

Appendix J:

RESOURCE AGENCY MATERIALS



Steven L. Beshear
Governor

TRANSPORTATION CABINET
Frankfort, Kentucky 40622
www.transportation.ky.gov/

Michael W. Hancock, P.E.
Secretary

August 8, 2014

****Please see attached list for recipients of below letter****

«Mailing_Title» «First_Name» «Last_Name»«Suffix»
«Title»
«Organization»
«Address1»
«Address2»
«City» «State» «Zip»

Dear «Letter_Title» «Last_Name»:

Subject: I-265 Programming Study from I-65 to the new East End Bridge
Jefferson County
Item No. N/A

We are requesting your agency's input and comments on a planning study to evaluate the safety and capacity of the I-265 corridor and to determine needed improvements and priorities as a result of expected increased traffic due to major transportation and development changes in the Louisville Metro area. The Kentucky Transportation Cabinet (KYTC), along with help from its consultant, Parsons Brinckerhoff, has assembled a study team to identify and evaluate improvements for I-265 (the Gene Snyder Freeway) from I-65 to the new East End Bridge in Louisville. The needs driving this study include: safety, capacity, congestion, access, and economic development. The objective of this study is to prioritize short-term improvements that can be quickly and effectively implemented as well as identify long-term solutions by examining future transportation needs and determining options for improvement projects. During the development of this planning study, comments will be solicited from federal, state, and local agencies, as well as other interested persons, in accordance with principles set forth in the National Environmental Policy Act (NEPA) of 1969. The Federal Highway Administration is partnering with us in these efforts.

This planning study includes a high-level overview for the early identification of environmental issues and impacts related to any proposed projects. We believe that early identification of issues or concerns can help us develop highway project alternatives avoiding or minimizing negative impacts. The Project Team has identified a number of projects with the help of Local Officials and Stakeholders by conducting a meeting with them early in the study process.



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«Letter_Title» «Last_Name»

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August 8, 2014

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

- A draft statement of purpose and need for the project
- Project Study Area Map and Existing Roadway Information
- Average Daily Traffic and Level of Service
- Environmental Overview
- Crash Analysis

Additionally, at this point in the study process several potential improvement projects have been identified that may or may not move forward for further review. Maps highlighting those projects are attached, and include projects of the following type:

- KYTC Six Year Plan Project
- KYTC/Louisville Metro Identified Future Project
- A project identified as a result of this programming study
- A project either under construction or outside of the study area

We are requesting that you provide comments on these proposed improvement projects and/or specific comments concerning the bulleted items below as they relate to the proposed improvement alternatives.

- Comments on the purpose and need for the project,
- Significant issues or concerns in the study corridor that may need to be addressed so that any future project can be adequately scoped,
- Any conservation or development plans your agency or organization has ongoing or is aware of within the study corridor,
- Locations of any known areas, issues, or resources within the study corridor that should be considered when developing alternatives so that impacts can be avoided, minimized, or mitigated early in the process, and
- Any mitigation strategies that should be considered in the development of future projects.

We respectfully ask that you provide us with your comments by *September 15, 2014*, to ensure timely progress in this planning effort.

«Letter_Title» «Last_Name»

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August 8, 2014

We appreciate any input you can provide concerning this project. Please direct any comments, questions, or requests for additional information to Mikael Pelfrey of the Division of Planning at (502) 564-7183 or by email at mikael.pelfrey@ky.gov. Please address all written correspondence to John W. Moore, PE, Director, Division of Planning, Kentucky Transportation Cabinet, 200 Mero Street, 5th Floor, Frankfort, Kentucky 40622 and include a return address on such correspondence.

Sincerely,

John W. Moore, PE
Director
Division of Planning

JM/MP/BC

Enclosures

- c/enc: Jose Sepulveda, FHWA
- John Ballantyne, FHWA
- Gary Valentine
- Matt Bullock
- Jonathon West
- Tom Hall
- Steve Ross
- Mark Hite
- Ryan Griffith
- David Waldner
- Bart Asher
- Jeff Wolfe
- Donald Smith
- Bill Gulick
- Shawn Dikes, Parsons Brinckerhoff

Mailing Title	Letter Title	First Name	Last Name	Suffix	Title	Organization	Address1	Address2
Mr.	Mr.	Philip	Braden		District Office Manager	Memphis Airports District Office, Federal Aviation Administration	2862 Business Park Drive Building G	
Ms.	Ms.	Kathy	Smith		Trucking Manager	American Association of Truckers		P.O. Box 146
Mr.	Mr.	Edward	Tonini		Adjutant General	Department of Military Affairs	Boone Nat'l Guard Ctr., 100 Minuteman Pky.	
Ms.	Ms.	Elaine	Walker		Commissioner	Department of Parks	500 Mero Street-10th Floor CPT	
Mr.	Mr.	David	Pollack		Director	Kentucky Archaeological Survey	1020A Export Street	
Mr.	Mr.	William	Straw		Regional Environmental Officer	Federal Emergency Management Agency, Region IV	3003 Chambers Tucker Road	
Mr.	Mr.	Richard	Sutherland		Chair	Kentuckians for Better Transportation	9300 Shelbyville Road Ste 1204	
Ms.	Ms.	Juva	Barber		Executive Director	Kentuckians for Better Transportation	9300 Shelbyville Road Ste 1204	
Mr.	Mr.	Burt	Lauderdale		Executive Director	Kentuckians for The Commonwealth	105 Reams Street	P.O. Box 1450
Ms.	Ms.	Audrey Tayse	Haynes		Secretary	Cabinet for Health and Family Services	275 East Main St., 5W-A	
Mr.	Mr.	John	Houlihan		Administrator	Kentucky Airport Zoning Commission	90 Airport Rd. Bldg 400	200 Mero Street
Sheriff	Sheriff	Jerry	Gaines		President	Kentucky Association of Counties	400 Englewood Dr.	
Ms.	Ms.	Amy	Cloud		President	Kentucky Chamber of Commerce Executives, Inc.	484 Chenault Road	
Mr.	Mr.	James	Comer		Commissioner	Kentucky Department of Agriculture	32 Fountain Place	
Mr.	Mr.	R. Bruce	Scott		Commissioner	Kentucky Department for Environmental Protection	300 Fair Oaks Lane	
Mr.	Mr.	Gregory	Johnson		Commissioner	Kentucky Department of Fish and Wildlife Resources	1 Sportsman's Lane	
Mr.	Mr.	Steve	Hohmann		Commissioner	Kentucky Department for Natural Resources	#2 Hudson Hollow	
Ms.	Ms.	Kimberly	Richardson		Director	Kentucky Department of Nat'l. Resources, Division of Conservation	375 Versailles Road	
Mr.	Mr.	Rodney	Brewer		Commissioner	Kentucky Department of State Police	919 Versailles Road	
Mr.	Mr.	Billy	Ratliff		Director	Division of Mine Reclamation and Enforcement	# 2 Hudson Hollow	
Mr.	Mr.	Sean	Alteri		Director	Kentucky Division for Air Quality	200 Fair Oaks Ln, 1st Floor	
Ms.	Ms.	Leah W.	MacSwords		Director	Kentucky Division of Forestry	627 Comanche Trail	
Lt. Colonel	Lt. Colonel	Keith	Peercy		Director	Kentucky Department of Vehicle Enforcement	919 Versailles Road	
Mr.	Mr.	Anthony	Hatton		Director	DEP Division of Waste Management	200 Fair Oaks, 2nd Flr	
Ms.	Ms.	Sandy	Gruzesky		Director	DEP Division of Water	200 Fair Oaks, 4th Flr	
Mr.	Mr.	Larry	Hayes		Secretary	Kentucky Cabinet for Economic Development	Old Capitol Annex	300 West Broadway
Ms.	Ms.	Terril	McLean		News Editor	Kentucky Forward	484 Chenault Road	
Mr.	Mr.	Jerry	Waisenfuh		Interim State Geologist & Director	Kentucky Geological Survey, University of Kentucky	228 Mining and Mineral Resources Bldg	
Mr.	Mr.	Craig	Potts		State Historic Preservation Officer	Kentucky Heritage Council	300 Washington Street	
Mr.	Mr.	Kent	Whitworth		Executive Director	Kentucky Historical Society	100 W. Broadway	
Mr.	Mr.	Hal	Goode		President/CEO	Kentucky Association for Economic Development	101 Burch Court	
Mr.	Mr.	Jonathan	Steiner		Executive Director/CEO	Kentucky League of Cities, Inc.	100 East Vine Street, Ste. 800	
Mr.	Mr.	Jamie	Fiepke		President/CEO	Kentucky Motor Transport Association	617 Shelby Street	
Mr.	Mr.	Leonard	Peters		Secretary	Kentucky Energy and Environmental Cabinet	Capital Plaza Tower, 5th Floor	
Mr.	Mr.	Donald S.	Dott	Jr.	Executive Director	Kentucky State Nature Preserves Commission	601 Schenkel Lane	
Ms.	Ms.	Vickie	Bourne		Executive Director	Kentucky Office of Transportation Delivery	Transportation Office Building, 3rd Floor	200 Mero Street
Mr.	Mr.	Beecher	Hudson		CEO	Kentucky Public Transit Association	1134 S. Preston St	
Ms.	Ms.	Laura	Cole		President/CEO	Kentucky Travel Industry Association	931 East Main Street	
Mr.	Mr.	Bob	Stewart		Secretary	Tourism, Arts and Heritage Cabinet	Capital Plaza Tower, 24th Floor	500 Mero Street
Mr.	Mr.	Thomas O.	Zawacki		Secretary	Kentucky Education and Workforce Development Cabinet	Capital Plaza Tower, 3rd Floor	500 Mero Street
Mr.	Mr.	Jim	Aldrich		Director of Stream & Wetland Restoration	The Nature Conservancy - Kentucky Chapter	114 Woodland Avenue	
Mr.	Mr.	Paul	Bergmann		Executive Director	Scenic Kentucky		P.O. Box 23317
Mr.	Mr.	Heinz	Mueller		Chief of NEPA Program Office	Office of Environmental Accountability	US EPA, Region 4	61 Forsyth Street, SW
Ms.	Ms.	Alice	Howell		Chapter Chair	Sierra Club	P.O. Box 1368	
Ms.	Ms.	Karen	Woodrich		State Conservationist	U.S. Dept. of Agriculture, Natural Resources Conservation Service	771 Corporate Drive, Suite 210	
Dr.	Dr.	Pamela	Roghill		Regional Director	U.S. Dept. of Health & Human Serv., Region IV, Atlanta Federal Center	61 Forsyth Street, Room 5B95	
Mr.	Mr.	Lee	Andrews		Field Supervisor	U.S. Fish & Wildlife Service, Kentucky Ecological Services Field Section	330 W. Broadway, Room 265	
Mr.	Mr.	Eric	Washburn		Bridge Administrator	United States Coast Guard, Eighth District Western Rivers Bridge Branch	1222 Spruce Street, Suite 2.102D	
The Hon	Senator	Rand	Paul		United States Senator	United States Senate	208 Russell Senate Office Building	
The Hon	Senator	Mitch	McConnell		United States Senator	United States Senate	317 Russell Senate Office Building	
Ms.	Ms.	Yvette	Taylor		Regional Administrator	Federal Transit Administration, Region IV	230 Peachtree, NW, Suite 800	
Mr.	Mr.	Kirk	Dowden		Planning and Program Manager	Federal Highway Administration, Eastern Federal Lands Highway Division	21400 Ridgeway Circle	
Mr.	Mr.	Larry	McFall		President	Louisville - Jefferson Riverport International	P.O. Box 56010	6900 Riverport Drive
Mr.	Mr.	Stephen	Dunnett		Deputy District Engineer	U.S. Army Corps of Engineers, Louisville District	P.O. Box 59 CELRL-PM	
The Hon	Congress	John	Yarmouth		United States Representative - District 3	U.S. House of Representatives	403 Cannon House Office Building	
Ms.	Ms.	Krista	Mills		Field Office Director	U.S. Department of Housing & Urban Development, KY Louisville Field Office	601 West Broadway, Room 110	

