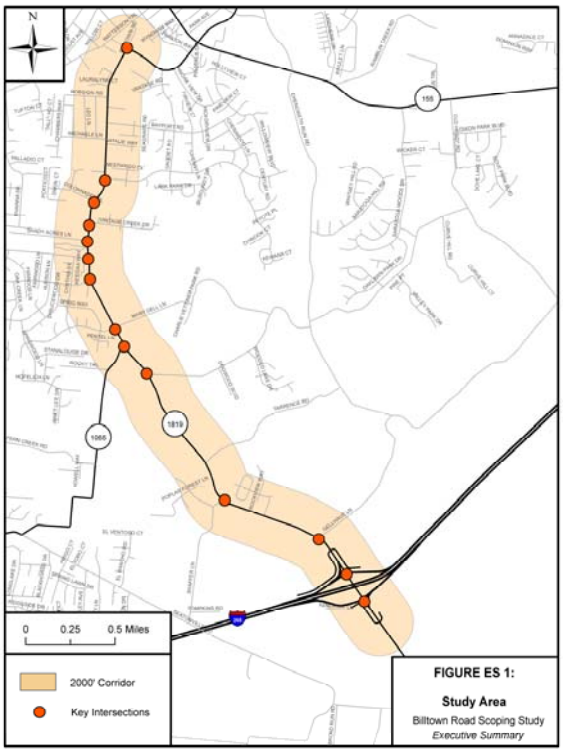
Executive Summary – Billtown Road Scoping Study

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

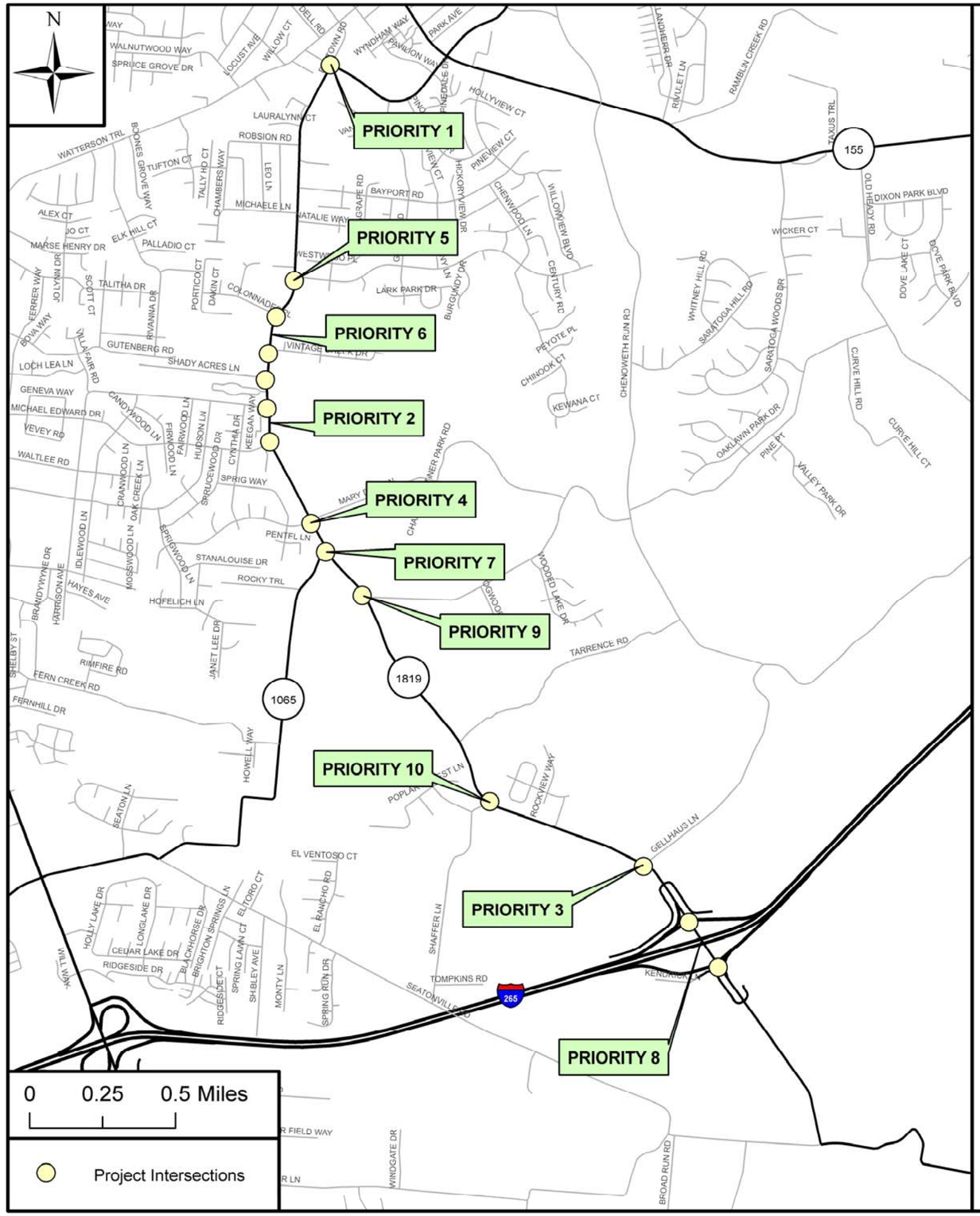
For the Long-Term time frame, a corridor approach was taken as opposed to evaluating specific intersections. The range of alternates considered included three, four, five, and six lane ultimate sections. Based on the traffic forecasts, level of service results, and property impacts, it was determined 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.

