

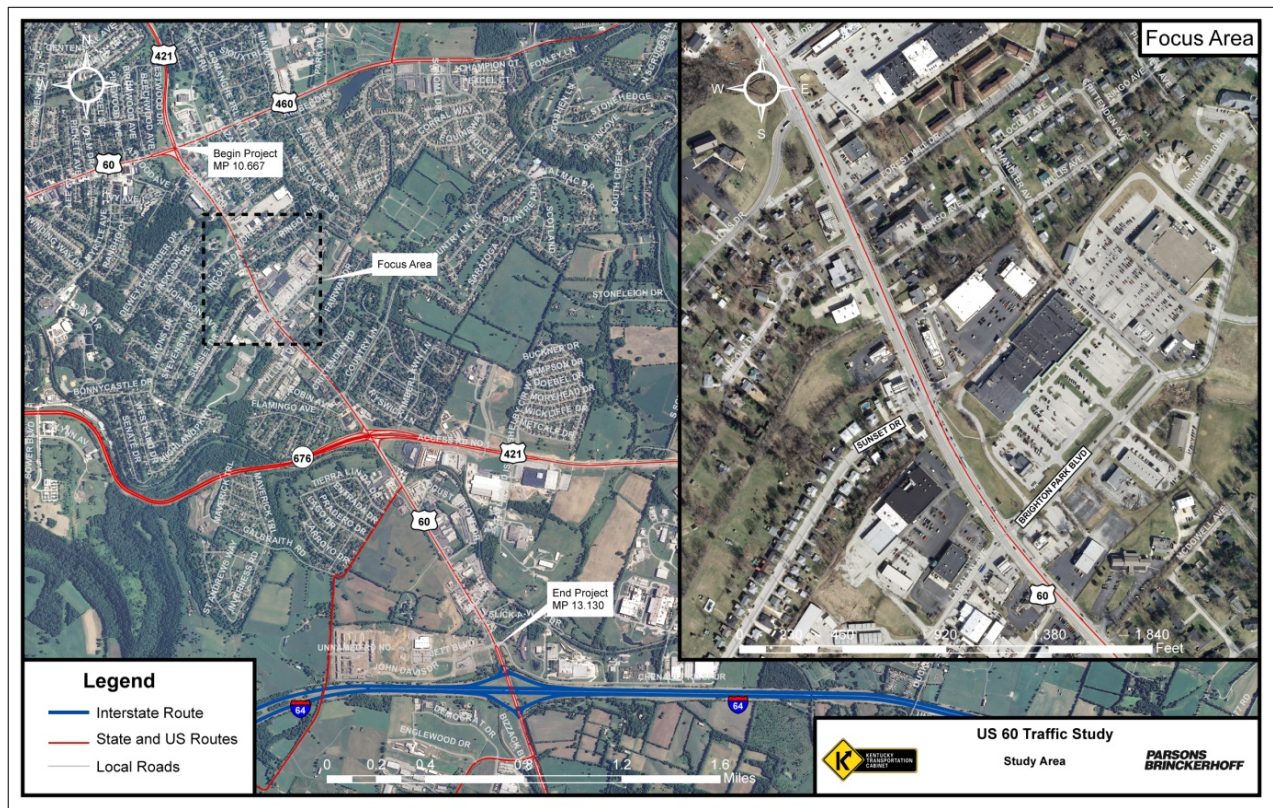
Executive Summary – US 60 Traffic Study

Introduction and Study Area

The Kentucky Transportation Cabinet (KYTC) identified the need to complete a corridor-based scoping study that investigated various operations and construction possibilities to enhance safety, improve capacity, and help traffic movement along the US 60 corridor in Franklin County near the City of Frankfort. Issues such as access and environmental and human impacts were evaluated, along with public input, to determine future goals for the corridor.

The study area is located in Franklin County and is bounded by the I-64 westbound interchange to the south and US 460 to the north. The total corridor length is approximately three miles. Additional emphasis, referred to as the focus area, was given to the Sunset Drive / McDonald's intersection and Laralan Avenue / Brighton Park Boulevard intersection. **Figure ES 1** shows the study area and the focus area.