I-265 Programming Study Jefferson County, Kentucky Study Information Sheet August 2014

1. Who is conducting the study?

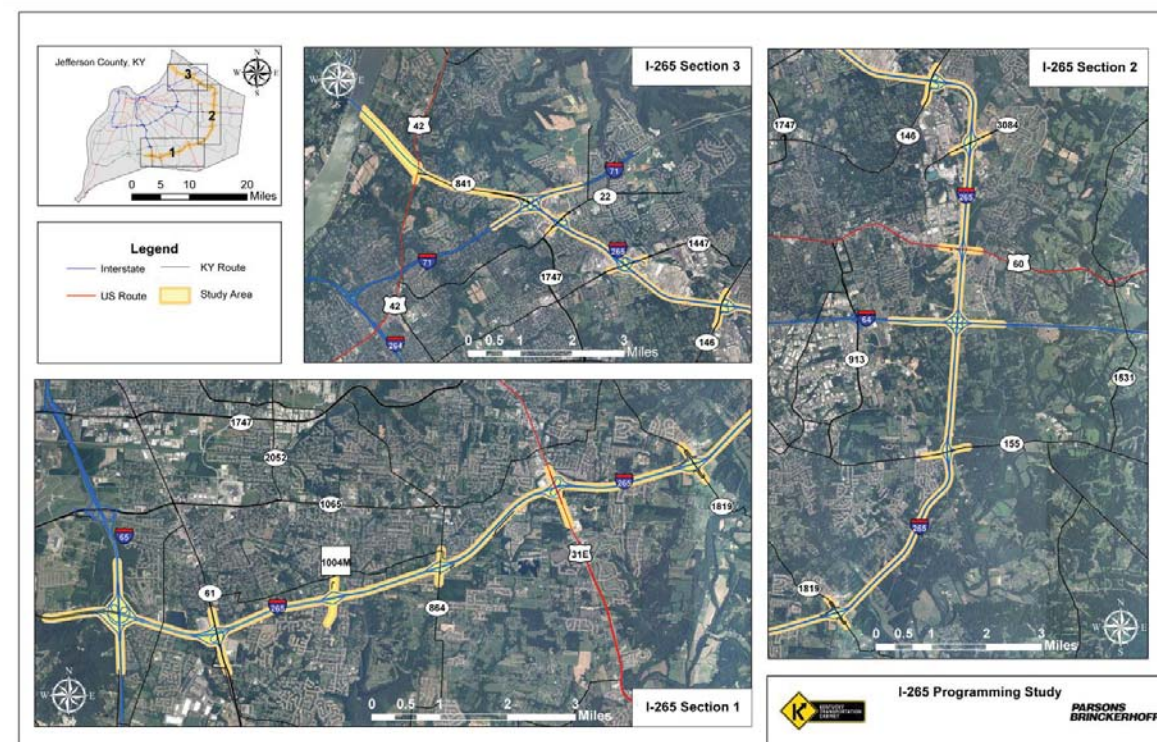
The Kentucky Transportation Cabinet (KYTC) is conducting the study in cooperation with other agencies, including the Kentuckiana Regional Planning & Development Agency (KIPDA). Assisting these agencies is a team of multi-disciplined consultants led by Parsons Brinckerhoff.

2. What is the Purpose and Need of this project?

The purpose of the project is to evaluate the safety and capacity of the I-265 corridor and to determine needed improvements and priorities as a result of expected increased traffic due to major transportation and development changes in the Louisville Metro area. The needs driving this project include: safety, capacity, congestion, access, and economic development.

3. What is the study area?

A map of the study area is provided below. The study area incorporates I-265 from I-65 to the new East End Bridge as well as the interchanges located along the corridor. The ramp terminal intersections are included along with the next adjacent upstream and downstream intersection.



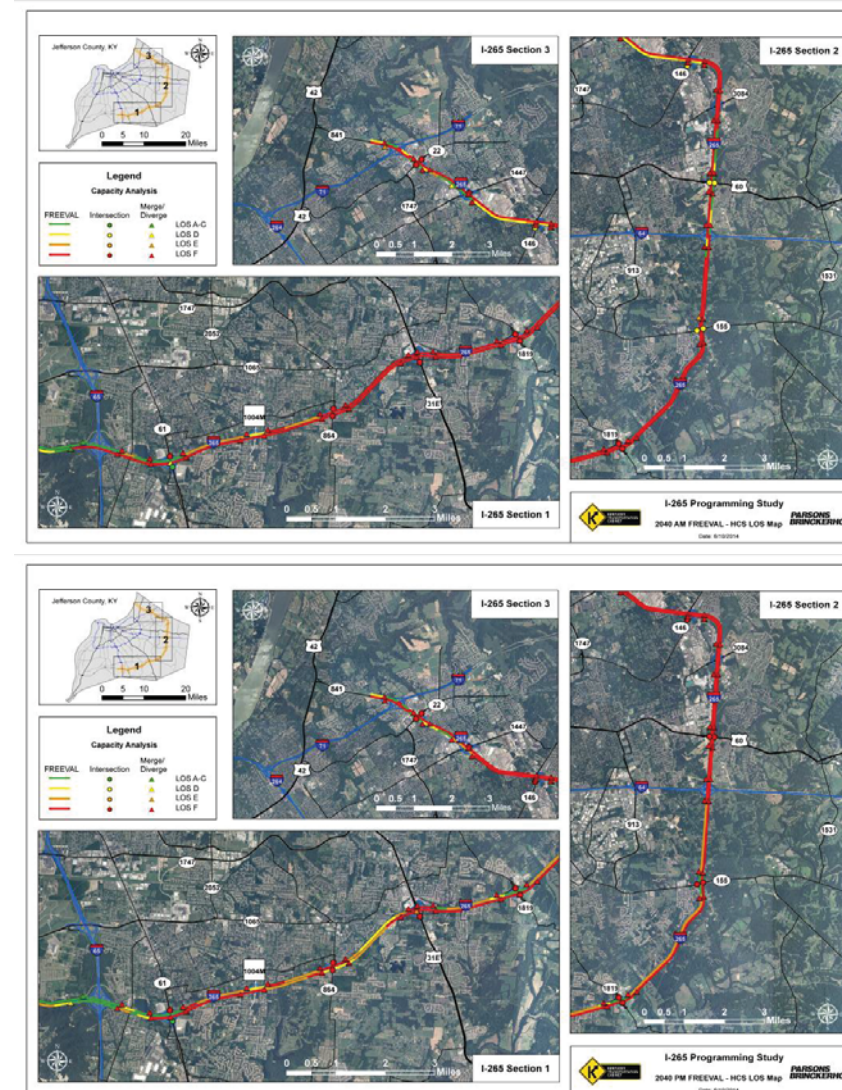
4. What are the existing conditions?

