APPENDIX F

RESOURCE AGENCY COORDINATION

Environmental Review Process
Resource Agencies Responding

	Agency	Date	Response
1	Federal Aviation Administration	1/16/2008	No Impact provided construction is not within 6 miles of nearest airport (CVG) and equipment does not exceed 150' in height
2	US Natural Resources Conservation Service	1/30/2008	Recommend contact local NRCS representative and provided Kenton County soils data
3	US Department of Health and Human Services	1/23/2008	Provided a list of recommend topics to be considered during the NEPA process; requested a draft copy of the document
4	US Coast Guard	1/7/2008	No Impact
5	USDA Forest Service Daniel Boone National Forest	12/19/2007	No Impact
6	Kentucky Department of Fish and Wildlife Resources	1/31/2008	Recommended that endangered species may occur in the area, but are not expected to be impacted and erosion control measures
7	Kentucky State Senate (Sen. Jack Westwood)	1/29/2008	Recommend roadway improvements as soon as possible
8	KYTC Office of Special Programs	1/14/2008	Recommended possible improvement alternatives to serve bicycle and pedestrian movements
9	Kentucky Department of Agriculture	12/18/2007	Recognized the information, but provided no comment
10	Kentucky Department of Military Affairs	1/10/2008	No Impact
11	KY EPPC Division of Waste Management	1/31/2008	Any waste generated must be properly disposed of and any contaminates encountered must be properly addressed
12	KY EPPC Division for Air Quality	1/31/2008	States the Fugitive Emissions Regulation and that open burning is prohibited except under certain circumstances
13	KY EPPC Division of Water	1/31/2008	No objection; KYTC Best Management Practices must be adhered to
14	KY EPPC Div of Waste Management (UST & SW)	12/18/2007	Identified three (3) facilities with eight (8) currently active underground storage tanks in the area; and no landfills
15	Kentucky Airport Zoning Commission	1/7/2008	No negative effect on air navigation; however if equipment usage exceeds 200' AGL, a permit must be obtained
16	KYTC Geotechnical	2/6/2008	Assessment of underlying rock formations and recommendations for the negotiations of the rock formations during construction
17	Kentucky Geological Survey	1/10/2008	Summarization of any geologic concerns for the study area
18	Kentucky Education Cabinet	2/15/2008	No Input
19	Kentucky State Nature Preserves Commission	1/8/2008	Minimize the disturbance to wooded areas to protect the population of Redback Salamanders in the project area
20	Kentucky Justice and Public Safety Cabinet (KVE)	1/7/2008	No Input
21	Kentucky State Police	1/28/2008	Recommended possible improvement alternatives to the study area to improve safety

Bezold, Mike (KYTC-D06)

From: Mike.Thompson@faa.gov
Sent: Wednesday, January 16, 2008 9:38 AM
To: Bezold, Mike (KYTC-D06)
Subject: Proposed Road Work, Hands Pike KY 1501
Attachments: faa7460-1.pdf

Mike:

We recently received a proposal for improvements to KY 1501, Hands Pike in Covington, KY. The Reference Item Number is 07-8307.00. Specifically, this was sent to Phillip Braden, Manager of the FAA Memphis Airports District Office, dated December 14, 2007.

Please be advised that the closest public use airport is the Cincinnati/Northern Kentucky International Airport (CVG). I have approximated the nearest point of your proposal as latitude 38-59-30.5, longitude 84-32-05, which indicates this proposal exceeds 6 miles from the nearest runway at CVG. Please confirm my approximation.

If you agree with my assessment of the location, we have no objections to the proposed project as long as no structure/equipment exceeds 150' in height. If you find that are within 6 miles of CVG or exceed 150' in height, please complete and submit the attached FAA Form 7460 so we can study the impacts. For your calculations, the nearest runway at CVG to your project is Runway 36R located at latitude 39-01-42.24, longitude 84-38-48.46, elevation 896.2.

Contact me if you require additional assistance.

MikeT
Memphis ADO
901-322-8188

NRCS
Natural Resources Conservation Service
771 Corporate Drive, Suite 210
Lexington, KY 40503

January 30, 2008

Mr. Mike Bezold, P.E.
Kentucky Transportation Cabinet
PO Box 17130
Covington, KY 41017

RE: Kentucky Transportation Cabinet (KYTC) Planning Study for KY 1501 (Hands Pike), Kenton County, KY

Dear Mr. Bezold:

The USDA-Natural Resources Conservation Service (NRCS) reviews proposed projects for potential impacts to prime farmland soils and farmlands of statewide importance. If these resources are in or adjacent to the proposed project site, notification of farmland conversion may be warranted. If a project impacts farmlands and if federal dollars are to be used to convert important farmlands from agricultural uses to non-agricultural uses, a Form AD-1006 (or Form NRCS-CPA-106 if the project is a corridor type project) must be submitted to the local NRCS office. These forms may be obtained from the local NRCS office and are also available as electronic forms on the web at http://www.nrcs.usda.gov/programs/fppa/pdf_files/AD1006.PDF and http://www.nrcs.usda.gov/programs/fppa/pdf_files/CPA106.pdf .

Questions regarding prime farmland soils and/or farmlands of statewide importance within Kenton County should be directed to:

Ed Thompson, Jr., District Conservationist
Boone and Kenton Counties
6028 Camp Ernst Road
Burlington, KY 41005
Phone: 859-586-7903.

To further assist with the planning efforts, I am enclosing a CD containing ArcView GIS shapefiles of basic soils information for Kenton County. The GIS shapefiles are in UTM projection, nad83, zone 16, nad83 horizontal datum. The soil database table includes a column for "farmland classification-all components" (farmclac) that identifies prime farmlands and soils of statewide importance. A separate legend file for each county has been provided (County_farmland_classif.avl), which may be used with GIS software to more clearly display the soils that are considered prime farmlands and soils of statewide importance. There is also a

separate ArcGIS version 9.2 layer file for each county for symbolizing based on the "farmland classification" attribute.

Sincerely,

MICHAEL D. HUBBS
State Conservationist

Enclosure: CD (1)

cc: Jacob Kuhn, Assistant State Conservationist, Lexington, KY
J. David Stipes, Area Conservationist, Lexington, KY
Ed Thompson, Jr., District Conservationists, Burlington, KY

Centers for Disease Control
and Prevention (CDC)
Atlanta GA 30333

January 23, 2008

Mr. G. Michael Bezold, P.E.
District Planning Engineer
Kentucky Transportation Cabinet
P.O. Box 17130
Covington, KY 41017

Dear Mr. Bezold:

This is in response to your agency's advance notification concerning the Planning Study, Kenton County, Hands Pike, KY 1501, Item No. 07-8307.00. We are responding on behalf of the Department of Health and Human Services (DHHS), U.S. Public Health Service.

We understand the purpose of the Planning Study is to identify the need and potential impacts for improvements to KY 1501. The study will evaluate current conditions and develop proposed short-term and long-term improvements to KY 1501. We commend your efforts to address public safety by reducing crashes and reducing traffic congestion, as well as by identifying potential environmental issues and impacts that may arise from project construction. Proper planning of mitigation measures to address congestion and environmental issues can also be developed to protect and promote public health. We would like for you to consider all public health options during the Planning Study.

Planning with *health in mind* for future development along this corridor can help to: increase multi-modal transport options that facilitate increased physical activity and reduce air pollution; reduced traffic congestion; and, ensure reduced injuries from vehicular crashes to other motorists, bicyclists, and pedestrians. Our agency is particularly concerned about: an adequate and safe pedestrian infrastructure including safe and convenient walking and crossings for all ages and abilities, adequate signage and signaling, sufficiently marked lanes for bicyclists and HOV/carpools, and appropriate speed limit transitions. Mitigation measures that benefit both environmental and human health also include landscaped sidewalk buffers to separate pedestrians from vehicular traffic and landscaped medians to serve as pedestrian crossing refuges as well as to aid in traffic calming. Aside from the health benefit of reduced injuries, landscaped buffers and medians offer the co-benefits of increasing air quality through carbon sequestration, improving pedestrian environment, and may also offer economic benefit to the surrounding community through increased property values.

Although we have no other specific comments to offer at this time, we do recommend that the topics listed below be considered during the study process, and addressed if appropriate. Mitigation plans protective of the environment and that act to protect and promote public health should be described in the Planning Report wherever warranted.