Figure ES 1 - Study Area



Initial Traffic Study

At the outset of this study, a review was conducted of physical design improvements developed by the KYTC for the focus area. These two intersections have had a history of crashes and poor levels of service due to increased traffic volumes and ensuing congestion. The recommendations made by KYTC include:

- Eliminating the two-way left-turn lane between Sunset and Brighton Park Boulevard and repurposing the pavement to make a dedicated SB and NB left turn lane at both intersections.
- Providing a SB dedicated left turn lane into The Shoppers Village (McDonald's).
- Providing a NB right turn lane into The Shoppers Village (McDonald's).

Additional analysis by Parsons Brinckerhoff determined that traffic operations could further be improved with another left turn lane into Brighton Park Boulevard to have an ultimate build of dual left turn lanes.

At the conclusion of the overall study, KYTC had committed funding to complete designated priority improvements. These include the right turn lane into the McDonald's, a left turn lane onto Sunset Drive, a curbed island at the Dollar Tree entrance for right-in / right- out traffic, and a left turn lane with QWICK KURB median delineators onto Brighton Park Boulevard. Other identified improvements for this focus area do not have any allocated funding and are not committed at this point. These priority improvements are to be completed in Fall 2014 to address safety concerns at the focus area.

Purpose and Need

For the remainder of the corridor study, the following purpose and need was developed. The purpose of this project is to relieve congestion and improve safety along the US 60 corridor from US 460 to just north of I-64.

Project needs including the following:

- Safety – The corridor has a critical crash rate factor of 1.0 or greater.
- Capacity – Without geometric changes to the roadway and intersections, individual movements of the intersections evaluated currently operate over capacity with more movements operating over capacity by the analysis year of 2040.
- Congestion – Intersections currently operate at a poor LOS.
- Access – Any improvements should not seek to specifically impact business / property access, rather they should improve traffic flow between businesses on US 60.

The alternatives development and analysis focus on how to address the purpose and need of this project.

Existing and Future Conditions

Existing highway characteristics and geometrics, traffic volumes, levels of service (LOS) / capacity, and safety concerns were all evaluated as part of the existing conditions analysis. The key transportation issues identified from this analysis are summarized below:

- US 60 currently operates at LOS A or B in both AM and PM peaks.
- Volume to capacity (v/c) ratios do not exceed 1.0 for the roadway segments.
- Three of the four intersections evaluated (US 460, Sunset Drive / McDonald's, Lalaran Avenue / Brighton Park Boulevard, and Jett Boulevard / Chenault Road) currently operate at LOS E or F in at least one of the peak periods.

- During the AM peak period, the Jett Boulevard / Chenault Road intersection with US 60 has two movements (northbound through and right) that has a v/c ratio greater than one. In the PM peak period, all intersections with the exception of the US 60 / Sunset Drive intersection, has one or more individual movements that has a v/c ratio greater than one.
- All seven segments evaluated along US 60 have a critical crash rate factor of one or greater.
- Rear end crashes are the most common type of crash (55%), followed by angle crashes (24%).

Future year traffic volumes and LOS / capacity were also analyzed along US 60 and for the four intersections for the year 2040. In 2040, US 60 operates at LOS B in the AM peak and C in the PM peak. Three of the four intersections analyzed operate at LOS F in the PM peak, and one operates at LOS F in the AM peak.

Both human and natural environmental overviews were performed as part of the existing conditions analysis. According to the Cultural Historic Overview, there is one previously recorded site listed in the National Register of Historic Places (NRHP) within the study area. The site is a monument to the United States Colored Troops from Franklin County, found near the US 60 / US 460 intersection. A review of archaeological records found one unconfirmed Paleo-Indian archaeological site reported in the area. A windshield survey identified a large agricultural field in the southern half of the project area as a red flag area for the presence of both prehistoric and historic archaeological resources.

The environmental overview also found that the study area contains a gray bat foraging and travel corridor as well as habitat for the Indiana bat. Also, there are 52 potential underground storage tank (UST) / hazardous materials sites located in the study area, as well as category B, C and E noise sensitive receptors.

Community facilities located in the study area include the East Frankfort Baptist Church, the Highland Christian Church and the Synergy Church. There are also some off road multi-use trails and sidewalks in the area.