The existing roadway is an urban interstate with four twelve-foot lanes (two per direction) divided by a median (52 – 72 feet). Shoulder widths vary with generally ten to eleven feet on each side. The posted speed limit is 65 mph throughout the corridor.

5. What are the existing and future traffic operations?

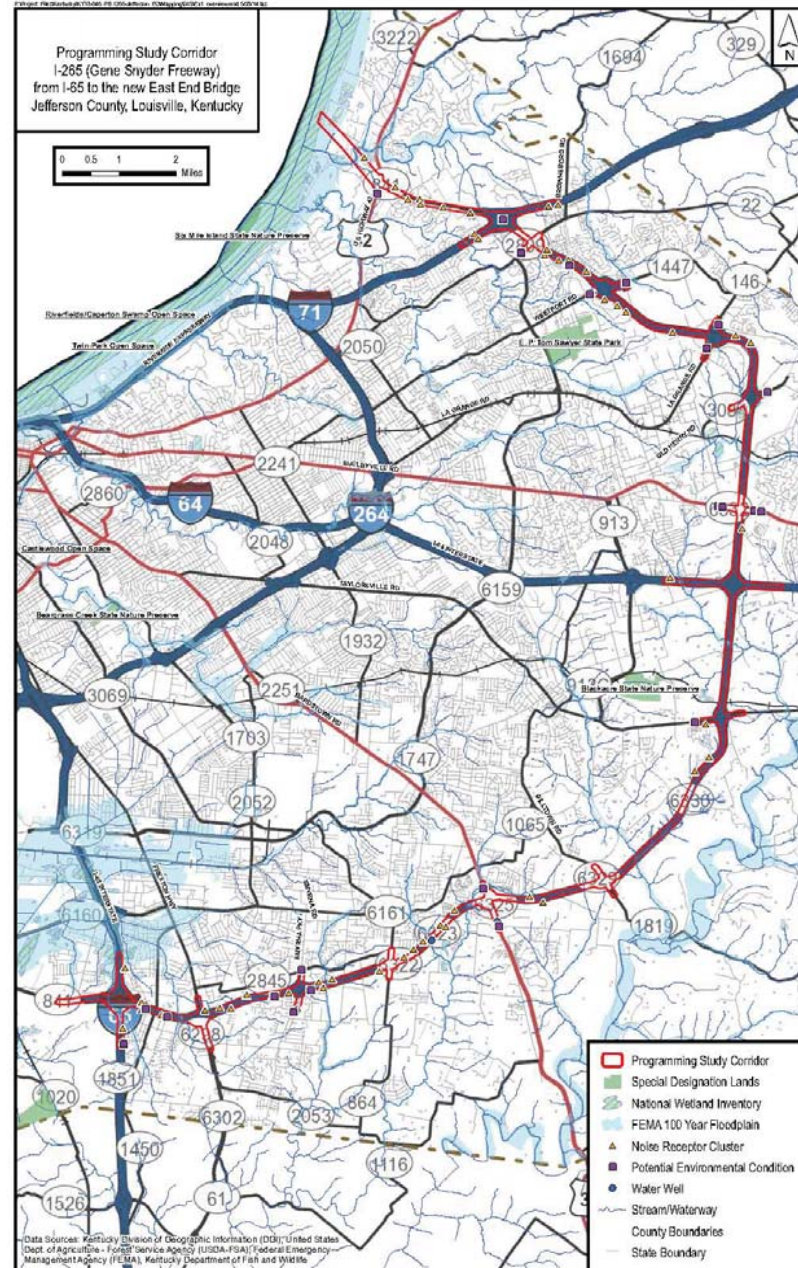
I-265 currently has Average Daily Traffic volumes (ADT) of up to 83,000 vehicles per day, with 2040 ADTs forecasted as high as 183,300 vehicles per day.

Traffic operations were evaluated for the existing corridor for the future analysis year to provide a baseline of comparison for improvement alternatives. The figures below show the AM and PM peak hour operations based on the future year 2040 ADT.



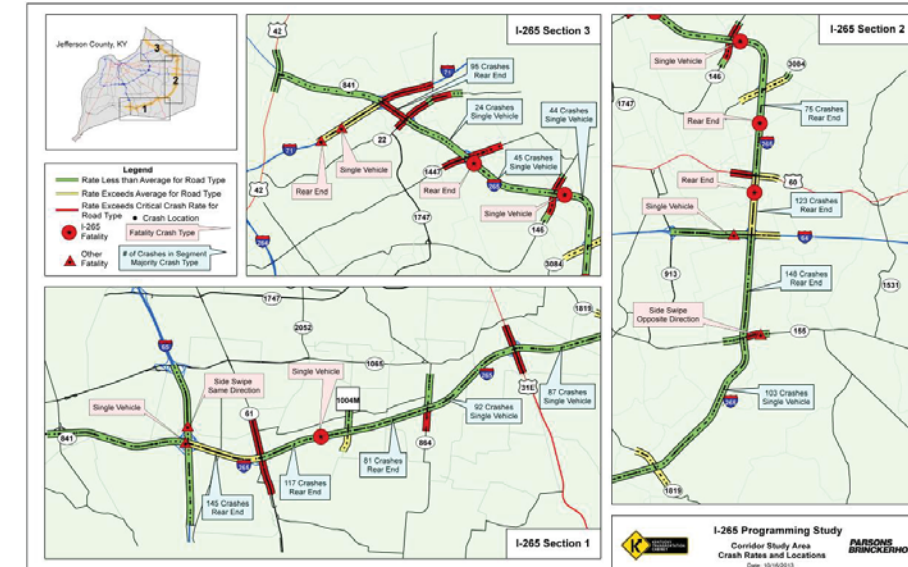
6. What are the known environmental constraints?

Most of the improvements would stay within the existing right-of-way. However, to ensure proper documentation and identify any future areas of potential impact, an environmental overview was performed. Due to the size of the study area, a high-level evaluation was performed, with major features shown below on the map.



7. Are there areas with safety concerns?

As shown on the figure below, only one segment on I-265 (between KY 22 and I-71) has a critical crash rate greater than one. Any sections with a rate over one indicate statistically higher likelihood for a crash to occur on this section of roadway compared to other similar facilities. A total of 1,179 crashes occurred during the three-year analysis period (1/1/2010 – 12/31/2012). Of these, the most common crash type was rear-end collisions, and five of the crashes resulted in fatalities.



8. What are potential alternatives?

The following projects are listed in the KYTC Six-Year Highway Plan or the KIPDA Metropolitan Transportation Plan (MTP):

- Major Widening: I-265 to 3 lanes
- Interchange Improvements: I-71, I-64, Old Henry Road, KY 61

The programming study assumes that these projects will be constructed and therefore are not being evaluated as part of this study. However, each will be assessed with respect to the priority of each project.