AREAS OF POTENTIAL PUBLIC HEALTH CONCERN:

1. Air Quality
   - dust control measures during project construction, and mitigation of potential releases of air toxins after project completion
   - compliance with air quality standards

II. Water Quality/Quantity
   - special consideration to private and public potable water supply, including ground and surface water resources
   - ground and surface water contamination (e.g. runoff)
   - compliance with water quality and wastewater treatment standards

III. Wetlands and Flood Plains
- potential contamination of underlying aquifers
- construction within flood plains which may endanger human health
- contamination of the food chain

IV. Hazardous Materials/Wastes
- identification and characterization of hazardous/contaminated sites safety plans/procedures, including use of pesticides/herbicides; worker training
- spill prevention, containment, and countermeasures plan

V. Non-Hazardous Solid Waste/Other Materials
- measures regarding solid waste generation, reduction, and disposal should be considered

VI. Noise
- identify projected elevated noise levels and sensitive receptors (i.e. residential, schools, hospitals) and appropriate mitigation plans during and after construction

VII. Occupational Health and Safety
- compliance with appropriate criteria and guidelines to ensure worker safety and health

VIII. Land Use -- Community and Neighborhood Impacts
- special consideration and planning for pedestrian infrastructure, including sidewalks that are continuous, accessible, safe, and aesthetically pleasing.
- adequate pedestrian crossings that are convenient and easily identified by motorists
- sufficiently marked, continuous lanes and infrastructure needs for bicyclists
- ADA accessibility compliance for all project areas
- consideration of beneficial and adverse long-term land use impacts, including the potential influx of people into the area as a result of a project and associated impacts
- demographic special considerations (e.g. hospitals, nursing homes, day care centers, schools)
- special consideration and appropriate mitigation for necessary relocation and other potential adverse impacts to residential areas, community cohesion, community services

IX. Environmental Justice
- minority groups in study area
- economic characteristics of study area residents and workers

While this is not intended to be an exhaustive list of possible impact topics, it provides a guide for typical areas of potential public health concern that may be applicable to this project. Any other health related topics potentially associated with the proposed project should also receive consideration.

Please furnish us with one copy of all NEPA related project documents to the address listed below when they become available for review. Please feel free contact us for further discussion of any topics raised in this response letter.

Sincerely yours,

Andrew L. Dannenberg, MD, MPH
Associate Director for Science
Division of Emergency and Environmental Health Services
National Center for Environmental Health
Centers for Disease Control and Prevention
4770 Buford Highway, MS F-60
Atlanta, GA 30341

U.S. Department of Homeland Security

United States Coast Guard

Commander
Eighth Coast Guard District

1222 Spruce Street
St. Louis, MO 63103-2832
Staff Symbol: dwb
Phone: (314)269-2378
Fax: (314)269-2737
Email:

16591.1/ KY1501
January 7, 2008

Mr. Mike Bezold
Kentucky Transportation Cabinet, District 6
421 Buttermilk Pike
P.O. Box 17130
Covington, KY 41017-0130

Subj: KENTUCKY HIGHWAY 1501 IMPROVEMENT PROJECT, KENTON COUNTY

Dear Mr. Bezold:

Please refer to your correspondence of December 19, 2007. We have determined that the proposed improvements will involve work over Bullock Pen and Wayman Branch Creeks. Pursuant to the Coast Guard Authorization Act of 1982, the subject project does not involve bridges over navigable waters of the United States. Therefore, a Coast Guard bridge permit is not required for this project.

We appreciate the opportunity to comment on the project.

Sincerely,

ROGER K. WIEBUSCH
Bridge Administrator
By direction of the District Commander

USDA United States Department of Agriculture | Forest Service | Daniel Boone National Forest | 1700 Bypass Road Winchester, KY 40391 859-745-3100

File Code: 1950-4
Date: DEC 19 2007

Mr. Mike Bezold, P.E.
District 6 Planning Office
Kentucky Transportation Cabinet
P.O. Box 17130
Covington, KY 41017

Dear Mr. Bezold:

Thank you for the opportunity to provide input on the above referenced Planning Study. The Study Area in Kenton County is approximately 80 miles northwest of, and outside of the proclamation boundary for the Daniel Boone National Forest. Activities designed to improve transportation in this area are not likely to cause impacts to resources or programs on National Forest System lands. Additional coordination with the Daniel Boone National Forest, regarding this Planning Study, is not needed.

Sincerely,

JEROME E. PEREZ
Forest Supervisor

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

January 31, 2008

Mike Bezold, P. E.
Kentucky Transportation Cabinet
District 6
P. O. Box 17130
Covington, KY 41017

RE: Planning Study
Kenton County
Hands Pike
KY 1501
Item No. 06-8307.00

Dear Mr. Bezold:

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 (KFWIS) indicate that state/federal threatened and endangered species are known to occur within close proximity of the proposed project area. The KDFWR does not expect impacts to listed species due to the location of the project. Please be aware that our database system is a dynamic one that only represents our current knowledge of the various species distributions. We recommend that you contact the U. S. Fish & Wildlife Service Kentucky Field Office at 502-695-0468 for consultation under the Endangered Species Act.

KDFWR recommends that erosion control measures be developed and utilized during any construction to minimize siltation into nearby waterways. 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:

- Avoidance of impacts to intermittent and perennial streams if it is feasible.
- 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.

- To compensate for unavoidable impacts to streams, we recommend that possible stream mitigation sites be identified on-site or within the Banklick Creek watershed. Restoration of those sites should incorporated natural stream channel design along with the restoration of its associated riparian areas.
- 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

Commonwealth of Kentucky

STATE SENATE

2072 Lakelyn Court
Crescent Springs, KY 41017
859-344-6154

State Capitol Annex
Frankfort, KY 40601
Message Line: 800-372-7181
jack.westwood@lrc.ky.gov

JACK WESTWOOD
23rd Legislative District

January 29, 2008

Mr. Mike Bezold, P. E.
Kentucky Transportation Cabinet
P O Box 17130
Covington KY 41017

Dear Mr. Bezold:

Thank you for providing me an opportunity to offer input and comments on the planning study to determine the need and potential impacts for a proposed improvement to Hands Pike (KY 1501).

Hands Pike is, in my opinion, one of the most dangerous corridors in Kenton County. It is on a steep grade with numerous curves and bends that are extremely hazardous to navigate, especially in rain, snow, or ice.

With the improvements to KY 17 (Madison Pike) and the continuing and growing congestion on KY 16 (Taylor Mill Road), many motorists on KY 16 use Hands Pike to access KY 17 where they can then connect to I-275 or I-75 more easily and quickly. This adds a huge number of motorists to the already large number of residents living in the Hands Pike vicinity who use that road every day to get to work. Although most of the area residents are familiar with the dangers on the road and drive cautiously, non-residents seeking a short cut from KY 16 often drive too fast and are involved in accidents, some quite serious.

I would urge the Department of Highways, District 6, to move forward as quickly as possible on the improvements to Hands Pike.

Sincerely,

Jack Westwood

Jack Westwood
State Senator

TRANSPORTATION CABINET
Frankfort, Kentucky 40622
www.kentucky.gov

Steven L. Beshear
Governor

Joseph W. Prather
Secretary

January 14, 2008

Mike Bezold, P.E.
Kentucky Transportation Cabinet, District 6
P.O. Box 17130
Covington, KY 41017

RE: Comments on Planning study of KY 1501-Hands Pike

After reviewing the project information for the planning study of KY 1501, I have the following comments that I feel should be taken into consideration when identifying improvements for this stretch of roadway:

- Proper bicycle and pedestrian improvements should be looked into since this area appears to be highly residential. Providing proper accommodations will allow residents of that area options for travel and will possibly decrease congestion on that roadway. When the most accommodating facilities are chosen, the roadway can be traveled safely by all users of our transportation system.

Enclosed are a few of the countermeasures that could be possible improvements for this stretch of roadway. If you have any additional questions, please feel free to contact me by phone at (502)564-2060 or by email at tiffani.jackson@ky.gov .

Sincerely,

Tiffani Jackson
Bicycle and Pedestrian Coordinator
Office of Special Programs

BIKESAFE Bicycle Countermeasure Selection Syster

Applicable Countermeasures

Based upon your input, the following countermeasures were found:

- Shared Roadway
  - Roadway Surface Improvements
  - Bridge and Overpass Access
  - Tunnel and Underpass Access
  - Lighting Improvements
  - Parking Treatments
  - Driveway Improvements
  - Reduce Lane Width
- On-Road Bike Facilities
  - Bike Lanes
  - Paved Shoulders
- Maintenance
  - Repetitive/Short-Term Maintenance
  - Major Maintenance
  - Hazard Identification Program
- Markings, Signs, Signals
  - Sign Improvements
  - Pavement Marking Improvements
  - School Zone Improvements
- Education and Enforcement
  - Practitioner Education
- Support Facilities and Programs
  - Wayfinding
  - Aesthetics/Landscaping

Your Input:

Roadway Location:
KY 1501 Kenton County

Your Performance Objective:
Provide safe on-street facilities/ space for bicyclists.

Your answers to the previous questions:

Roadway or Path: Roadway
Location: Urban - Other
Functional Class: Collector & Minor Arterial
Intersection or Midblock: Not Applicable
Volume: Medium (10 - 25,000 ADT)
Speed: High (>45mph)
Lanes:
Signal: Not Applicable
Bike Facilities: None or Other

Next Steps:

Edit:

Change Your Performance Objective
Change Your Answers to Site Description

Save:

Output Results to Microsoft Exce

Start Over

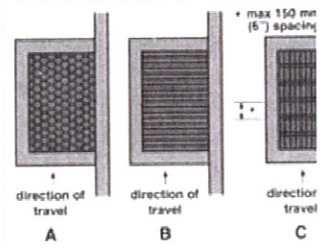
BIKESAFE Bicycle Countermeasure Selection Syster

Applicable Countermeasures

View Other Applicable Countermeasures

Roadway Surface Improvements

view purpose
view considerations
view estimated cost
view case studies



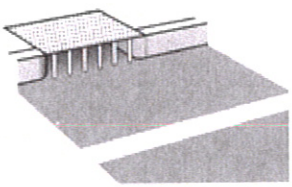
Bicycle safe grates. Note: grates w bars perpendicular to the roadway n not be placed at curb cuts, as bicyc tires could get caught in the slot.

