotechnical Overview – No formal Geotechnical Overview was prepared for either study. However, input on geotechnical issues was solicited through the resource agency coordination process. These responses indicated that there will be no geotechnical issues within either study area that would preclude further development of recommendations. Follow up regarding this will be needed in future project development stages.

- Traffic / Travel Forecasting – The Traffic Forecasting tasks have been completed for both studies.

- Agency Coordination – Review of the agency coordination letters received to-date, indicate that there are no significant issues which may negatively affect project recommendations.

- Crash Analysis – The crash analysis has been updated to include the 2006 data and the removal of the 2003 data.

The next phase of the meeting involved a discussion of the Billtown Road alternates. Each attendee was provided a copy of the following handouts:

- Billtown Road Individual Intersection Information:
    - Figures of each intersection containing an aerial image of existing conditions, description of key issues and alternates, and existing conditions and level of service information for each alternate
    - Evaluation Matrix of each alternate with Syncho / SimTraffic Model Results

- Billtown Road Corridor Evaluation Summary
    - 2030 Build Corridor Levels of Service
    - Estimated Property Impacts
    - Public Input
    - Median vs. Two-Way Left-Turn Lane Comparison

PB then led the discussion of alternates for Billtown Road, first by intersection, then for the corridor as a whole. An overview of the possible alternates for each intersection was discussed and everyone was reminded that recommendations should be made with the entire corridor in mind. This included the following key points:

- A member of the Project Team shared that there were plans to optimize the signal at the B-1 (Billtown Road / Ruckriegel Parkway) intersection which included looking at removal of the split phasing.
- The B-6 and B-7 intersections (Billtown Road / Fairground Road and Billtown Road / Michael Edward Drive) and B-13 and B-14 intersections (Billtown Road / I-265 WB / SB Ramps and Billtown Road / I-265 EB / NB Ramps) should be treated as systems when recommendations are made.

Once the overview of the alternates for each intersection was complete, members of KYTC and PB then discussed the various alternates and agreed upon recommendations for each intersection or system of intersections. The following recommendations were agreed upon:

- B-1 (Ruckriegel Parkway) – Do nothing more than the current signal optimization that is already planned. This is to be consistent with the wishes / vision of the City of Jeffersontown who is fearful that possible impacts would significantly affect nearby buildings adjacent to this location.
- B-2 (Saint Rene Road) – Improvements should be made in two phases. The first phase is to add a left turn lane to the southbound approach of Billtown Road to Saint Rene Road. Depending on the effectiveness of adding the left turn lane, the second phase would add a traffic signal to the intersection.
- B-3 (Colonnades Place) – At first, the do nothing alternate was chosen; however this intersection was revisited and it was brought up that an HES application has already been submitted by District 5 to add a two-way left turn lane (TWLTL) between Colonnades Place and Vintage Creek Drive due to a high number of crashes. Therefore, the TWLTL became the recommended alternate.
- B-4 (Vintage Creek Drive) – The TWLTL between Colonnades Place and Vintage Creek Drive discussed above is also the recommended alternate for this intersection.
- B-5 (Shady Acres Lane) – Do nothing.
- B-6 and B-7 (Fairground Road and Michael Edward Drive) – Add a signal at Fairground Road as well as add a northbound left turn lane on Billtown Road to Fairground Road. Depending on the effects of adding the signal, a northbound left turn lane at Michael Edward Drive may also be considered at a later date.
- B-8 (Mary Dell Lane) – Add an upgraded and more visible crosswalk and signage along with other visual pedestrian enhancements.
- B-9 (Lovers Lane) – There is a possibility that the Urton Lane Connector may intersect between Lovers Lane and Shaffer Lane. Such an intersection likely would be signalized. If the new intersection is signalized, then a signal will not be added to Lovers Lane; however, a traffic signal will be added to Lovers Lane if the new connector intersection is either at this intersection or sufficiently removed from this intersection to warrant traffic signals at both locations.
- B-10 (Easum Road) – Add a southbound left turn lane.
- B-11 (Shaffer Lane) – Add a northbound left turn lane.
- B-12 (Gellhaus Lane) – Add a northbound right run lane
- B-13 and B-14 (I-265 WB/SB Ramps and I-265 EB/NB Ramps) – Re-evaluate when the new schools open, and if signals are needed, coordinate them with Gellhaus Lane.

Once these recommendations were made, options for the entire corridor were discussed. The Billtown Road Corridor Evaluation Summary handout was used to guide the discussion. A few notes were made regarding the handout. The first is that HCS cannot adequately analyze a 45 mph operating speed. Also, the software cannot differentiate between a median and two-way left turn lane (TWLTL). Therefore, the levels of service in the handout are not true levels of service, but more of a basis for comparison, and that should be considered when making a recommendation.

For the ultimate build, three, four, five and six-lane alternates were evaluated for Billtown Road. However, PB noted that the level of service does not improve with the addition of lanes until a six-lane alternate, because the relative demand for the roadway increases with the addition of new lanes. For this reason, as well as feasibility and right-of-way impacts, it was decided to only consider the 3 and 4-lane alternates, which would include a TWLTL or a median, respectively. It was also mentioned that the public showed no interest in transit, park and ride facilities or bicycle facilities. As a result, these considerations would not be critical factors in the decision.