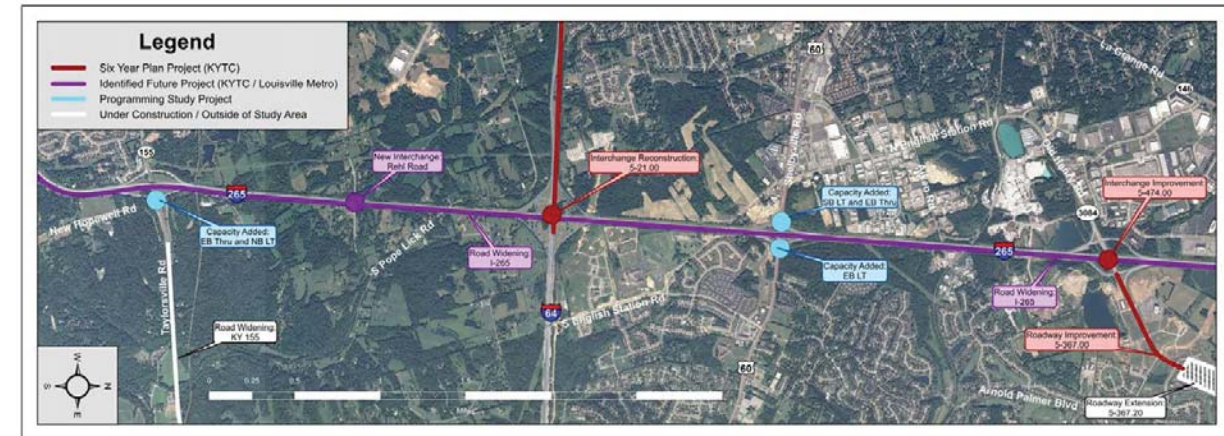
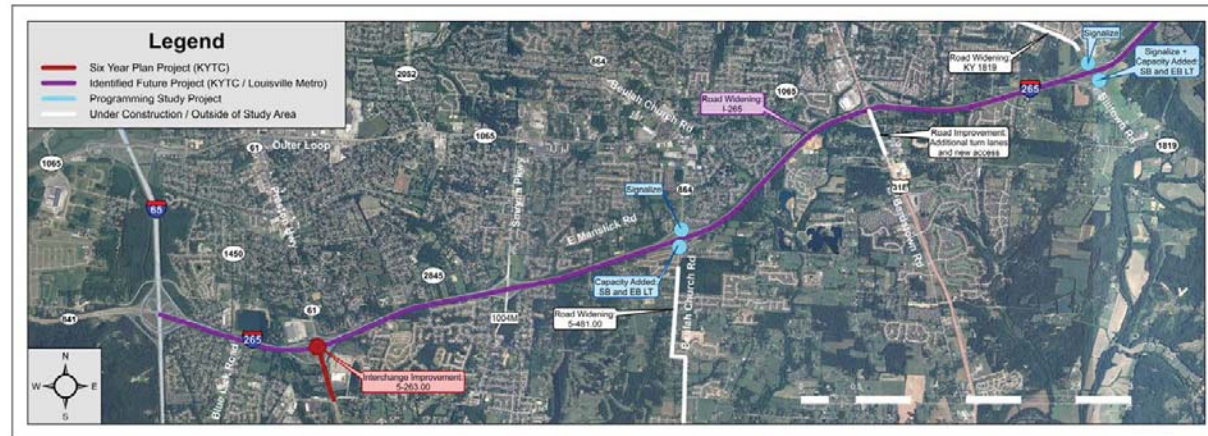
Additional projects under consideration include:

- 2040 No Build (No additional improvements)
- Construct Collector-Distributor (C-D) Road
- Construct 1 Additional Capacity Lane (total of 4 lanes / direction)

In addition to these alternatives, Intelligent Transportation System (ITS) improvements and ramp terminal intersection improvements are being considered. Refer to the maps on the following pages for a full range of all projects currently being considered in the planning process as well as ones proposed for this study.

9. What will this study produce?

At the conclusion of this study, the Project Team will prepare a report that documents and summarizes the events of the study, gives pertinent technical and environmental analyses, documents evaluation results and stakeholder comments / feedback, and provides a record of the project with details of all the technical analysis as well as a recommendation of feasible alternatives for the next project development stage. A prioritization of projects will also be performed. The study will be completed in December 2014.



From: Moore, John W (KYTC) [JohnW.Moore@ky.gov]
Sent: Monday, September 15, 2014 8:27 PM
To: Pelfrey, Mikael (KYTC); Hall, Tom (KYTC-D05)
Subject: FW: I-265 Programming Study

Mikael, for your reference and use.

Tom, Can you reach out to Mr. Kelly regarding the construction effects at I-265 and KY 60?

From: Kelly, Brian [mailto:bkelly@caschools.us]
Sent: Monday, September 15, 2014 4:02 PM
To: Moore, John W (KYTC)
Subject: I-265 Programming Study

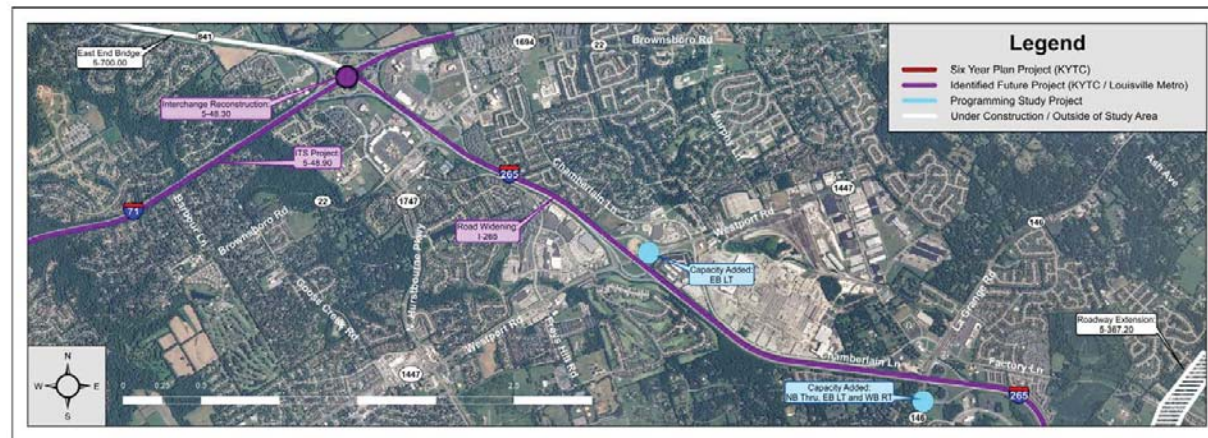
Mr. Moore,

I'm writing in response to a request for comments on the I-265 programming study from I-65 to the new East End Bridge. I represent Christian Academy Schools and noticed on your August 8, 2014 letter that there are planned improvement projects that could possibly impact the property at our English Station Campus. One of the projects listed is "Major widening: I-265 to 3 lanes". Our campus is located just east of I-265 between I-64 and KY-60 (Shelbyville Road) with our athletic fields and access roads very close to our property line adjacent to I-265. I'm requesting additional information on this project as any potential impact to the access road or athletic fields would be an extreme hardship to our school system.

If possible I'd also like to request any information on planned work at interchanges north and south of the I-265/KY-60 interchange as major disruptions may affect the commuting time for many of our student and staff and I would like to get information to our parents as soon as possible.

Thank you for any information you can provide.

Brian Kelly
Director of Facilities
Christian Academy Schools
Cell: 502-554-7357



From: Matt Meunier [mmeunier@jeffersontownky.gov]
Sent: Wednesday, September 03, 2014 1:37 PM
To: Pelfrey, Mikael (KYTC); john.moore@ky.gov
Subject: City of Jeffersontown's Response

John,

I received your letter in the mail dated August 8, 2014 referencing the I-265 Programming Study and you were requesting comments about the project. The comments that we have as a city are the following:

1. We would support the Rehl Road Interchange onto I-265. Having this additional interchange will greatly help reduce the congestion and traffic circulation around and through our Bluegrass Commerce Park. This park is the largest employment center in the Commonwealth and one of the largest in the Southeast United States. It employs some 27,000 people. Congestion from the park is felt even in our downtown along Ruckriegel Parkway and Watterson Trail. With the additional lands being developed between Blankenbaker Parkway and I-265 the need is increasing each day.
2. The city is in the process of starting a bike/pedestrian trail scoping study along Taylorsville Road from our downtown (Watterson Trail) to the 21st Century Park just east of the I-265 interchange. We are seeking to create a desirable way to provide for the bike/pedestrian movement east-west along Taylorsville Road and through the interchange. Once that scoping study is done in the spring we will have a better handle on options which could include modifications to the underpass, a new bike/ped structure over I-265 (similar to Oldham County's new bike/ped trail bridge) or any other options that are available.

Thank you again for allowing us to comment on this study and I would be more than happy to discuss in more detail with you.

You can reach me at 502-267-8333 or by a return email.

Thank you and have a great day.

Matt Meunier

Matthew W. Meunier, PLS, AICP
Director of Community Development/
Assistant to the Mayor



City of Jeffersontown, KY
10416 Watterson Trail
Jeffersontown, KY 40299
502-267-8333

jeffersontownky.gov
[facebook.com/cityofjeffersontownky](https://www.facebook.com/cityofjeffersontownky)
twitter.com/JeffersontownKY

From: Stephen.Wilson@faa.gov
Sent: Thursday, September 04, 2014 12:10 PM
To: Pelfrey, Mikael (KYTC)
Subject: I 265 Corridor Study

Mikael-

We have reviewed the I 265 Programming Study and have no comments as it relates to aviation impacts.