An Environmental Justice (EJ) Review was prepared for the study area, and examined the potential for disproportionate adverse community impacts on selected groups (minority, low-income, elderly and disabled). The primary source of data for this report was assembled from the American Community Survey (ACS) 2012 Five Year Estimate tables and GIS data provided by KYTC. According to the ACS, there are four (4) census tracts (CT) and nine (9) block groups (BG) that encompass the population of the study area. The conclusion is that each of the nine block groups that intersect the study area have at least one disadvantaged population and should be considered for further analysis prior to the commencement of any future project.

Public Involvement

The public involvement component for this study was comprised of meetings with local officials and stakeholders, business owners, and resource agency mailings. Two meetings with elected officials and stakeholders and a separate meeting with local business and property owners were held to obtain feedback on the information compiled for the project. These meetings helped derive and refine the list of options and alternatives to evaluate. The final meeting held with all interested local officials /

stakeholders / and business owners was also used to evaluate project priority and help KYTC determine project prioritization.

Alternatives Development and Evaluation

A full range of alternatives were developed to address known issues identified within the corridor through the technical analysis as well as through local officials and stakeholder input. Consideration during the development process was given to determining the overall look / character of the corridor while providing individual projects that can be completed that complement the bigger picture goals.

Corridor-wide improvement alternatives initially considered include the following:

- Alternative 1: Access considerations
- Alternative 2: Four lanes with divided median
- Alternative 3: Six lanes with divided median
- Alternative 4: Reversible lanes

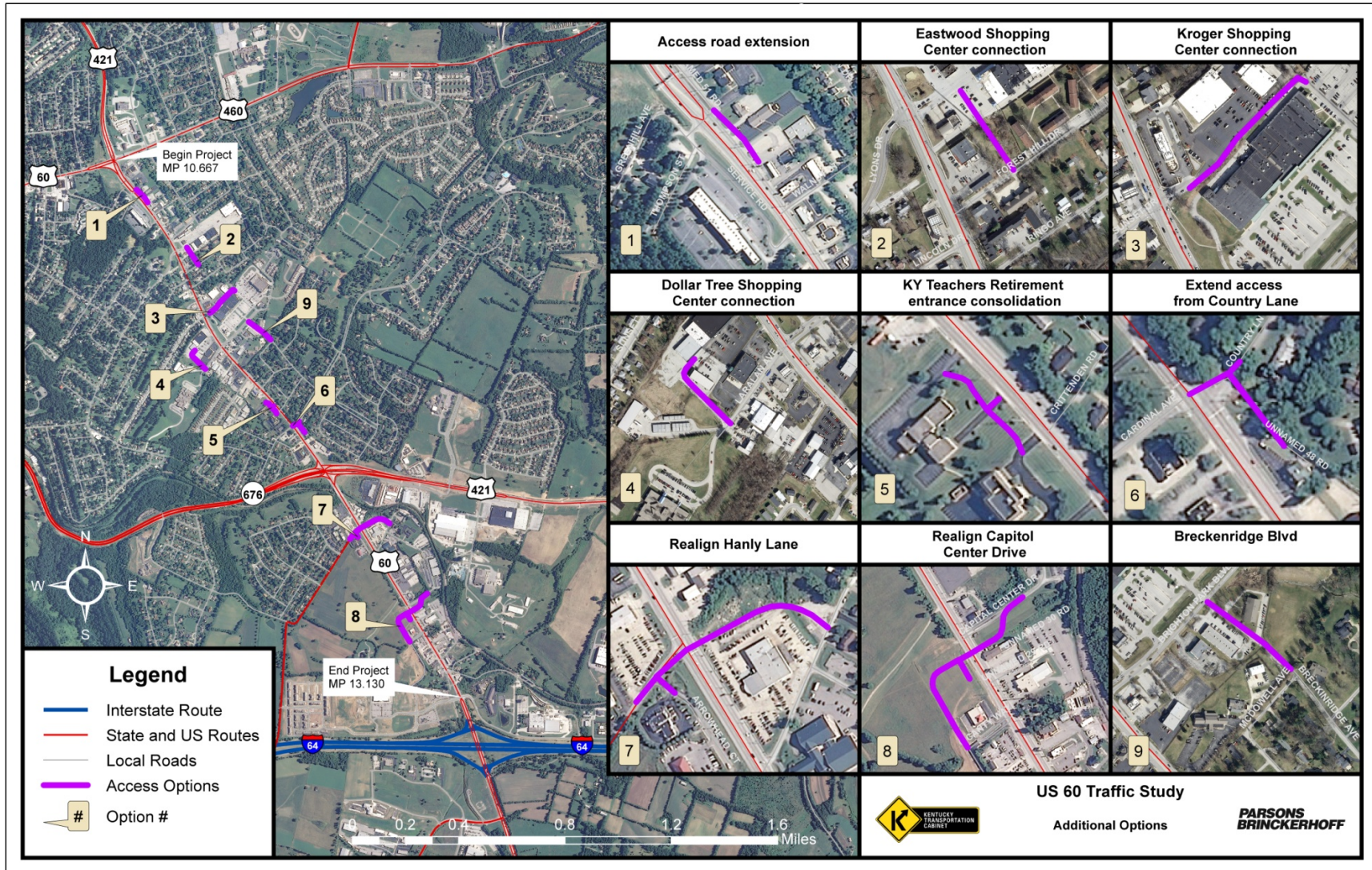
Additional projects were identified that could complement any of the corridor-wide improvements. They are designated by option number and include the following:

- Option 1: Extension of front access road from Farmer's Bank to Circle K Gas Station just south of the US 60 / US 460 intersection.
- Option 2: Provide connection between Eastwood Shopping Center and Forest Hill Drive.
- Option 3: Provide connection between Kroger Shopping Center and Goodwill / Peddlers Mall.
- Option 4: Provide connection between Laralan Avenue and Dollar Tree Shopping Center.
- Option 5: Consolidate entrance and provide front access road to Kentucky Teachers Retirement Buildings.
- Option 6: Extend access from Country Lane to retail area near US 421 interchange with US 60.
- Option 7: Realign Hanly Lane and provide connection to Locust Drive to form a four-legged signalized intersection.
- Option 8: Realign Capitol Center Drive and provide rear-access connector to Allen Way as well as signalize new intersection.
- Option 9¹: Remove gates on Breckenridge Boulevard (between the shopping center and the neighborhood) and improve Breckenridge Boulevard from the neighborhood to Brighton Park Boulevard.
- Option 10: Bicycle / pedestrian connections.

Figure ES 2 shows the location and extent of these additional options.

¹ This option was identified by KYTC after submission of the final report. It was not presented to the local officials and stakeholders nor was it included in the resource agency mailing. Additional evaluation of Option 9 may be necessary to determine the extent of impacts in the study corridor.

Figure ES 2 – Additional Project Options



The preliminary analysis began with the four alternatives and nine options. Each alternative was considered for any fatal flaws that would prohibit it from progressing as a potential feasible option for improvement to US 60. Given several concerns about the operation of a reversible lane system along US 60, Alternative 4 was eliminated during this phase of analysis. Current guidance from sources such as the Institute of Transportation Engineers (ITE), the American Association of State Highway and Transportation Officials (AASHTO), and the Federal Highway Administration (FHWA) noted lane requirements would not be met and also cited that reversible lanes be considered when no other acceptable alternative improvement solution exists. The remaining three alternatives were advanced to the next stage for detailed analysis, where a more detailed evaluation was performed with respect to safety, traffic, right-of-way impacts, and costs. **Table ES 1** shows the results of these analyses.