Illustration from Oregon Bicycle ar Pedestrian Plan, Oregon DOT

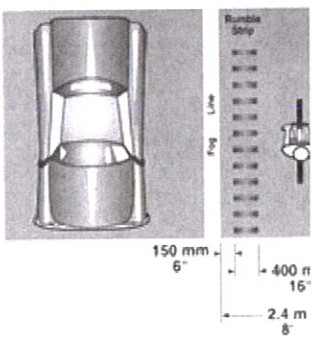
Bicyclists are particularly vulnerable to sudden changes in the roadway (or path) surface, such as potholes or sudden drop-offs. Slippery surfaces, presence of water or debris, broken pavement, and gaps in pavement parallel to the roadway that can trap bicycle tires can also be hazardous. In addition to causing bicyclist falls, surface irregularities may contribute to a sudden weaving movement that may place the cyclist in the path of a motorist. Poor riding surfaces may also increase bicyclist discomfort and potentially discourage riding. Therefore, providing smooth but non-slippery pavement surfaces is a key to maintaining a good level of service for bicyclists. Good initial design can help reduce future repair and maintenance costs.

Several overarching issues warrant particular attention.

- Initial design and materials selection help to prevent problems such as poor drainage, slippery surfaces, gaps in pavement and others. Once design standards are determined, inspectors and project contractors should ensure that standards are met.
- Having a plan for regular sweeping and identifying and making spot repairs is key to keeping surfaces in good condition.
- Bicyclist considerations should also be incorporated into long-term maintenance and upgrades.
- Good design, hazard identification and maintenance practices should be institutionalized. Identification of bicyclist priorities and a system for regular inclusion of best bicyclist facilities practices within a regular maintenance framework can help to improve conditions for bicyclists without substantially increasing costs.



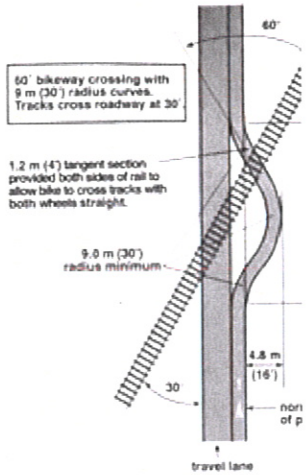
view



view

To provide smooth, level surfaces, the following are some potential hazards that may be minimized by instituting good design and maintenance practices. Drain grates should be maintained level with the surrounding pavement, which may require raising the grates following re-paving, and a bicycle-friendly design should be used so that tires will not be trapped by slots parallel to the roadway (see images). Particularly with new or reconstruction, curb inlets could be installed. Designs should also ensure that utility covers and other potential hazards are placed out of the predominant bicycling pathways, are level with the surrounding pavement, and have non-skid surfaces. Pavement should be kept in good condition, particularly near the edges where bicyclists tend to ride most often.

Additionally, when designing bike facilities, pavement seams should be placed where they minimally conflict with the bicycle right-of-way. Excessively wide gutter pans may unnecessarily reduce bicyclists' space. Paving over the gutter pan is a temporary solution, as seams usually reappear in the pavement within five years. Reflective raised pavement markers also create hazards for bicyclists and should only be used with appropriate consideration of bicyclists. These can deflect a bicycle wheel, causing the cyclist to lose control.



When rumble strips are used as a motorist alert, for example, along a shoulder, a narrower design placed close to the lane edge line allows more usable bicycle-friendly space. If textured pavers are used, these should not compromise bicyclist safety or comfort.

Finally, care must be taken to provide bicycle-safe railroad crossings. Crossings should ideally be close to 90 degrees. If the crossing is smooth, but non-slippery (concrete paving may work best), and the flange opening is kept as narrow as possible, somewhat more flexibility with the angle may be possible.

The Oregon Bicycle and Pedestrian Plan contains more information and illustrations of good surface design practices under the "Other Design Considerations" section (http://www.oregon.gov/ODOT/HWY/BIKEPED/docs/bp_plan_2_ii.pdf).[1]

Purpose

- Provide smooth, safe surfaces for bicyclists.

top of page

Considerations

- Institutionalizing good design, street sweeping, and maintenance practices with respect to bicyclists can help to reduce liability.
- Hazard identification programs can facilitate identification and repair of potential surface hazards.

top of page

Estimated Cost

Many of the costs associated with providing and maintaining good bicyclist surfaces should be incorporated into the overall initial project budget or maintenance plan. The costs of hazard identification, short-term sweeping and spot maintenance programs will be minimized if bicyclist concerns are institutionalized within the regular maintenance and repair framework. Special repairs (such as drain grate repair/replacement) will vary considerably by project.

top of page

Case Studies

- #1 – Minimizing Roadway Surface Hazards for Bikes - Seattle, WA
- #2 – A Tale of Portland Bridges - Portland, OR
- #27 – Comprehensive Maintenance Planning for Bicycle Facilities - Seattle, WA
- #28 – Road Hazard Identification Pilot Project - Green Bay, WI

top of page

U.S. Department of Transportation
Federal Highway Administration

BIKESAFE Bicycle Countermeasure Selection Syster

Applicable Countermeasures

View Other Applicable Countermeasures

Paved Shoulders

view purpose
view considerations
view estimated cost
view case studies

Paved shoulders are very similar to bike lanes as a bicycle facility. The pavement edge line for the paved shoulder provides separated space for the bicyclist much like a bike lane. Depending on the situation, the width of the shoulders may vary. If the paved shoulder is less than 1.2 m (4 ft) in width it should not be designated or marked as a bicycle facility. Widths are typically a function of amount of bicycle usage, motor vehicle speeds, percentage of truck and bus traffic, etc., although widths are sometimes purely a function of available right-of-way. More paved shoulder design details are given in the AASHTO Green Book.[5] Prior research has shown that paved shoulders tend to result in fewer erratic motor vehicle driver maneuvers, more predictable bicyclist riding behavior and enhanced comfort levels for both motorists and bicyclists.3

Red shoulders in Tavares, FL.

Colored shoulders have been used in Europe to visually narrow the roadway. This technique has been tried in Tavares, FL, where a section of roadway added painted red shoulders (see case study #14). The intent was to provide increased room and comfort for walkers and bicyclists. The 0.6 km (1 mi) treated section of roadway was a two-lane rural roadway with approximately 1,700 vehicles per day and had a 56 km/h (35 mi/h) speed limit. Even after the roadway was widened, the use of the red shoulders resulted in motor vehicle speeds similar to the before (narrower roadway) situation.[6]

view

Broward County, FL, has experimented with another paved shoulder variation. Undesignated lanes 0.9 m (3 ft) have been implemented on a number of roadways which formerly had wide 4.3 m (14 ft) curb lanes in place (i.e., 3.4 m (11 ft) travel lane and 0.9 m (3 ft) undesignated lane). The lanes were left as undesignated because they were too narrow to be referred to as bike lanes. The striping resulted in a delineated, although sub-standard, space for bicyclists to operate on these roadways (see case study #15).[7]

Rumble strips are often used on shoulders to alert sleepy or inattentive motorists, but there is considerable debate about what kinds of designs are safe or appropriate for bicycles. AASHTO recommends that 1.2 m (4 ft) of ride-able surface should be present for bicyclists if rumble strips are used on a shoulder.

Purpose

- Create travel facilities for bicyclists.
- Create separated space for bicyclists.
- Reduce or prevent the problems associated with bicyclists overtaking motor

vehicles in narrow, congested areas.

top of page

Considerations

- Provide adequate width by taking into account factors such as the amount of bicycle usage, motor vehicle speeds, percentage of truck and bus traffic, etc.
- Provide ride-able space for bicyclists if rumble strips are used.
- Examine alternative space for bicyclists if there are intersecting side streets.
- Provide a smoothly paved surface and keep free of debris.

top of page

Estimated Cost

Paved shoulder costs can be quite variable. Using data from Iowa DOT average contract prices for calendar year 2000, a minimum design width of 1.2 m (4 ft) of paved shoulder width to accommodate bicycle traffic was estimated at $44,000 per km ($71,000 per mi).[8]

top of page

Case Studies

- #14 – Red Shoulders as a Bicycle Facility - Lake County, FL
- #15 – Conversion of 14-foot-wide Outside Lanes to 11-foot Travel Lanes with a 3-foot Undesignated Lane - Fort Lauderdale, FL

top of page

U.S. Department of Transportation
Federal Highway Administration

BIKESAFE Bicycle Countermeasure Selection Syster

Applicable Countermeasures

View Other Applicable Countermeasures

Sign Improvements

view purpose
view considerations
view estimated cost
view case studies

Signs often convey important information that can improve road safety. The intent is to let bicyclists and motorists know what to expect, thus improving the chances that they will react and behave appropriately. For example, the use of a "No Parking in Bike Lane" sign is intended to keep this space clear for cyclists. Sign use and placement should be done carefully, in that overuse often results in non-compliance and/or disrespect. Excessive use of signs can also create visual clutter and lead to the intended sign and message getting "lost."

