VII. RECOMMENDATIONS

This chapter provides study conclusions and recommendations for improvements to KY 1426, addressing both the rockfall and intersection improvement components. The recommendations are based on the technical analysis and community input described in this report.

A. Project Purpose and Need

The identified purpose for this Transportation Study is to improve safety in the project area. This should be accomplished by addressing the rockfall hazard along KY 1426 between KY 1460 and Combs Avenue and by improving traffic safety along the Pikeville Bypass (KY 1426). Additional goals accompanying the primary purpose include:

- Rockfall:
  - Avoiding negative operational impacts due to falling debris (e.g. road or lane closures);
  - Minimizing negative environmental impacts;
  - Avoiding impacts to adjacent businesses;
  - Providing an aesthetically pleasing solution;
- Intersection:
  - Improving traffic operations;
  - Providing adequate storage for school traffic queues;
  - Preserving access to surrounding streets and driveways; and
  - Minimizing environmental impacts.

The project purpose and need is discussed in more detail in **Chapter 3**.

B. Third Project Team Meeting

A third and final project team meeting was held at the KYTC office in Frankfort on January 30, 2008. The purpose of the meeting was to review the public input received at the November public meeting, to examine results from the second tier of traffic analysis on Alternatives 1, 6, and 7, and to consolidate final study recommendations. The meeting minutes are presented in **Appendix B**. The resulting priorities and recommendations are outlined in the following sections.

C. Recommended Rockfall Alternative

To address the recurring rockfall problems along the bypass, Alternative B is recommended as the top priority. This alternative includes the installation of a barrier catchment system composed of a 19 foot tall steel fence anchored behind concrete K-barriers along the eastern side of KY 1426 between KY 1460 and Combs Avenue. Estimated costs total $1.2 million for this alternative; including $50,000 to relocate affected utilities.

D. Recommended Intersection Alternative

Concurrent with the construction of a rockfall barrier system, the second priority recommendation is that a 150-foot long northbound left turn lane be constructed along KY 1426 at the Huffman Avenue/Summit Drive intersection. This would provide approximately a 5% reduction in delay per vehicle throughout the network based on PM peak hour analysis. Adding this lane leads to a 40% reduction in delay for the northbound KY 1426 approach.

As noted in **Chapter 6**, the addition of the left turn lane at an intersection also has the potential to reduce crashes by 25%.

Additional overlay and restriping for the southbound approach at the intersection would be needed as a result of this project. Total costs for this improvement are estimated at $200,000. Other minor improvements along the existing alignment (e.g., widening lanes) should be incorporated into this project as needed.

Due to fiscal constraints, none of the developed intersection alternatives are recommended for implementation at this time. The lower cost, turn lane improvement more cost effectively benefits traffic operations and safety than the Build Alternatives. As future traffic patterns develop and funding becomes available, additional study should be undertaken on Alternatives 1 and 7. Alternative 6 is not recommended for future study; it is more expensive than Alternative 7, does not separate Summit Drive traffic from Pikeville Elementary traffic, and did not receive any public support. The existing traffic safety and congestion problems experienced on KY 1426 are significantly impacted by school traffic. Future study should examine circulating patterns at the school to identify potential traffic flow improvements which could improve operations in the study area. Changes in the size, location, or hours of Pikeville Elementary School will influence transportation in the area; although none have been identified to date, these could vastly change the performance of the identified intersection alternatives.

Alternatives 1 and 7 received the most support locally. Both separate Summit Drive traffic from the existing school queue. Alternative 1 provides the fewest number of stops during both analysis periods and is among the alternatives with the least delay. This scenario also creates fewer intersections and fewer conflict points along KY 1426 compared to the existing conditions. Alternative 7 provides fewer changes to the existing network and is the least expensive configuration studied.

E. Potential Design Criteria and Considerations

Potential design criteria and considerations noted here are for planning purposes only. These criteria are general recommendations based upon information gathered throughout this planning study. Specific geometric parameters should be defined during future design phases of the project as more detailed information is available.

A northbound left turn lane is recommended to serve movements onto Huffman Avenue. This lane should provide a full 12-foot width for queue storage. For illustrative purposes, **Figure 7.1** shows a possible typical section approaching the intersection from the south. Curb and gutter along the southbound lane should be installed after widening, in addition to a 5-foot sidewalk on the western side of the road.

For illustrative purposes, a representative typical section for KY 1426 in the rockfall barrier area is shown as **Figure 7.2**. A three-foot shoulder follows the edge of the northbound lane. K-barriers are installed at the shoulder edge to anchor the 19-foot tall steel fence structure. The rockfall catchment system is expected to run 2,000 feet, with vertical support poles spaced at 30 feet. A more detailed analysis may be required to determine the final design criteria and additional sizing information.

Short term lane closures on KY 1426 may be necessary during catchment installation and turn lane construction, although impacts to adjacent businesses are not anticipated. Access to areas behind the rockfall barrier should be preserved to enable KYTC maintenance forces opportunity to routinely remove fallen debris collected.

Figure 7.1 – KY 1426 Typical Section with Turn Lane

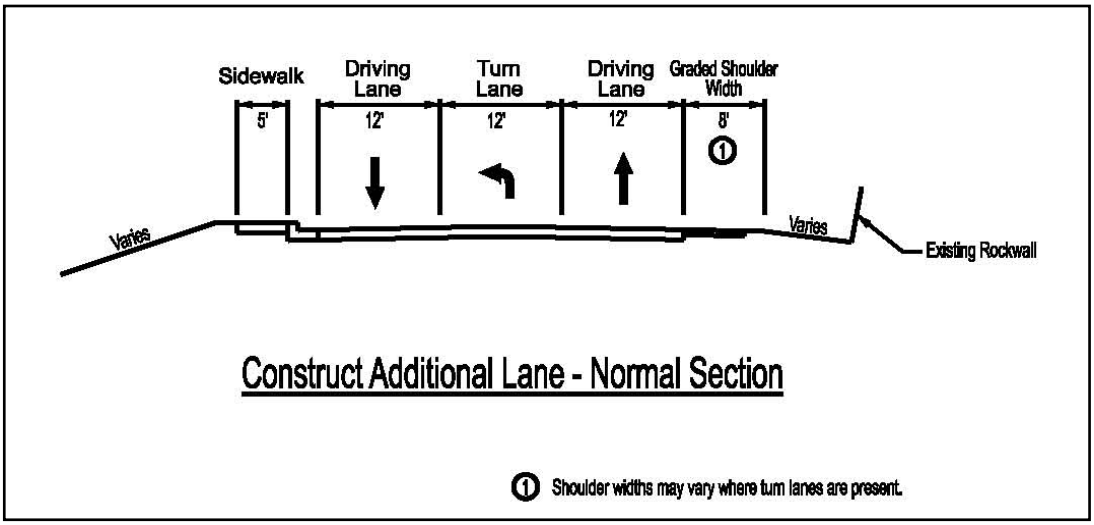

Figure 7.2 – KY 1426 Typical Section with Rockfall Fence