Table ES 1 – Planning Level Cost Estimates

| Alt. # | Description | ROW Impacts | | Cost | | | | |
|---------------|---|---------------------------|-------------|--------------|-----------|-------------|-----------|--------------|
| | | Temporary Easement (#) | ROW (acres) | Construction | Design | ROW | Utilities | Total (\$) |
| Alternative 1 | Access considerations | 58 | 0.6 | \$7,570,000 | \$500,000 | \$910,000 | \$190,000 | \$9,170,000 |
| Alternative 2 | Four lanes with divided median | 66 | 0.6 | \$8,670,000 | \$600,000 | \$970,000 | \$210,000 | \$10,450,000 |
| Alternative 3 | Six lanes with divided median | 82 | 2.2 | \$11,580,000 | \$700,000 | \$3,720,000 | \$660,000 | \$16,660,000 |
| Option 1 | Access road extension | 1 | 0.3 | \$110,000 | \$11,000 | \$220,000 | \$30,000 | \$371,000 |
| Option 2 | Eastwood Shopping Center connection | 2 | 0.9 | \$140,000 | \$14,000 | \$360,000 | \$0 | \$514,000 |
| Option 3 | Kroger Shopping Center connection | 2 | 0.6 | \$150,000 | \$15,000 | \$440,000 | \$60,000 | \$665,000 |
| Option 4 | Dollar Tree Shopping Center connection | 1 | 0.4 | \$150,000 | \$15,000 | \$180,000 | \$0 | \$345,000 |
| Option 5 | KY Teachers Retirement entrance consolidation | 3 | 0.4 | \$170,000 | \$17,000 | \$310,000 | \$0 | \$497,000 |
| Option 6 | Extend access from Country Lane | 2 | 0.0 | \$50,000 | \$5,000 | \$50,000 | \$10,000 | \$115,000 |
| Option 7 | Realign Hanly Lane | 4 | 0.8 | \$470,000 | \$47,000 | \$520,000 | \$50,000 | \$1,087,000 |
| Option 8 | Realign Capitol Center Drive | 4 | 1.9 | \$670,000 | \$67,000 | \$1,220,000 | \$50,000 | \$2,007,000 |
| Option 9 | Remove gates and improve Breckenridge Blvd | 3 | 0.4 | \$30,000 | \$3,000 | \$190,500 | \$0 | \$223,500 |
| Option 10 | Bicycle / pedestrian connections | N/A - Part of Master Plan | | | | | | |

Notes: Planning level cost estimates are in current year dollars (2014)
 Right-of-Way and Utility costs provided by KYTC District 5
 Construction and Design costs determined by Parsons Brinckerhoff

Recommendation

Based on alternatives analysis, Project Development Team (PDT), and local official and stakeholder input, at this time all three alternatives shall carry forward. Alternatives 1, 2 and 3 all provide unique benefits with different impacts, but are all feasible at this time. Local officials and stakeholders were asked to prioritize the three alternatives and nine options. Based on feedback, Alternative 3 was given a slightly higher preference than Alternatives 1 and 2. **Table ES 2** shows the prioritization of the nine options. The PDT agreed with the general assignment as determined by the local officials and stakeholders. (Note that Option 9 was included following the submittal of this report. Therefore local officials and stakeholders were unable to provide any feedback on it and it is not included in the rankings).

Table ES 2 – Project Option Prioritization

| Option | Description | # of Responses | | | Priority |
|-----------|---|---|-----------------|--------------|----------|
| | | High Priority | Medium Priority | Low Priority | |
| Option 1 | Access road extension | 2 | 2 | 1 | Medium |
| Option 2 | Eastwood Shopping Center connection | 1 | 2 | 1 | Medium |
| Option 3 | Kroger Shopping Center connection | 6 | 0 | 0 | High |
| Option 4 | Dollar Tree Shopping Center connection | 4 | 1 | 0 | High |
| Option 5 | KY Teachers Retirement entrance consolidation | 0 | 1 | 4 | Low |
| Option 6 | Extend access from Country Lane | 0 | 1 | 3 | Low |
| Option 7 | Realign Hanly Lane | 0 | 5 | 0 | Medium |
| Option 8 | Realign Capitol Center Drive | 4 | 2 | 0 | High |
| Option 9 | Remove gates and improve Breckenridge Blvd | N/A – Option included after ranking process | | | |
| Option 10 | Bicycle / pedestrian connections | 2 | 0 | 0 | High |

Funding / Next Steps

Upon completion of this study, funding would need to be secured for future project development. Further review in Phase I Design should provide the necessary evaluation (including public input) on the preferred treatment of the entire corridor. Many of the option projects are located outside the right-of-way and on private property or City / County property. Further project development may need to go through the City of Frankfort and / or Franklin County for these projects.