Regulatory signs, such as STOP, YIELD or turn restrictions require driver actions and are enforceable. NO TURN ON RED signs can improve safety for bicyclists (and pedestrians). Problems often occur at RTOR locations as motorists look to the left for a gap in traffic, especially if bicyclists are riding wrong way either in the street or on a sidewalk or path.

Warning signs can also provide useful information. An example is the SHARE THE ROAD sign, which serves to let motorists know that bicyclists may be on the road and that they have a legal right to use the road. This sign is typically placed along roads with significant bicycle traffic but relatively hazardous conditions for riding, such as narrow travel lanes with no shoulder, roads or streets with poor sight distance, or a bridge crossing with no accommodation for bicycles. Special signs are sometimes used to indicate the presence of a bicyclist.

All signs should be periodically checked to make sure that they are in good condition, free from graffiti, reflective at night, and continue to serve a purpose.

Regulatory sign restricts curb lane us buses, bicycles, and right-turning vehicles.

Photo by Michael King

view

Purpose

- Provide warning and regulatory messages, as well as useful information.
- NO TURN ON RED signs can increase bicycle safety and decrease crashes with right-turning vehicles.
- SHARE THE ROAD signs can make motorists more aware of bicyclists on roads with poor bicycle accommodations.

top of page

Considerations

view

- Streets with bicycle traffic should be evaluated to determine if sign improvements could improve safety.
- Prohibiting RTOR is a simple, low-cost measure. The change can benefit bicyclists on streets with considerable through bicycle traffic with minimal impact on motor vehicle traffic.
- Part-time RTOR prohibitions during the busiest times of the day may be sufficient to address the problem.
- RTOR signs should be clearly visible to right-turning motorists stopped in the curb lane at the crosswalk.
- Carefully evaluate use of both regulatory and warning signs. Avoid overuse which may lead to non-compliance or visual clutter

top of page

Estimated Cost

Costs range from $30 to $150 per typical sign plus installation at $200 per sign. Electronic sign costs vary widely but tend to be significantly more expensive.

top of page

Case Studies

- #2 – A Tale of Portland Bridges - Portland, OR
- #4 – Back-in Diagonal Parking with Bike Lanes - Vancouver, WA
- #7 – Bicycle Treatments on a Former Pedestrian Mall - Eugene, OR
- #12 – Floating Bike Lanes in Conjunction with Part-time Parking - San Francisco, CA
- #16 – Preferential Transit-Bicycle-Right Turn Lanes on Broadway Boulevard - Tucson, AZ
- #18 – Contraflow Bicycle Lanes on Urban Streets - Cambridge, MA
- #19 – Left Side Bike Lanes on One-Way Streets - Minneapolis, MN
- #21 – Combined Bicycle Lane/Right-Turn Lane - Portland, OR
- #22 – Blue Bike Lanes at Intersection Weaving Areas - Portland, OR
- #24 – Improving Sight Distance between Cyclists and Motorists - San Francisco, CA
- #25 – Grandview Drive Roundabout and Corridor Improvements - University Place, WA
- #26 – Innovative Application of the Bike Box - Eugene, OR
- #27 – Comprehensive Maintenance Planning for Bicycle Facilities - Seattle, WA
- #32 – Bicycle Boulevards — Bryant Street Example - Palo Alto, CA
- #34 – Path and Roadway Intersections - Portland, OR
- #39 – Bicycle Signal Heads - Davis, CA

- #41 – Share the Road Sign Initiative - North Carolina
- #55 – Bicycle Destination Signing System - San Diego, CA

top of page

U.S. Department of Transportation
Federal Highway Administration

BIKESAFE Bicycle Countermeasure Selection Syster

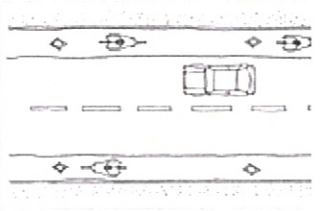
Applicable Countermeasures

View Other Applicable Countermeasures

Bike Lanes

view purpose
view considerations
view estimated cost
view case studies

Bike lanes indicate a preferential or exclusive space for bicycle travel along a street. Bike lanes are typically 1.2 to 1.8 m (4 to 6 ft) in width and are designated by striping and/or signs. Colored pavement (for example, blue or red bike lanes) or a different paving material has also been used in certain situations to distinguish bike lanes from the motor vehicle lanes. Use of colored bike lanes is being considered but is not yet an accepted MUTCD standard.[2] Bike lanes are usually marked along the right side of the roadway and should be designated to the left of parking or right-turn lanes. Sometimes bike lanes are marked on the left side of a one-way street.



Bike lanes on a two-lane roadway

Illustration by A.J. Silva

Adaptations to bike lanes have been used to solve local problems. An innovative bike lane transit stop treatment in Portland, OR, is used to reduce conflicts between bicyclists and streetcar transit stop users adjacent to a bike lane (see case study #13). (Adaptation for this treatment should be possible for a shared roadway situation.) Some communities also employ combination bike and bus lanes, a single lane nearest the curb that is shared by the two modes. This is generally workable unless there is considerable bike and bus traffic.

view

Bike lanes have been found to provide more consistent separation between bicyclists and passing motorists than shared travel lanes. The presence of the bike lane stripe has also been shown from research to result in fewer erratic motor vehicle driver maneuvers, more predictable bicyclist riding behavior, and enhanced comfort levels for both motorists and bicyclists.[3] The extra space created for bicyclists is also a benefit on congested roadways where bicyclists may be able to pass motor vehicles on the right.

view

Purpose

- Create on-street, separated travel facilities for bicyclists.
- Provide separate operational space for safe motorist overtaking of bicyclists.
- Reduce or prevent the problems associated with bicyclists overtaking motor vehicles in narrow, congested areas.
- Narrow the roadway or roadway motor vehicle traffic lanes to encourage lower motor vehicle speeds.

view

top of page

Considerations

- Where bike lanes are to be considered, the road or street should be evaluated to determine if this facility is appropriate.
- Provide adequate bike lane width.
- Provide a smoothly paved surface and keep the bike lane free of debris.
- Provide adequate space between the bike lane and parked cars so that open doors do not create a hazard for bicyclists.
- Avoid termination of bike lanes where bicyclists are left in a vulnerable situation.
- Determine if special signs or markings are necessary for situations such as a high-volume of bike left turns on a busy roadway.

top of page

Estimated Cost

The cost of installing a bike lane is approximately $3,100 to $31,000 per kilometer ($5,000 to $50,000 per mile), depending on the condition of the pavement, the need to remove and repaint the lane lines, the need to adjust signalization, and other factors. It is most cost efficient to create bike lanes during street reconstruction, street resurfacing, or at the time of original construction.

top of page

Case Studies

- #2 – A Tale of Portland Bridges - Portland, OR
- #5 – Valencia Street Road Diet — Creating Space for Cyclists - San Francisco, CA
- #6 – Shoreline Park Expansion Project — Provision of Bicycle and Pedestrian Enhancements - Santa Barbara, CA
- #8 – Bike Lane Safety Evaluation - Phoenix, AZ
- #9 – Establishing Bike Lanes — Chicago's Streets for Cycling Plan - Chicago, IL
- #10 – How Hampshire Street Pavement Markings Influence Bicycle and Motor Vehicle Positioning - Cambridge, MA
- #11 – Raised Bicycle Lanes and Other Traffic Calming Treatments on Ayres Road - Eugene, OR
- #12 – Floating Bike Lanes in Conjunction with Part-time Parking - San Francisco, CA
- #13 – Incorporating a Bicycle Lane through a Streetcar Platform - Portland, OR
- #16 – Preferential Transit-Bicycle-Right Turn Lanes on Broadway Boulevard - Tucson, AZ
- #17 – Taming the Urban Arterial - Madison, WI
- #18 – Contraflow Bicycle Lanes on Urban Streets - Cambridge, MA
- #19 – Left Side Bike Lanes on One-Way Streets - Minneapolis, MN

- #21 – Combined Bicycle Lane/Right-Turn Lane - Portland, OR
- #22 – Blue Bike Lanes at Intersection Weaving Areas - Portland, OR
- #23 – Crossing an Arterial through an Offset Intersection: Bicycle-Only Center-Turn Lane - Portland, OR
- #25 – Grandview Drive Roundabout and Corridor Improvements - University Place, WA

top of page

U.S. Department of Transportation
Federal Highway Administration

Applicable Countermeasures

Based upon your input, the following countermeasures were found:

Pedestrian Facility Design
Sidewalks and Walkways
Curb Ramps
Marked Crosswalks and Enhancements
Transit Stop Treatments

Roadway Design
Raised Medians

Traffic Calming
Chokers
Crossing Islands

Signals and Signs
Traffic Signals
Pedestrian Signals
Pedestrian Signal Timing
Traffic Signal Enhancements

Your Input:

Roadway Location:
KY 1501 Kenton County

Your Performance Objective:
Improve Pedestrian Access and Mobility

Your answers to the previous questions:

Type of Area: **Urban Other**
Functional Class: **Collector or Minor Arterial**
Intersection or Midblock: **Not Applicable**
Volume: **Medium (>=10,000 and <= 25000 ADT)**
Speed: **Low (<= 45 mph)**
No. of Lanes: **2 or fewer lanes**
Traffic Signal: **Not Applicable**

Next Steps:

Edit:

Change Your Performance Objective
Change Your Answers

Save:

Output Results to Excel

Start Over

U.S. Department of Transportation
Federal Highway Administration

Applicable Countermeasures

view purpose
view considerations
view estimated cos
view case studies

View Other Applicable Countermeasures

Sidewalks and Walkways

Sidewalks and walkways are "pedestrian lanes" that provide people with space to travel within the public right-of-way that is separated from roadway vehicles. They also provide places for children to walk, run, skate, ride bikes, and play. Sidewalks are associated with significant reductions in pedestrian collisions with motor vehicles.[1] Such facilities also improve mobility for pedestrians and provide access for all types of pedestrian travel: to and from home, work, parks, schools, shopping areas, transit stops, etc. Walkways should be part of every new and renovated facility and every effort should be made to retrofit streets that currently do not have sidewalks.

Adapted from *Making Streets Tha*
Seattle, 1996

view

view

While sidewalks are typically made of concrete, less expensive walkways may be constructed of asphalt, crushed stone, or other materials if they are properly maintained and accessible (firm, stable, and slip-resistant). In more rural areas, in particular, a "side path" made of one of these materials may be suitable. Both FHWA and the Institute of Transportation Engineers (ITE) recommend a minimum width of 1.5 m (5 ft) for a sidewalk or walkway, which allows two people to pass comfortably or to walk side-by-side. Wider sidewalks should be installed near schools, at transit stops, in downtown areas, or anywhere high concentrations of pedestrians exist. Sidewalks should be continuous along both sides of a street and sidewalks should be fully accessible to all pedestrians, including those in wheelchairs.[2, 3]

A buffer zone of 1.2 to 1.8 m (4 to 6 ft) is desirable and should be provided to separate pedestrians from the street. The buffer zone will vary according to the street type. In downtown or commercial districts, a street furniture zone is usually appropriate. Parked cars and/or bicycle lanes can provide an acceptable buffer zone. In more suburban or rural areas, a landscape strip is generally most suitable. Careful planning of sidewalks and walkways is important in a neighborhood or area

in order to provide adequate safety and mobility. For example, there should be a flat sidewalk provided in areas where driveways slope to the roadway.

Recommended guidelines and priorities for sidewalks and walkways are given in More Info.

Purpose

• Create the appropriate facility for the walking area of the public right-of-way.
• Improve pedestrian safety dramatically.

top of page

Considerations

• While continuous walkways are the goal, retrofitting areas without them will usually occur in phases. Lack of a seamless system is no excuse not to provide parts of the system.
• In retrofitting streets that do not have a continuous or accessible system, locations near transit stops, schools, parks, public buildings, and other areas with high concentrations of pedestrians should be the highest priority.
• Street furniture placement should not restrict pedestrian flow.

top of page

Estimated Cost

The cost for concrete curbs and sidewalks is approximately $49/linear meter ($15/linear foot) for curbing and $118/square meter ($11/square foot) for walkways. Asphalt curbs and walkways are less costly, but require more maintenance, and are somewhat more difficult to walk and roll on for pedestrians with mobility impairments.

top of page

Case Studies

Berkeley, CA
Boulder, CO
Allegheny County, PA
Clemson, SC
Albany, NY
Eureka, CA
Grand Junction, CO
Fort Plain, NY
Marin County, CA
Las Vegas, NV
Oneonta, NY
Prescott, AZ
Tempe, AZ
Fort Pierce, FL
Bern, Switzerland
University Place, WA
West Hollywood, CA

top of page

U.S. Department of Transportation
Federal Highway Administration

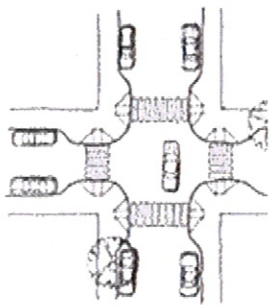
Applicable Countermeasures

view purpose
view considerations
view estimated cos
view case studies

View Other Applicable Countermeasures

Marked Crosswalks and Enhancements

Marked crosswalks indicate optimal or preferred locations for pedestrians to cross and help designate right-of-way for motorists to yield to pedestrians. Crosswalks are often installed at signalized intersections and other selected locations. Various crosswalk marking patterns are given in the MUTCD.[5] Marked crosswalks are desirable at some high pedestrian volume locations (often in conjunction with other measures) to guide pedestrians along a preferred walking path. In some cases, they can be raised and should often be installed in conjunction with other enhancements that physically reinforce crosswalks and reduce vehicle speeds. It is also sometimes useful to supplement crosswalk markings with warning signs for motorists. At some locations, signs can get "lost" in visual clutter, so care must be taken in placement.



City of Cambridge, MA

view

view

view

view

Pedestrians are sensitive to out-of-the-way travel, and reasonable accommodation should be made to make crossings both convenient and safe at locations with adequate visibility.

Recommended guidelines and priorities for crosswalk installation at controlled locations are given in Appendix D. These guidelines are based on a major study of 1,000 marked crosswalks and 1,000 unmarked crossings in 30 U.S. cities. Recommendations are also given for providing other pedestrian crossing enhancements at uncontrolled locations with and without a marked crosswalk.[6]

Crosswalk Materials

It is important to ensure that crosswalk markings are visible to motorists, particularly at night. Crosswalks should not be slippery, create tripping hazards, or be difficult to traverse by those with diminished mobility or visual capabilities. Granite and cobblestones are examples of materials that are aesthetically pleasing,

but may become slippery when wet or be difficult to cross by pedestrians who are blind or using wheelchairs. One of the best materials for marking crosswalks is inlay tape, which is installed on new or repaved streets. It is highly reflective, long-lasting, and slip-resistant, and does not require a high level of maintenance. Although initially more costly than paint, both inlay tape and thermoplastic are more cost-effective in the long run. Inlay tape is recommended for new and resurfaced pavement, while thermoplastic may be a better option on rougher pavement surfaces. Both inlay tape and thermoplastic are more visible and less slippery than paint when wet.

Purpose

- Warn motorists to expect pedestrian crossings.
- Indicate preferred crossing locations.

top of page

Considerations

- Crosswalk locations should be convenient for pedestrian access.
- Crosswalk markings alone are unlikely to benefit pedestrian safety. Ideally, crosswalks should be used in conjunction with other measures, such as curb extensions, to improve the safety of a pedestrian crossing, particularly on multi-lane roads with average daily traffic (ADT) above about 10,000.
- Marked crosswalks are important for pedestrians with vision loss.
- Crosswalk markings must be placed to include the ramp so that a wheelchair does not have to leave the crosswalk to access the ramp.

top of page

Estimated Cost

Approximate installation costs are $100 for a regular striped crosswalk, $300 for a ladder crosswalk, and $3,000 for a patterned concrete crosswalk. Maintenance of the markings must also be considered and varies by region of the country and materials used.

top of page

Case Studies

Clemson, SC
Eureka, CA
Grand Junction, CO
Fort Plain, NY
Bern, Switzerland
Cambridge, MA
Beverly Hills, CA
Hendersonville, NC
Denville, NJ
Clark County, WA
Cupertino, CA
Multiple Cities, NY
Bellevue, WA
Bellevue, WA
Baltimore/Washington International Airport, Maryland

Portland, OR
Rochester, NY
Arlington County, VA
Salt Lake City, UT
New York, NY
Portland, OR
Tucson, AZ
Cambridge, MA

top of page

U.S. Department of Transportation
Federal Highway Administration

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

December 18, 2007

Mike Bezold, P.E.
Kentucky Transportation Cabinet
P.O. Box 17130
Covington, Kentucky 41017

RE: Kenton County Item No. 07-8307.00

Dear Mr. Bezold:

The Kentucky Department of Agriculture recognizes receipt of information relating to the above noted Item No. At this time, the Department has no comment on the proposed project.

We appreciate the opportunity to provide input.