Thanks

Stephen Wilson
Community Planner
FAA, Memphis Airports District Office
2600 Thousand Oaks Blvd., Suite 2250
Memphis, TN 38118 2482
901 322 8185
901 322 8195 Fax
Stephen.wilson@faa.gov

From: Fields, Sherry C [sherry.fields@jefferson.kyschools.us] on behalf of Hargens, Donna [donna.hargens@jefferson.kyschools.us]
Sent: Thursday, September 04, 2014 10:31 AM
To: Pelfrey, Mikael (KYTC)
Cc: Ross, Steve (KYTC); Caple, Richard W
Subject: RE: I-265 Planning Study in Louisville

Thank you for your email. Rick Caple, Director of Transportation, will respond.

Donna M. Hargens, Ed.d.
Superintendent
Jefferson County Public Schools
VanHoose Education Center
3332 Newburg Road
P.O. Box 34020
Louisville, KY 40232-4020
502.485.3251 Office
502.485.3991 Fax

From: Pelfrey, Mikael (KYTC) [mailto:Mikael.Pelfrey@ky.gov]
Sent: Wednesday, September 03, 2014 10:44 AM
To: Hargens, Donna
Cc: Ross, Steve (KYTC)
Subject: I-265 Planning Study in Louisville

Superintendent Hargens,

The Kentucky Transportation Cabinet (KYTC) is conducting a programming study on I-265 in Louisville from I-65 to the new East End Bridge. We have several projects under consideration, and we are currently contacting resource agencies for feedback. The Education and Workforce Development Cabinet was one of these agencies, and we received a letter back recommending KYTC contact you for additional information and better knowledge of the project. There are three attachments for your review: the initial letter sent to all resource agencies, a seven page FAQ sheet, and the response letter from the Education and Workforce Development Cabinet.

We would like your comments back by Monday, September 15th if possible.

If there are any questions, don't hesitate to ask.

Thanks.

Mikael Pelfrey, P.E.
Transportation Engineering Specialist
Kentucky Transportation Cabinet
Division of Planning
200 Mero Street, 5th Floor West
Frankfort, KY 40622
p: (502) 782-5073
f: (502) 564-2865

IMPORTANT: This transmission is sent on behalf of the Kentucky Transportation Cabinet and may be privileged, proprietary or confidential. It is intended only for the intended recipient. If you are not the intended recipient or a person responsible for delivering this transmission to the intended recipient, you shall not disclose, copy, or distribute this transmission or take any action in reliance on it. If you have received this transmission in error, please notify us immediately by telephone at (502) 564-7183, by e-mail at Mikael.Pelfrey@ky.gov, or by facsimile transmission at (502) 564-2865. Please dispose of and delete this transmission. Thank you.

Walker, Lindsay A.

From: Pelfrey, Mikael (KYTC) [Mikael.Pelfrey@ky.gov]
Sent: Thursday, September 18, 2014 11:55 AM
To: Dikes, Shawn P.; Walker, Lindsay A.
Subject: FW: I-265 Programming Study from I-65 to the new East End Bridge

Shawn/Lindsay,

Another resource agency response has come in. I'll FW them immediately once they come in from now on. Although we're past the response date we'll continue to allow them, for a certain period anyway.

Thanks.

Mikael Pelfrey, P.E.
Transportation Engineering Specialist
Kentucky Transportation Cabinet
Division of Planning

From: McDowell, William (CED)
Sent: Thursday, September 18, 2014 11:50 AM
To: Pelfrey, Mikael (KYTC)
Subject: I-265 Programming Study from I-65 to the new East End Bridge

Mikael – This email is in response to the request for input from the Cabinet for Economic Development.

CED fully sees the benefit and need for the project. In regards to how it effects economic development in the state the project should increase the ease and safety of industrial traffic. Logistically it will provide existing and future industries with better connection to shipping routes and the UPS World Port.

Please let me know if we can provide any further information.

Thank you,
Will

Will McDowell
Industrial Development Manager
Kentucky Cabinet for Economic Development
Office: (502) 782-1988
Mobile: (502) 226-0376
William.McDowell@ky.gov

From: Price, Ronald (EEC) [Ronald.Price@ky.gov]
Sent: Friday, September 12, 2014 10:50 AM
To: Moore, John W (KYTC)
Cc: Pelfrey, Mikael (KYTC); Price, Ronald (EEC)
Subject: I-254 Programming Study from I-65 to the new East End Bridge
Attachments: DEP SERO 2014-22 Response.pdf

Mr. Thomas,

Attached is the KY Department for Environmental Protection's response to your letter requesting comments on the I-254 Programming Study from I-65 to the new East End Bridge.

Please let me know if you have any additional questions.

Ronald T. Price
Executive Staff Advisor
Office of the Commissioner
Department for Environmental Protection
300 Fair Oaks Lane
Frankfort, KY 40601
(502) 564-2150 x. 3125
(502) 564-4245 (fax)
Email: ronald.price@ky.gov

View the Kentucky Department for Environmental Protection's Blog at [Naturally Connected](#)

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If you are not the intended recipient, please contact the sender by reply email and destroy all copies of the original message.

From: Moore, John W (KYTC) [JohnW.Moore@ky.gov]
Sent: Monday, September 15, 2014 11:42 AM
To: Pelfrey, Mikael (KYTC)
Cc: Ross, Steve (KYTC)
Subject: Fwd: I-265 Programming Study

Forward as appropriate.

Remotely

Begin forwarded message:

From: "Forgacs, Joe (EEC)" <Joe.Forgacs@ky.gov>
Date: September 15, 2014 at 11:04:47 AM EDT
To: "Moore, John W (KYTC)" <JohnW.Moore@ky.gov>
Subject: I-265 Programming Study

Good morning John,

Here are comments from the Division for Air Quality relating to the subject project.

Kentucky Division for Air Quality Regulation **401 KAR 58:025**, Asbestos Standards, apply to this project, and the project must be inspected by a Kentucky Accredited Asbestos Inspector. Asbestos that will be affected by this activity must be removed by a Kentucky accredited contractor before renovation or demolition begins. Written notification must be given on form DEP 7036 to the Division for Air Quality, Paducah Regional Office at least 10 weekdays prior the start of demolitions, whether or not asbestos has been identified to be present. Please note form DEP 7036 and the Asbestos Fact Sheet located at <http://air.ky.gov/Pages/OpenBurning.aspx>

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://air.ky.gov/Pages/OpenBurning.aspx>

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

The Division would like to offer the following suggestions on how this project can help us stay in compliance with the NAAQS. More importantly, these strategies are beneficial to the health of citizens of Kentucky.

- Utilize alternatively fueled equipment.
- Utilize other emission controls that are applicable to your equipment.
- Reduce idling time on equipment.

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

Let me know if you need anything else regarding this issue.

Have a good week...

Joe Forgacs, Environmental Technologist III
Kentucky Division for Air Quality
Program Planning & Administration Branch
Evaluation Section
Phone: (502) 564-3999, extension 4422
Fax: (502) 564-4666
E-mail: Joe.Forgacs@ky.gov



ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR NATURAL RESOURCES

Steven L. Beshear
Governor

2 Hudson Hollow
Frankfort, Kentucky 40601
Phone (502) 564-6940
Fax (502) 564-5698
www.eec.ky.gov
www.dnr.ky.gov

Leonard K. Peters
Secretary

Steve Hohmann
Commissioner

September 15, 2014

John W. Moore, PE
Director-Division of Planning
Kentucky Transportation Cabinet
200 Mero Street, 5th Floor
Frankfort, KY 40622

RE: Programming Study
Jefferson County, KY
I-265 Project

Comments about Proposed Study Plan:

- No mining operations are located within the study area.
- No Acid Mine Drainage occurs with the proposed alternate due to past mining operations.
- Wetland Areas and endangered species may be an environmental concern for the construction in the study area.
- Several water wells, gas lines, and sewage lines exist with the study area.