After the handout was reviewed and discussed, it was decided that a three-lane cross section consisting of a two-way left turn lane, one travel lane in each direction, and curb and gutter the entire corridor was the preferred alternate for the entire corridor.

The final task for the Billtown Road discussion was to prioritize the intersection improvements. The list of improvements in order of priority as decided upon by the Project Team is shown below:

1. Signal Optimization at Ruckriegel Parkway

2. Addition of traffic signal and left turn lane at Fairground Road and consideration of a left turn lane at Michael Edward Drive.

3. Addition of right turn lane at Gellhaus Lane.

4. Pedestrian Enhancements at Mary Dell Lane.

5. Addition of left turn lane at Saint Rene Road followed by consideration of adding a traffic signal.

6. Addition of two-way left turn lane between Colonnades Place and Vintage Creek Drive.

7. Addition of a traffic signal at Lovers Lane pending the location of Urton Lane.

8. Evaluation of need for traffic signals at the Billtown Road / I-265 interchange.

9. Addition of southbound left turn lane at Easum Road.

10. Addition of northbound left turn lane at Shaffer Road.

Following the discussion of the Billtown Road Corridor Scoping Study, the Project Team then began a discussion of the Taylorsville Road Corridor Scoping Study. As with the Billtown Road discussion, the Project Team was provided handouts with information critical to the study. An overview of the alternates was provided and was followed by a discussion of recommendations. It was noted that the PB team examined a roundabout at each intersection, however it was determined that this type of treatment would not work due to the high through volumes. The recommendations decided upon are listed below.

- T-5 (KY 148) – The members of KYTC mentioned that there is a possibility of an I-64 interchange (Gilliland Road) that may have an impact on this intersection. However, as there is not a firm commitment on a construction schedule, the recommendation was to reconfigure the intersection to make Taylorsville Road / Taylorsville Lake Road the major movement and KY 148 the minor movement. This is Alternate 3 of the list of alternates. There will be two through lanes from Taylorsville Road to Taylorsville Lake Road and a left turn lane onto KY 148, two through lanes from Taylorsville Lake Road to Taylorsville Road and a right turn lane onto KY 148, and separate right and left turn lanes from KY 148. It was noted that $800,000 had already been requested for improvements at this intersection and the ultimate re-configuration would be evaluated during the design phase.
- T-4 (South Pope Lick Road) – The two receiving lanes from Taylorsville Lake Road will carry through to this intersection. A westbound right turn lane and east bound left turn lane from Taylorsville Road onto South Pope Lick Road will be added. After these turn

lanes are added, the intersection will be re-evaluated for the need for a traffic signal. During the re-evaluation, a greenway crossover point should be considered.

- T-3 (Old Heady Road) – An extension of the two-way left turn lane at Taylorsville Road and Tucker Station Road to Old Heady Road has recently been approved. With that in mind, Alternate 4 was recommended, which is the addition of an eastbound right turn lane and westbound left turn lane onto Old Heady Road, right and left turn lanes from Old Heady Road would be constructed, and a traffic signal would be installed at this intersection.
- T-2 (Ruckriegel Parkway) – Add eastbound and westbound right turn lanes on Taylorsville Road to Ruckriegel Parkway as well as add sidewalk in the southwest quadrant of the intersection.
- T-1 (Watterson Trail) – Alternates 4, 5 and 6 will be done which would include adding a pedestrian countdown signal, adding advanced warning signs for pedestrian crossings and replacing retro-reflectivity.

Next, the improvements to the various intersections were ranked. The improvements at the Taylorsville Road / Watterson Trail intersection were not ranked as they are inexpensive and should be completed immediately. Therefore, the other four intersection improvements were ranked in the following order.

1. Reconfiguration of Taylorsville Road / Taylorsville Lake Road and KY 148 intersection.

2. Addition of turn lanes at Old Heady Road.

3. Addition of turn lanes at South Pope Lick Road.

4. Addition of right turn lanes at Ruckriegel Parkway and sidewalk.

Once the intersection priorities were identified, the Taylorsville Road Corridor Evaluation Summary handout was distributed and discussed. It was decided that a four-lane cross-section with a median would be the best alternate for the ultimate build of Taylorsville Road. Access management was also discussed which led to a median being chosen to limit access along Taylorsville Road.

It was noted that Taylorsville Road has been identified as a high-priority bicycle route. As a result, bicycle facilities will need to be included in the cross-section for Taylorsville Road. The cost estimates and property impact assessments include an 8-foot bicycle trail with a 6-foot buffer from the road. However, after discussion, a 10-foot multiuse path with a 4-foot buffer was suggested along one side of the road, with a 5-foot sidewalk along the other side. Finally, related to transit, it was noted that there was little interest based on information obtained at the public meeting.

PB agreed to have a final report including all recommendations completed within approximately one month from this meeting.

The meeting was completed at approximately 11:30 AM.