Yours truly,

Richie Farmer, Commissioner

Bezold, Mike (KYTC-D06)

From: Wilkins, Joe N MR NGKY [joe.wilkins@us.army.mil]
Sent: Thursday, January 10, 2008 11:07 AM
To: Bezold, Mike (KYTC-D06)
Cc: Berthold, Julius L BG(R) NGKY
Subject: Planning Study, Kenton County, Hands Pike, KY 1501, Item Number 07-8307.00

Mr. Bezold,

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

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

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

Steven L. Beshear
Governor

DEPARTMENT FOR ENVIRONMENTAL PROTECTION
300 FAIR OAKS LANE
FRANKFORT, KENTUCKY 40601
PHONE (502) 564-2150
FAX (502)564-4245
www.dep.ky.gov

Robert D. Vance
Secretary

R. Bruce Scott
Commissioner

January 31, 2008

Mr. Mike Bezold, P.E.
Kentucky Transportation Cabinet
P.O. Box 17130
Covington, KY 41017

Re: Planning Study. Kenton County Hands Pike KY 1501 Item No. 07-8307.00 (SERO 2007-34)

Dear Mr. Bezold,

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. 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

Division of Water Comments

Planning Study for Improvements to KY 1501, Hands Pike

Endorsement:

A request for review of the Planning Study for improvements to KY 1501, Hands Pike in Kenton County, Kentucky was received on December 21, 2007. The Division of Water (DOW) completed this review and found that the information provided warranted an endorsement of this project. Below are the comments that were received.

Groundwater Branch:

Proposed improvements to KY 1501 in Kenton County are likely to have minimal, if any, effects to groundwater. However, if they do occur, they are likely to be transitory.

To protect the area's groundwater, the measures found in the following should be adhered to: KYTC Best Management Practices, the Kentucky Department of Highways Standard Specifications, and the KYTC Generic Groundwater Protection Plan. If, during construction, these measures are found to be inadequate, KYTC is strongly encouraged to consult with the Kentucky Geological Survey and the Division of Water in the development of any new measures that may be necessary.

Water Resources Branch:

Any excess material generated from the project activity, if disposed outside the Right of Way of Department of Highways and in the regulatory floodplain will require permit from DOW per KRS 151.250.

Enforcement Branch:

The Division of Enforcement does not object to the project proposed by the applicant.

Division of Waste Management Comments

Project Number: SERO 2007-34

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

REVIEW DATE: January 10, 2008

TITLE: Planning Study – Kenton County Hands Pike KY 1501, No. 07-8307.00

PROJECT NUMBER: SERO 2007 - 34

SPONSOR: Kentucky Transportation Cabinet

COMMENTS: Kentucky Division for Air Quality's comments are provided below

The following Kentucky Administrative Regulations apply to this proposed project:

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. 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. Although, vegetative matter accumulated by land clearing is included as a permissible method of disposal, the Division encourages the use of chipping and grinding in order to avoid excessive particulate emissions in the immediate vicinity of the project.

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.

Every effort should be made to maintain compliance with the preceding regulations and requirements. The Division also suggests an investigation into compliance with applicable regulations in the local governments. If there are any questions relating to this matter, please contact Joe Forgacs at (502) 573-3382 extension 309.

Bezold, Mike (KYTC-D06)

From: Gruzesky, Ron (EPPC DEP DWM)
Sent: Tuesday, December 18, 2007 3:25 PM
To: Gilbert, George (EPPC DEP DWM)
Subject: FW: Planning Study Kenton Co..pdf Transportation Cabinet

FYI

Ron Gruzesky, P.E.
Manager, Solid Waste Branch
Kentucky Dept. for Environmental Protection
502/564-6716 ext. 240

From: Cooley, Tony (EPPC DEP DWM)
Sent: Tuesday, December 18, 2007 3:24 PM
To: Gruzesky, Ron (EPPC DEP DWM)
Cc: Anderson, Danny (EPPC DEP DWM)
Subject: RE: Planning Study Kenton Co..pdf Transportation Cabinet

This one was easy. I have no mapped landfills within the project area.

Tony L. Cooley P.E., P.G.
Environmental Engineer II
EPPC-DEP Division of Waste Management
Solid Waste Branch, Closure Section
502-564-6716 or
502-564-8158 ext 298 direct

From: Gruzesky, Ron (EPPC DEP DWM)
Sent: Tuesday, December 18, 2007 3:12 PM
To: Cooley, Tony (EPPC DEP DWM)
Cc: Anderson, Danny (EPPC DEP DWM)
Subject: FW: Planning Study Kenton Co..pdf Transportation Cabinet

Tony,

Could you take a look at this?

Ron Gruzesky, P.E.
Manager, Solid Waste Branch
Kentucky Dept. for Environmental Protection
502/564-6716 ext. 240

From: Gilbert, George (EPPC DEP DWM)
Sent: Tuesday, December 18, 2007 9:56 AM
To: Daniell, Robert (EPPC DEP DWM); Gruzesky, Ron (EPPC DEP DWM); Maybriar, Jon (EPPC DEP DWM); Sherkat, Fazi (EPPC DEP DWM); Webb, April (EPPC DEP DWM)
Cc: Fant, Michael (EPPC DEP DWM)
Subject: FW: Planning Study Kenton Co..pdf Transportation Cabinet

Please forward facilities within the project area and comments by COB Fri., Jan. 18. Thanks.

From: Perry, Jennie (EPPC DEP DWM)
Sent: Monday, December 17, 2007 3:39 PM
To: Gilbert, George (EPPC DEP DWM)
Subject: Planning Study Kenton Co..pdf

Bezold, Mike (KYTC-D06)

From: Daniell, Robert (EPPC DEP DWM)
Sent: Tuesday, December 18, 2007 1:35 PM
To: Gilbert, George (EPPC DEP DWM)
Cc: Baase, Dawn (EPPC DEP DWM)
Subject: FW: Planning Study Kenton Co..pdf Transportation Cabinet

Thanks Dawn.

Rob Daniell, Manager
Underground Storage Tank Branch
81 C. Michael Davenport Blvd.
Frankfort, KY 40601
(502) 564-5981

From: Baase, Dawn (EPPC DEP DWM)
Sent: Tuesday, December 18, 2007 1:06 PM
To: Daniell, Robert (EPPC DEP DWM)
Subject: RE: Planning Study Kenton Co..pdf Transportation Cabinet

UST Branch sends the following comments regarding Item No. 7-8307.00

The USTB identified three (3) facilities (AI# 38735, AI# 38732, & AI# 38739) with a total of eight (8) registered tanks that are currently active. It appears there are no facilities undergoing corrective actions within the project area.

Please notify the UST Branch if additional information is required.

Dawn Langford Baase
AEI Section, USTB
Division of Waste Management
81 C. Michael Davenport Blvd
Frankfort, KY 40601
phone: 502-564-5981 ext. 250
fax: 502-564-5047

From: Daniell, Robert (EPPC DEP DWM)
Sent: Tuesday, December 18, 2007 10:28 AM
To: Baase, Dawn (EPPC DEP DWM)
Subject: FW: Planning Study Kenton Co..pdf Transportation Cabinet

Rob Daniell, Manager
Underground Storage Tank Branch

81 C. Michael Davenport Blvd.
Frankfort, KY 40601
(502) 564-5981

From: Gilbert, George (EPPC DEP DWM)
Sent: Tuesday, December 18, 2007 9:56 AM
To: Daniell, Robert (EPPC DEP DWM); Gruzesky, Ron (EPPC DEP DWM); Maybriar, Jon (EPPC DEP DWM); Sherkat, Fazi (EPPC DEP DWM); Webb, April (EPPC DEP DWM)
Cc: Fant, Michael (EPPC DEP DWM)
Subject: FW: Planning Study Kenton Co..pdf Transportation Cabinet

Please forward facilities within the project area and comments by COB Fri., Jan. 18. Thanks.

From: Perry, Jennie (EPPC DEP DWM)
Sent: Monday, December 17, 2007 3:39 PM
To: Gilbert, George (EPPC DEP DWM)
Subject: Planning Study Kenton Co..pdf

Bezold, Mike (KYTC-D06)

From: Houlihan, John (KYTC)
Sent: Monday, January 07, 2008 3:10 PM
To: Bezold, Mike (KYTC-D06)
Subject: Item No. 07-8307.00

Mr. Bezold,

Below is our jurisdiction within the state, I believe the only thing that you all might have is construction cranes that may exceed 200 feet in height above ground level. If anything structure temporary or permanent exceeds any of the below sections you will have to have a permit from the State and the FAA.

Section 1. The commission has zoning jurisdiction over that airspace over and around the public use and military airports within the Commonwealth which lies above the imaginary surface that extends outward and upward at one (1) of the following slopes:

(1) 100 to one (1) for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of each public use and military airport with at least one (1) runway 3,200 feet or more in length; or

(2) Fifty (50) to one (1) for a horizontal distance of 10,000 feet from the nearest point of the nearest runway of each public use and military airport with its longest runway less than 3,200 feet in actual length.

Section 2. The commission has zoning jurisdiction over the use of land and structures within public use airports within the state.

Section 3. The commission has jurisdiction from the ground upward within the limits of the primary and approach surfaces of each public use and military airport as depicted on Airport Zoning Maps approved by the Kentucky Airport Zoning Commission.

Section 4. The commission has jurisdiction over the airspace of the Commonwealth that exceeds 200 feet in height above ground level.