Sincerely,

Billy Ratliff-Director
#2 Hudson Hollow Complex
Frankfort, KY 40601
Email: billy.ratliff@ky.gov

Cc: Jkh, File

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SEP 16 2014

Div. of Planning

I-265 & I 65 East Bridge

Legend

AML PU_Bdy

Lakes

KGS Springs

DOW Groundwater Springs

Quarries

AMD LTT Locations

Status

Active

Historical

Water Lines

Water Treatment Plants

Wastewater Treatment Plants

Sewer Lines

Oil Wells

Combined Oil and Gas Wells

Gas Wells

Dry and Abandoned Wells

Secondary Recovery Wells

Miscellaneous Wells

Stratigraphic Sign. Points

Abandoned Wells

Well Locations

All Other Well Types

Oil Wells

Gas Wells

Combined Oil and Gas Wells

Domes

Dry Wells

Secondary Recovery Wells

Secondary Recovery Production Wells

Unknown Well Types

Gas Gathering Lines

24K Topographic Imagery

RGB

Red: Band 1

Green: Band 2

Blue: Band 3

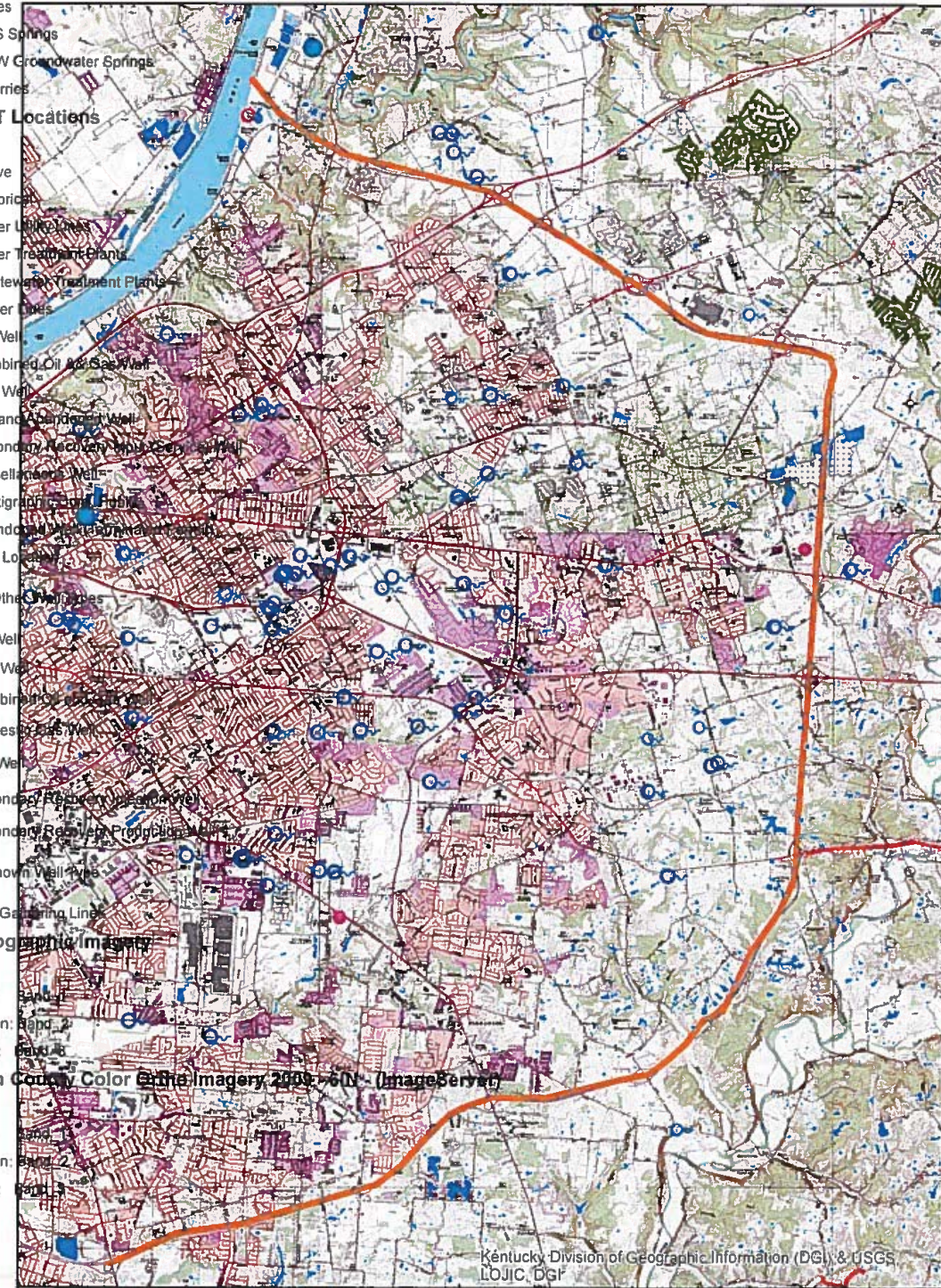
Jefferson County Color Infrared Imagery 2009-2010 (ImageServer)

RGB

Red: Band 1

Green: Band 2

Blue: Band 3



0.426.85 1.7 2.55 3.4
Miles

From: Jackson, Adam (EEC) [Adam.Jackson@ky.gov]
Sent: Monday, September 15, 2014 2:00 PM
To: Pelfrey, Mikael (KYTC)
Cc: Bicknell, James (EEC); Wilhelm, Jill (EEC)
Subject: I 265 Programming Study from I 65 to the new East End Bridge

Mikael,
I was handed a copy of the Subject request for comments, that was originally mailed to the Kentucky Division of Water.
Note that I am the Supervisor for the Water Quality Certification Section, which issues authorizations in the form of certifications that certify Federal permits. In this case, the eventual federal permit would be a Section 404 Department of Army Permit for the placement of fill material into jurisdictional streams and/or wetlands.

After the preliminary review of the project, my comments are only limited that efforts should be made to minimize and reduce the impacts to jurisdictional streams and/or wetlands. If streams and/or wetlands are to be filled by the proposed project, a Section 401 Water Quality Certification may be required. In addition, it is likely, due to the magnitude of the project, that mitigation for the stream and/or wetland impacts will be required.

Feel free to contact me, or the KYTC project manager for the WQC Section (James Bicknell) with further questions as the project moves forward.

Thanks

Adam Jackson
Water Quality Certification Section Supervisor
KY Division of Water
200 Fair Oaks, 4th Floor
Frankfort, KY 40601
(502) 564-3410 Ext 4855



Leonard K. Peters
Secretary

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
200 FAIR OAKS LANE, 4TH FLOOR
FRANKFORT, KENTUCKY 40601
PHONE (502) 564-3410
FAX (502) 564-0111
www.dep.ky.gov

R. Bruce Scott
Commissioner

Peter T. Goodmann
Director

August 18, 2014

Mr. John Moore, PE, Director
Division of Planning
Kentucky Transportation Cabinet
200 Mero Street, 5th Floor
Frankfort, Kentucky 40622

RE: I-265 Programming Study from I-65 to the new East End Bridge
Jefferson County, Louisville, Kentucky
Item No. NA

Dear Mr. Moore:

The Division of Water has received your request for comments on the subject project. We have reviewed the documentation presented and have noted the following:

- Water and sewer lines are present in the proposed project area and should be considered during design and construction to avoid damage to existing infrastructure or disruption of service. It is also recommended local water/wastewater utilities be contacted to incorporate any proposed lines into the planning process. Local utilities with the potential to be affected by this project include Louisville and Jefferson County Metropolitan Sewer District and Louisville Water Company.
- A cursory review of the proposed project suggests Individual Water Quality Certification (WQC) may be necessary. KTC should be prepared to reduce and minimize stream and wetland impacts as much as possible. If the stream and wetland impacts, on a cumulative basis, exceed the General Certification conditions, an Individual WQC will be required.

If we can provide any further assistance, please do not hesitate to call, (502)564-3410, or lori.dials@ky.gov.

Sincerely,

Lori Dials
Wastewater Municipal Planning Section
Division of Water

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Div. of Planning

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Steven L. Beshear
Governor



Terry Holliday, Ph.D.
Commissioner of Education

**EDUCATION AND WORKFORCE DEVELOPMENT CABINET
DEPARTMENT OF EDUCATION**

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

August 27, 2014

Mr. John Moore, Director
Division of Planning
Kentucky Transportation Cabinet
200 Mero Street 5th Floor
Frankfort, KY 40622

Dear Mr. Moore:

Thank you for the opportunity to review the "I-265 Programming Study from I-65 to the new East End Bridge" for Jefferson County, KY. I forwarded the information to the District Facilities Branch and the Student Tracking and Transportation Branch here at the Kentucky Department of Education (KDE) for their review and input. Staff reported that there is nothing in the report that impacts anything under the direct control of KDE in terms of school facilities or school bus routes. However, it is the recommendation of KDE staff that the Transportation Cabinet contact the Jefferson County School District directly to solicit feedback from school district officials who have a better knowledge of how this project could impact schools in the affected area. The contact information is:

Superintendent Donna Hargens
Jefferson County School District
3332 Newburg Rd
Louisville, KY 40218
(502) 485-3011

If you have any questions concerning school facilities or school bus transportation in general, please contact Kay Kennedy, KDE Director, Division of District Support at kay.kennedy@education.ky.gov or (502) 564-3930.

Sincerely,

Terry Holliday, Ph.D.

cc: Thomas Zawacki, Secretary, Education and Workforce Development Cabinet

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AUG 29 2014

Div. of Planning



KENTUCKY STATE POLICE

Steven L. Beshear
Governor

919 Versailles Road
Frankfort, Kentucky 40601
www.kentuckystatepolice.org

J. Michael Brown
Secretary

Rodney Brewer
Commissioner

September 10, 2014

Mr. John W. Moore, PE
Director
Department of Planning, Kentucky Transportation Cabinet
200 Mero Street, 5th floor
Frankfort, KY 40601

Dear Mr. Moore:

Subject: I-265 Programming Study from I-65 to the new East End Bridge
Jefferson County
Item No. N/A

Thank you for allowing the Kentucky State Police to be part of the planning process. Attached are our findings.