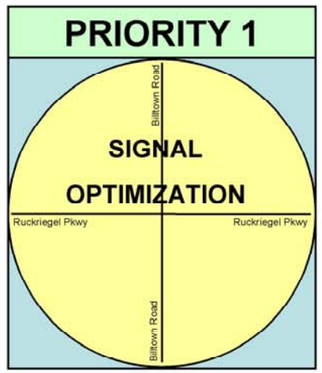
Multimodal Considerations

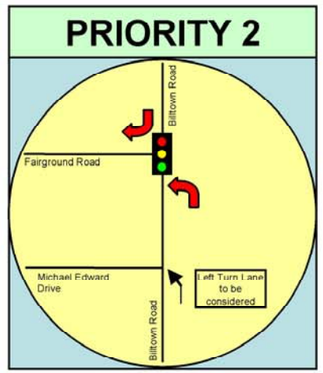
Consideration was also given to incorporating multimodal (transit, bicycle / pedestrian and Intelligent Transportation Solutions (ITS)) elements into the alternate development and evaluation process. Billtown Road currently does not have any bus service or designated bicycle lanes. Sidewalks are present,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

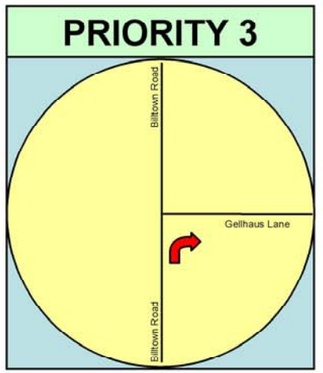
Recommendations

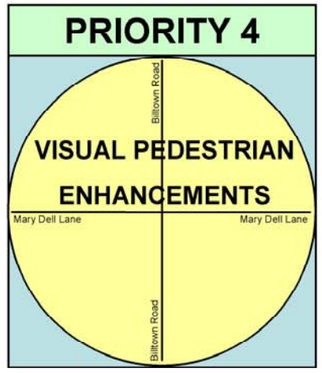
Recommendations are provided for both the short (2010) and long (2030) term time frames. Recommendations are based on the evaluation criteria discussed previously, the Synchro / SimTraffic analysis, and a project team meeting held on July 6, 2007. The following figure (**Figure ES 2**) illustrates the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

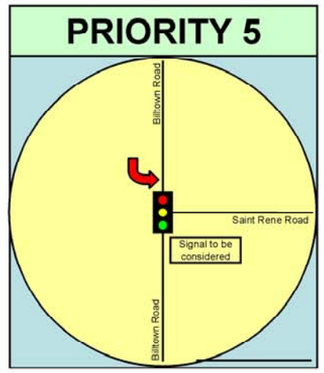


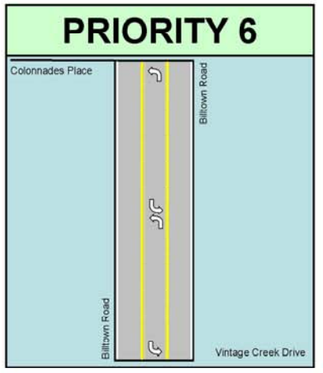


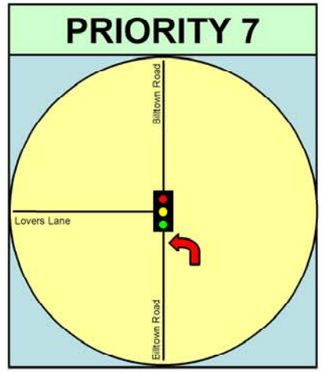


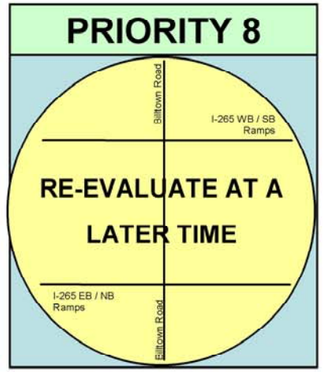


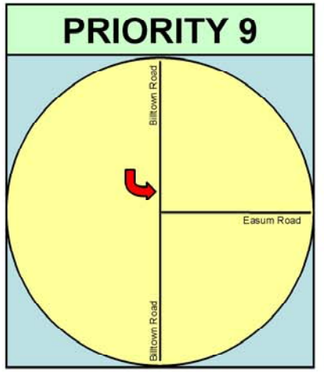












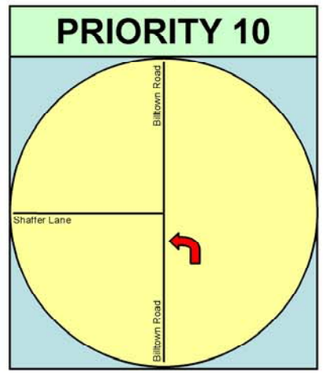


FIGURE ES 2:

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.