If you have any questions, let me know.

Kentucky Airport Zoning Commission
John Houlihan, Administrator
200 Mero Street
Frankfort KY 40622
502.564.9900 Ext. 3854
Fax 502.564.7953
Cell 502.330.3955
www.transportation.ky.gov/aviation/kyzoning.htm

MEMORANDUM **P-020-2007**

TO: Mike Bezold
Planning
District 6, Covington

FROM: William Broyles, PE
Geotechnical Engineering
Branch Manager
Division of Structural Design

BY: Michael Blevins, PG
Geotechnical Branch

DATE: February 6, 2008

SUBJECT: Kenton County
FD04 059 1501 000-003 P
Hands Pike KY 1501
Planning Study
Item # 06-8307.00
Mars # 8049601P
Geotechnical Review

The Geotechnical Branch has completed a review of the project study area and offers the following comments.

GEOLOGIC OVERVIEW

The project is underlain by Quaternary Alluvium (Qal), Glacial Drift (not mapped); Bull Fork Formation (Ob); Bellevue Tongue of Grant Lake Limestone (Ogb); Fairview Formation (Of) and the Kope Formation (Ok). These Formations are shown on the attached Geologic Quadrangle Map.

The Alluvium consists of clay, silt, sand and gravel and is mainly confined to the flood plain along the Banklick Creek. The depth of the deposits can be up to 25 feet.

Glacial Drift deposits range from 0-15 feet thick and occur in the Northwestern part of the project area. The Southern limits of the Glacial Drift are indicated by the light blue dashed line as shown on the attached Geologic Quadrangle map.

The Bull Fork Formation contains interbedded limestone and shale with limestone being approximately 50% or more. The limestone is normally thin bedded, argillaceous, silty, and weathers to piles of rubble when exposed at the surface. The shale weathers rapidly when exposed. The formation occurs mainly along the ridge tops.

The Bellevue Tongue of the Grant Lake ranges from 6 to 20 feet thick and is argillaceous (shalely), thin bedded and non-resistant and weathers to rubble. The limestone is normally not suitable for use in roadbeds.

The Fairview Formation consists of interbedded Limestone (45 to 65 percent) and Shale. The formation is approximately 90 to 120 feet thick and is exposed at the surface over most of the project area. Limestone beds range in thickness from 8" to 15". The Shale weathers rapidly in the upper portion of the Formation and is relatively resistant in the lower 25 to 30 feet of the Formation. The Shale percentages are more than 50 percent in the lower 25 to 30 feet of the Formation.

The Kope Formation is made up of Shale (75 to 80 percent) interbedded with Limestone. Limestone beds are generally less than 6" thick. The shale also weathers rapidly when exposed at the surface.

GEOTECHNICAL CONCERNS

Structures founded in alluvium may require deeper than normal types of foundations.

Cut slopes constructed in Glacial Drift may be highly erodeable and require some type of slope protection to prevent erosion. Flatter cut slopes may also be required to ensure a stable slope.

Cut slopes in the Bull Fork and Bellevue Tongue of the Grant Lake may be stable on pre-split slopes. Sinkholes may also be encountered in both Formations but should be shallow and present little problems for construction.

Cuts constructed in the Fairview and Kope may require flatter than normal cut slopes and extra Right-of-Way for slopes to be stable. Embankments constructed from this material may require flatter than normal fill slopes. The material from these formations may not be suitable for all roadway applications.

Side hill cut and fill sections should be avoided if possible due to foundation and slope stability issues particularly in the Kope Formation.

The Branch has no preference for either corridor at this time.

If there are any questions, please advise.

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

January 10, 2008

Mike Bezold, P.E.
Kentucky Transportation Cabinet
District 6
P.O. Box 17130
Covington, KY 41017

Dear Mr. Bezold:

This letter is to summarize any geologic concerns for the planning study:

Kenton County
Hands Pike
Ky. 1501
Item No. 07-8307.00

Physiographic Region

The study area is located in the Outer Bluegrass physiographic region, which is underlain by interbedded limestone and shale, interbedded shale and limestone, gravel, sand, silt, and clay.

7.5-Minute U.S. Geological Survey Topographic and Geologic Quadrangle Map

The study area is located in the Independence quadrangle.

County Land-Use Planning Map

For good geologic (with physical parameters) overview of the study area, refer to the county land-use planning map at www.uky.edu/KGS.

On the home page, click on GIS and Maps.

On this page, click on County Land-Use Planning Maps.

On this page, click on the county of interest on the index map. A viewable and downloadable PDF of the county land-use map will be displayed.

Karst Potential

The study area might encounter karst features such as sinkholes, especially in the lower part of the Bull Fork Formation and near the base of the Bellevue Tongue of the Grant Lake Formation.

KGS

Landslide Potential
The study area would encounter units that would be prone to landslides, such as the Kope Formation, where there is a higher percentage of interbedded shales within the limestone. The shales are soft and easily deformed when wet, and become unstable and subject to slumping. Oversteepened banks and artificial cuts should be avoided or be properly designed and drained.

Unconsolidated Sediments
The study area would 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. No oil and gas wells were found within a 1-mile radius of the study area (http://kgsweb.uky.edu/DataSearching/OilGas/OGSearch.asp).

Materials Suitability
The study area might encounter rock units that would be suitable for construction stone. A limestone quarry operated prior to 1966 on the west side of Highway 17, 2 miles north of the Independence court house. Selected limestones would be suitable for road construction from the lower half of the Fairview Formation and upper few feet of the Kope Formation.

Fault Potential
The study area would not encounter any faulted areas.

Earthquake Ground Motions
The study area has a probable peak ground acceleration (PGA) 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

EDUCATION CABINET
DEPARTMENT OF EDUCATION

Steven L. Beshear
Governor

Capital Plaza Tower
500 Mero Street
Frankfort, Kentucky 40601
Phone (502) 564-4770
www.education.ky.gov

Jon E. Draud, Ed.D.
Commissioner of Education

February 15, 2008

Mr. G. Michael Bezold, P.E
District 6 Planning Office
Kentucky Transportation Cabinet
PO Box 17130
Covington, KY 41017

Subject: Planning Study, Kenton County
Hands Pike, KY 1501
Item Number 07-8307.00

Dear Mr. Bezold:

Our office is in receipt of your letter (attached) requesting input and comments on a planning study for the proposed highway project in Kenton County. By copy of this letter, the Kentucky Department of Education will forward your request to the Kenton County Board of Education for review and comment. If you need to discuss this matter further, please contact Mr. Louis Hugg, Planning Branch Manager, Division of Facilities Management, Kentucky Department of Education, (502) 564-4326.

Sincerely,

Mark W. Ryles, Director
Division of Facilities Management

MWR/efh
Attachment: Correspondence 12/14/2007

c: Ms. Helen Mountjoy, Secretary Education Cabinet
Mr. Tim Hanner, Superintendent, Kenton County Schools
Correspondence

Steven L. Beshear
Governor

TRANSPORTATION CABINET
Frankfort, Kentucky 40622
www.kentucky.gov
Department of Highways
District Six
P.O. Box 17130
421 Buttermilk Pike
Covington, Kentucky 41017-0130
(859) 341-2700
(859) 341-3661 (FAX)

Joseph W. Prather
Secretary

December 14, 2007

Ms. Laura Owens
Secretary
Education Cabinet
Capital Plaza Tower, 2nd Floor
Frankfort, KY 40601

Subject: Planning Study
Kenton County
Hands Pike
KY 1501
Item Number 07-8307.00

Dear Ms. Owens:

We are requesting your agency's input and comments on a planning study to determine the need and potential impacts for a proposed highway project. The Kentucky Transportation Cabinet has assembled a study team to evaluate the current conditions and develop short term and long term improvements to KY 1501, Hands Pike, in Covington, KY. The primary goal of this project would be to improve the safety along this corridor. The study is currently in the initial data gathering stage.

We ask that you identify specific issues or concerns of your agency that could affect the development of the project. This planning study will include a scoping process for the earl identification of potential alternatives, environmental issues, and impacts related to the proposed project. We believe that early identification of issues or concerns can help us develop highway project alternatives to avoid or minimize negative impacts. In particular, we are asking that you provide the following information:

- Comments on the project goals or purpose and need for any project
- Significant issues or concerned in the project area that may need to be addressed so that the project can be adequately scoped,
- Any conservation or development plans your agency or organization has ongoing or is aware of in the project area.

- Locations of any known areas, issues, or resources within the project area should be considered when developing alternatives so that impacts can be minimized, mitigated, or avoided early in the process, and
- Any mitigation strategies that should be considered in the development of any project.

We respectfully ask that you provide us with your comments by January 30, 2008, to ensure timely progress in this planning effort.

During the development of the planning study, comments will be solicited from federal, state, and local agencies, as well as other interested persons and the general public, in accordance with principles set forth in the National Environmental Policy Act (NEPA) of 1969.

Other Transportation Cabinet offices or consultants working on behalf of the Transportation Cabinet may also contact you seeking more detailed data or information to assist them in completing their environmental studies for this phase of the project.