Sincerely,

Rodney Brewer
Commissioner
Kentucky State Police

Attachment



KENTUCKY STATE POLICE

Steven L. Beshear
Governor

919 Versailles Road
Frankfort, Kentucky 40601
www.kentuckystatepolice.org

J. Michael Brown
Secretary

Rodney Brewer
Commissioner

September 10, 2014

Mr. John W. Moore, PE
Director
Department of Planning, Kentucky Transportation Cabinet
200 Mero Street, 5th floor
Frankfort, KY 40601

Dear Mr. Moore:

Subject: I-265 Programming Study from I-65 to the new East End Bridge
Jefferson County
Item No. N/A

Thank you for allowing the Kentucky State Police to participate in the Programming Study being conducted by your office at this time. We always appreciate the opportunity to assist in the engineering phase since we fully understand that engineering a well developed highway saves lives just as enforcement on those highways.

In an attempt to give any helpful comments, we have reviewed the documents that you included in the letter as well as researching collision statistics for that particular section of roadway, particularly focusing on 2013. We have also spoken with residents that live in and travel that stretch of roadway every day and have listed some of our concerns along with our comments.

- Traffic congestion was the main problem we found
 - With the excessive number of vehicles on this roadway we think that the proposed plan to expand the number of lanes from two to three would help tremendously. We also found that some parts of I-265 had an inside shoulder, shoulder closest to the median, somewhat smaller than the outside shoulder. We feel that making that inside shoulder uniform with the larger outside shoulder at all parts of the highway would benefit the driver.

Mr. John Moore
Page 2
September 10, 2014

- Traffic collisions
 - Focusing mainly on 2013, we found that there were over 600 collisions on that particular stretch of roadway. Of those, over half were reported as a "rear-end" type collision by the investigator. After looking more closely, many of the collisions are occurring near an intersecting road. What appears to be the issue is traffic backup as vehicles attempt to exit the interstate which is going to be addressed by the Interchange Improvements marked under Section #8 of your Study Information Sheet. We also would add that there are other intersections that are causing major backups at times like the LaGrange Road intersection as workers from the Ford Motor Plant come and go from work. As they turn right onto LaGrange Road, they are immediately met by another set of lights as they attempt to turn left onto Chamberlain Lane. It not already in place, possibly setting the lights on different settings during the most heightened traffic periods would alleviate the stress or even giving the plant workers another access point to the factory from the interstate.
- Cloverleaf Interchanges
 - These type interchanges seem to be a nuisance for residents and commuters. Vehicles are speeding up as they attempt to merge onto the roadway while at the same time you have vehicles slowing as they attempt to exit the roadway and this is made worse when traffic is congested and vehicles aren't able to merge freely in the short distance provided.

In summary we feel overall that the suggested improvements on your Study Information Sheet will add to the safety of this heavily traveled road. Once again we thank you for allowing us to provide input into this project and look forward to working with you in the future as we attempt to make the roadways of Kentucky safe.

Sincerely,

Sergeant Chad Mills
Commander
Kentucky State Police
Collision Analysis & Highway Safety



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AUG 20 2014

Div. of Planning

TOURISM, ARTS AND HERITAGE CABINET
KENTUCKY DEPARTMENT OF FISH & WILDLIFE RESOURCES

Steven L. Beshear
Governor

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

Bob Stewart
Secretary

Gregory K. Johnson
Commissioner

19 August 2014

John W. Moore, PE, Director
Division of Planning
Kentucky Transportation Cabinet
200 Mero Street, 5th Floor
Frankfort, KY 40622

RE: I-265 Programming Study from I-65 to the new East End Bridge
Jefferson County
Item No. N/A

Dear Mr. Moore:

The Kentucky Department of Fish and Wildlife Resources (KDFWR) has received your request for information pertaining to the subject project. The Kentucky Fish and Wildlife Information System indicates that the federally - listed Indiana bat (*Myotis sodalis*), Gray bat (*Myotis grisescens*), Fat Pocketbook (*Potamilus capax*), and Pink Mucket (*Lampsilis abrupta*) are known to occur within close proximity of the project area. Additionally, the Northern Long-eared Bat (*Myotis septentrionalis*), a candidate species for federal-listing, is likely to occur within the project area. Portions of this project also occur within known Indiana bat summer maternity habitat according to the U.S. Fish and Wildlife Service Kentucky Field Office (USFWS). Other critical habitats such as fish spawning areas, caves, wildlife management areas, etc are not known to occur within the project study area outlined in the Programming Study document. The KDFWR recommends correspondence with the USFWS to ensure compliance under the Federal Endangered Species Act regarding bat and mussel species and any possible mitigation that may be required. Please be aware that our database system is a dynamic one and only represents our current knowledge of various species distributions.

It appears that the proposed project has the potential to impact wetland habitats. KDFWR recommends that you look at the appropriate US Department of Interior National Wetland Inventory Map (NWI) and the appropriate county soil surveys to determine where the proposed project may impact wetlands. Additionally, field verification may be needed to determine the extent and quality of wetland habitats within the project area. Any planning should include measures designed to eliminate and/or reduce impacts to wetland habitats. If impacts cannot be avoided, mitigation should be properly designed and proposed to offset the losses. KDFWR will

recommend, at a minimum, a 2:1 mitigation ratio for any permanent loss or degradation of wetland habitats.

To minimize impacts to the aquatic environment the KDFWR recommends that erosion control measures be developed and implemented prior to construction to reduce siltation into waterways located within the project area. Such erosion control measures may include, but are not limited to silt fences, staked straw bales, brush barriers, sediment basins, and diversion ditches. Erosion control measures will need to be installed prior to construction and should be inspected and repaired regularly as needed.

I hope this information is helpful to you, and if you have questions or require additional information, please call me at (502) 564-7109 extension 4453.

Sincerely,

Dan Stoelb
Wildlife Biologist

Cc: Environmental Section File

From: Diane.Bagby@louisvilleky.gov
Sent: Friday, September 12, 2014 2:52 PM
To: Pelfrey, Mikael (KYTC)
Subject: I-265 program study

Ms. Fox from Louisville MetroSafe forwarded the study documents for my response to you. In reviewing the documentation, we have no known environmental issues that would impact the project. In the plan we were unable to determine if there would be a reconfiguration of the ramp from North bound I-65 to east bound I-265, this particular ramp has had repeated episodes of semis losing their loads at the top curve of the ramp. This area is especially prone to heavy congestion.

At this point we do not have any additional comments.

Diane R. Bagby
Deputy Director
Louisville Metro EMA/MetroSafe
410 S. 5th Street
Louisville, KY 40202
Ph. 502-572-3456
Cell 502-442-4604



1925 Old Main Street
Suite 2
Maysville, KY. 41056
Ph: 606-759-5570

To: John Moore, P.E.
KY Transportation Cabinet
Frankfort, Kentucky 40622

August 18, 2014

Re: I-265 Programing Study from I-65 to the new East End Bridge
Jefferson County, KY
Item No. N/A

Mr. Moore,

NRCS does not officially do environmental assessments for these types of projects, but rather provides information on the soils and/or impact to farmland according to the criteria set forth in 1985 National Food Security Act Manual.

According to the information in your request, almost the entire project area is within the existing right-a-way of I-265 and not affecting farmland with the exception of the enlarged area of the attached maps. I have included with a map unit legend, farmland classification, and map unit description for the area within the approximate corridor of the enlarged area that may potentially still remain in farmland.

If needed, additional information on the soils of Jefferson County, KY is available on-line through USDA's Web Soil Survey.

If this office may be of additional assistance, please do not hesitate to contact my office in Maysville Ky. or contact the NRCS District Conservationist 1-502-499-1900.

A handwritten signature in blue ink, appearing to read "Steve Jacobs".

Steve Jacobs
Resource Soil Scientist, NRCS, Maysville, KY.

cc: Kurt Mason, NRCS District Conservationist, Louisville, KY

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Div. of Planning

The Natural Resources Conservation provides leadership in a partnership effort to help people conserve, maintain, and improve our natural resources and environment.

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I-265 Programming Study from I-65 to the East End bridge, Jefferson Co.