We have enclosed the following project information for your review and comment:

- Project Location Map
- Crash, Traffic and Functional Classification Map
- Aerial Photography Environmental Footprint
- USGS Topographic Environmental Footprint

We appreciate any input you can provide concerning this project. Please direct any comments, questions, or requests for additional information to Mike Bezold in the District 6 Planning Office at (859) 341-2707 ext. 259 or Mike.Bezold@ky.gov. Please address all written correspondence to Mike Bezold, P.E., Kentucky Transportation Cabinet, P.O. Box 17130, Covington, KY 41017.

Sincerely,
Thomas Schomaker, P.E.
Executive Director District 6

G. Michael Bezold, P.E.
District Planning Engineer

GMB
Enclosures
Cc: Tom Springer, Qk4
Jimmy Wilson

Bezold, Mike (KYTC-D06)

From: Palmer-Ball, Brainard (EPPC OOS KNPC)
Sent: Tuesday, January 08, 2008 2:21 PM
To: Bezold, Mike (KYTC-D06)
Cc: MacGregor, John (FW)
Subject: KSNPC comment concerning KY 1501 in Kenton Co.

TO: Mike Bezold, KTC

FROM: Brainard Palmer-Ball, Jr., KSNPC

DATE: January 8, 2008

RE: KY 1501 (Hands Pike) Study, Kenton Co.

KSNPC has reviewed the KY 1501 project summary and notes that the wooded areas in the vicinity of the confluence of Wayman Branch and Banklick Creek harbor a significant population of Redback salamander (Plethodon cinereus). This species is very restricted in range in Kentucky, occurring primarily in a small portion of the northern tier of counties. Every effort should be made to minimize disturbance to wooded areas to protect the population of Redback salamanders in the project area.

Bezold, Mike (KYTC-D06)

From: MacGregor, John (FW)
Sent: Tuesday, January 08, 2008 2:23 PM
To: Palmer-Ball, Brainard (EPPC OOS KNPC); Bezold, Mike (KYTC-D06)
Subject: RE: KSNPC comment concerning KY 1501 in Kenton Co.

Thanks, Brainard. I agree.

John MacGregor
Herpetologist - Wildlife Diversity Program
Kentucky Department of Fish and Wildlife Resources
#1 Sportsman's Lane
Frankfort, KY 40601

email: john.macgregor@ky.gov
office phone: 502-564-7109 ext 370
office FAX: 502-564-4519

From: Palmer-Ball, Brainard (EPPC OOS KNPC)
Sent: Tuesday, January 08, 2008 2:21 PM
To: Bezold, Mike (KYTC-D06)
Cc: MacGregor, John (FW)
Subject: KSNPC comment concerning KY 1501 in Kenton Co.

TO: Mike Bezold, KTC

FROM: Brainard Palmer-Ball, Jr., KSNPC

DATE: January 8, 2008

RE: KY 1501 (Hands Pike) Study, Kenton Co.

KSNPC has reviewed the KY 1501 project summary and notes that the wooded areas in the vicinity of the confluence of Wayman Branch and Banklick Creek harbor a significant population of Redback salamander (Plethodon cinereus). This species is very restricted in range in Kentucky, occurring primarily in a small portion of the northern tier of counties. Every effort should be made to minimize disturbance to wooded areas to protect the population of Redback salamanders in the project area.

JUSTICE AND PUBLIC SAFETY CABINET

Steven L. Beshear
Governor

Kentucky Vehicle Enforcement
Frankfort, Kentucky 40601

J. Michael Brown
Secretary

Gregory G. Howard
Commissioner

January 7, 2008

Mr. Mike Bezold, PE
Kentucky Transportation Cabinet
PO Box 17130
Covington, KY 41017

Dear Mr. Bezold:

We are in receipt of your letter requesting any input that Kentucky Vehicle Enforcement might have in regards to a planning study, Kenton County, Hands Pike, KY 1501, item no. 07-8307.00.

After having my staff research the matter, we do not see any concerns as it relates to our agency.

If you need any further information, please do not hesitate to let us know.

Sincerely,

Gregory G. Howard
Commissioner
Department of Kentucky Vehicle Enforcement

KENTUCKY STATE POLICE

Steve Beshear
Governor

919 Versailles Road
Frankfort, Kentucky 40601
www.kentucky.gov

Rodney Brewer
Commissioner

January 28, 2008

Mr. G. Michael Bezold, P.E.
KY Transportation Cabinet
PO Box 17130
Covington, KY 41017

RE: Planning Study
Kenton County
Hands Pike KY 1501

Dear Mr. Bezold,

We have reviewed the project information on the above mentioned study, and we thank you for allowing us the opportunity to contribute our opinions and findings.

I asked Tpr. Chris Steward, an eight year veteran with the Kentucky State Police, who patrols this highway often, to handle your request, and his memorandum is enclosed.

Again, we appreciate the opportunity to contribute our thoughts, and if we can be of further assistance, please do not hesitate to contact us.

Sincerely,

Capt. Mike Crawford

Captain Mike Crawford
Commander Post 6

KENTUCKY STATE POLICE

Steve Beshear
Governor

919 Versailles Road
Frankfort, Kentucky 40601
www.kentucky.gov

Rodney Brewer
Commissioner

MEMORANDUM

TO: Captain Mike Crawford U/14 (Through Channels)

FROM: Tpr. Chris Steward U/1015

DATE: January 16, 2008

SUBJECT: **Ky 1501/Hands Pike Transportation Study**

I have reviewed the documents provided by the Transportation Cabinet in regards to a possible improvement project to Ky 1501/Hands Pike. I also spoke with Mike Bezold, who is the District Planning Engineer for the Department of Highways District Six. The primary goal of the project would be to improve safety along the Ky 1501 corridor. On several different occasions over the past few weeks I patrolled Ky 1501 looking for items to improve the safety of the motorist. I have developed several ideas that might reduce the number of collisions that occur on this roadway.

Hands Pike or Ky 1501 is a busy corridor that runs between two major and very busy roadways in central Kenton County. The roadway intersections with Ky 16/Taylor Mill Road on the north side, and on the south side intersect with Ky 17/Madison Pike. A few yeas ago the intersection with Ky 17/Madison Pike was widened and turn lanes were added as part of the Ky 17 project. The first suggestion to improve safety to the Ky 1501 would be to do the same thing with the intersection of Ky 16. As you approach this intersection you must navigate a sharp curve. The distance between this curve and the intersection does not allow much reaction time if vehicles are stacked on Ky 1501 at the intersection. While at the intersection, there is a line of sight problem due to the grade in the roadway on Ky 16. The site distance to the south is only approximately three hundred and seventy five feet. I am aware of the current improvement plans to Ky 16. As part of those plans, I believe there are plans to move this intersection further south and widen it. This should be a priority when that project goes forward. It should help greatly reduce the number of collisions at that intersection.

The second problem area according to the collisions data provided, is the intersection of Ky 1501 with Wayman Branch Road. According to the collision data, this intersection had several injury collisions including a fatal. This intersection is basically at the bottom of two steep grades. Wayman Branch Road intersects with Ky 1501 at an odd angle, which requires a driver turning from Wayman Branch Road onto Ky 1501 to turn almost one hundred and eighty degrees to view traffic traveling south on Ky 1501 toward the intersection. As the driver looks north to view the on coming traffic, the sight line is less than two hundred feet. A closer look at the realignment of this intersection is needed. A short term and less expensive means to improve the sight line would be to cut and clear some trees on the eastside of Ky 1501. As you travel north on Ky 1501 and pass the intersection of Wayman Branch Road, you round a sharp curve to the right and travel up a steep grade. If you cut the trees on the west side of this curve you would improve the sight line greatly. Cars intending to travel from Wayman Branch Road onto Ky 1501 would be able to have a clear line of site of the vehicles traveling down the grade and around the curve. By removing these trees it would improve the sight line distance.

The third suggestion deals with the section of Ky 1501 between the streets of Crystal Lake Road and Otter Drive. This section of roadway is largely residential with several entrances to subdivisions. The speed limit is currently 35 mph through this stretch. This section of the roadway is straight and level until you reach Otter Drive, which is located on the westside of Ky 1501, in the middle of a grade and near a sharp curve. At this intersection, I would suggest the installation of a yellow flashing light prior to the intersection to the north and south. This light would warn motorists of the approaching intersection. I would also suggest the installation of stop signs, making at least two of the entrances to the neighborhoods four-way intersections. This would break up this section of Ky 1501, causing motorists to be more mindful of the various cross streets.

Finally, as I drove Ky 1501, I observed several breaks in the pavement and several guardrails that are in need of repair. I would suggest looking at repairing these sections throughout the Ky 1501, and repave the damaged areas of the roadway.

As the growth in central and south Kenton County continues, Ky 1501 is going to become a more heavily traveled and vital road. The safety of those who travel it should be of the upmost importance, with the ultimate goal being to reduce the number of collisions that occur on the roadway.

Tpr C. D. Steward 1015
Tpr. C. D. Steward U/1015