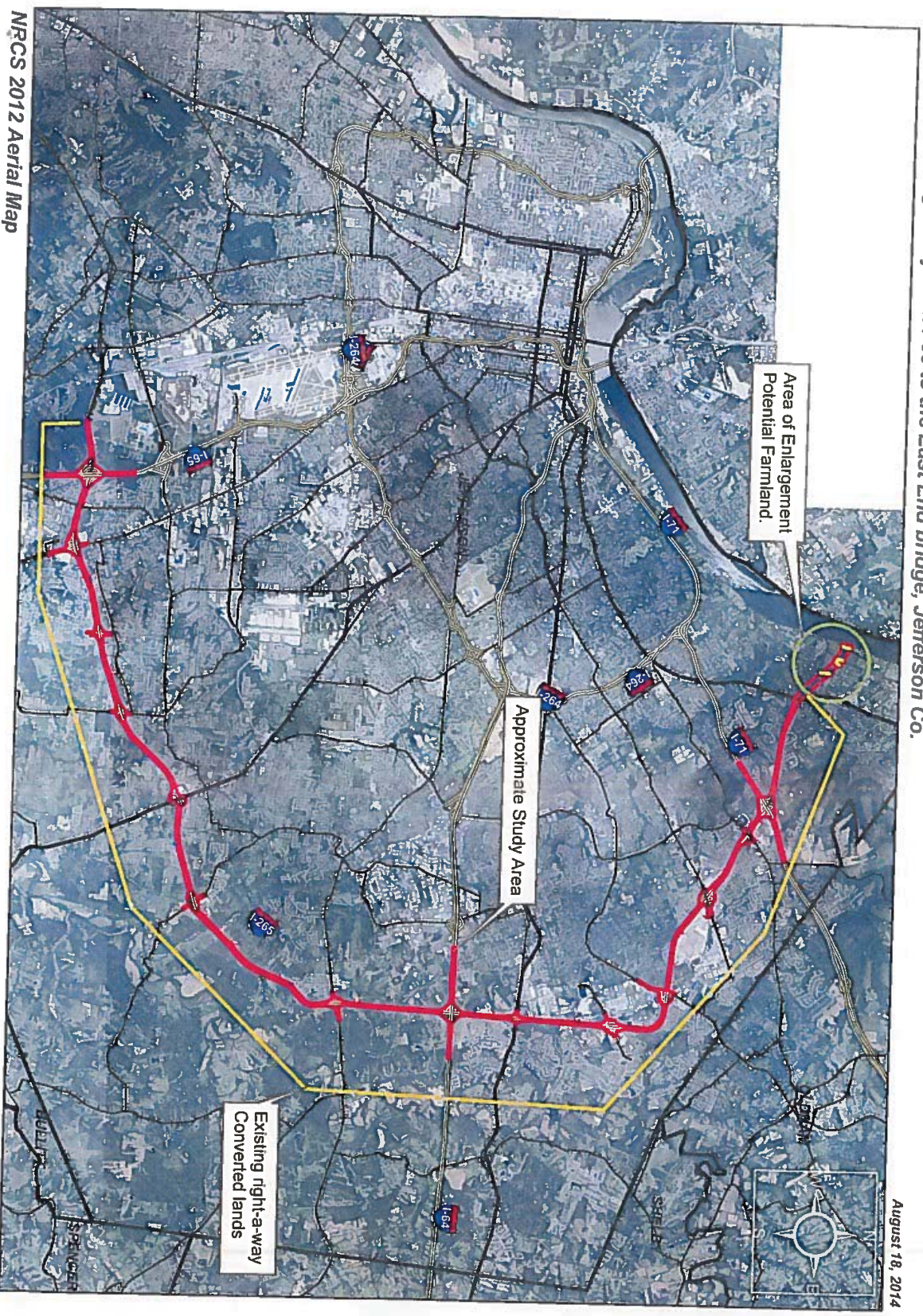


NRCS 2012 Aerial Map

Mapping Unit Legend Attached

Scale 1:8,400

I-265 Programming Study from I-65 to the East End bridge, Jefferson Co.



NRCS 2012 Aerial Map

Scale 1:160,000

Soil Map Unit Legend for Area of Potential Farmland – Enlarged Area

Symbol	Map Unit
CnF	Chagrin-Nelse-Wheeling complex, 2 to 75 percent slopes, frequently flooded
Co	Combs fine sandy loam, occasionally flooded
Ha	Huntington silt loam, occasionally flooded
Hf	Huntington silt loam, frequently flooded
OtB	Otwood silt loam, 2 to 6 percent slopes
UmC	Urban land – Alfic Udarents – Crider complex, 0 to 12 percent slopes
WhA	Wheeling loam, 0 to 2 percent slopes
WhB	Wheeling loam, 2 to 6 percent slopes
WhC	Wheeling loam, 6 to 12 percent slopes
WkA	Wheeling loam, 0 to 2 percent slopes, occasionally flooded
WkB	Wheeling loam, 2 to 6 percent slopes, occasionally flooded
WkC	Wheeling loam, 6 to 12 percent slopes, occasionally flooded
WkD	Wheeling loam, 12 to 25 percent slopes, occasionally flooded
WkF	Wheeling loam, 25 to 55 percent slopes, occasionally flooded

Source : USDA – Web Soil Survey for Jefferson County, KY

Prime and other Important Farmlands

This table lists the map units in the survey area that are considered important farmlands. Important farmlands consist of prime farmland, unique farmland, and farmland of statewide or local importance. This list does not constitute a recommendation for a particular land use.

In an effort to identify the extent and location of important farmlands, the Natural Resources Conservation Service, in cooperation with other interested Federal, State, and local government organizations, has inventoried land that can be used for the production of the Nation's food supply.

Prime farmland is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil quality, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. The water supply is dependable and of adequate quality. Prime farmland is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

For some of the soils identified in the table as prime farmland, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures.

A recent trend in land use in some areas has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

Unique farmland is land other than prime farmland that is used for the production of specific high-value food and fiber crops, such as citrus, tree nuts, olives, cranberries, and other fruits and vegetables. It has the special combination of soil quality, growing season, moisture supply, temperature, humidity, air drainage, elevation, and aspect needed for the soil to economically produce sustainable high yields of these crops when properly managed. The water supply is dependable and of adequate quality. Nearness to markets is an additional consideration. Unique farmland is not based on national criteria. It commonly is in areas where there is a special microclimate, such as the wine country in California.

In some areas, land that does not meet the criteria for prime or unique farmland is considered to be *farmland of statewide importance* for the production of food, feed, fiber, forage, and oilseed crops. The criteria for defining and delineating farmland of statewide importance are determined by the appropriate State agencies. Generally, this land includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some areas may produce as high a yield as prime farmland if conditions are favorable. Farmland of statewide importance may include tracts of land that have been designated for agriculture by State law.

In some areas that are not identified as having national or statewide importance, land is considered to be *farmland of local importance* for the production of food, feed, fiber, forage, and oilseed crops. This farmland is identified by the appropriate local agencies. Farmland of local importance may include tracts of land that have been designated for agriculture by local ordinance.

Report—Prime and other Important Farmlands

Prime and other Important Farmlands—Jefferson County, Kentucky		
Map Symbol	Map Unit Name	Farmland Classification
CnF	Chagrin-Nelse-Wheeling complex, 2 to 75 percent slopes, frequently flooded	Not prime farmland
Co	Combs fine sandy loam, occasionally flooded	All areas are prime farmland
Ha	Huntington silt loam, occasionally flooded	All areas are prime farmland
Hf	Huntington silt loam, frequently flooded	Prime farmland if protected from flooding or not frequently flooded during the growing season
OtB	Otwood silt loam, 2 to 6 percent slopes	All areas are prime farmland
UmC	Urban land-Alfic Udarents-Crider complex, 0 to 12 percent slopes	Not prime farmland
WhA	Wheeling loam, 0 to 2 percent slopes	All areas are prime farmland
WhB	Wheeling loam, 2 to 6 percent slopes	All areas are prime farmland
WhC	Wheeling loam, 6 to 12 percent slopes	Farmland of statewide importance
WkA	Wheeling loam, 0 to 2 percent slopes, occasionally flooded	All areas are prime farmland
WkB	Wheeling loam, 2 to 6 percent slopes, occasionally flooded	All areas are prime farmland
WkC	Wheeling loam, 6 to 12 percent slopes, occasionally flooded	Farmland of statewide importance
WkD	Wheeling loam, 12 to 25 percent slopes, occasionally flooded	Not prime farmland
WkF	Wheeling loam, 25 to 55 percent slopes, occasionally flooded	Not prime farmland

Data Source Information

Soil Survey Area: Jefferson County, Kentucky
 Survey Area Data: Version 12, Dec 16, 2013

Map Unit Description

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. Soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Additional information about the map units described in this report is available in other soil reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the soil reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description

Jefferson County, Kentucky

CnF—Chagrín-Nelse-Wheeling complex, 2 to 75 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 1nfy4

Elevation: 380 to 500 feet

Mean annual precipitation: 40 to 46 inches

Mean annual air temperature: 52 to 57 degrees F

Frost-free period: 172 to 204 days

Farmland classification: Not prime farmland

Map Unit Composition

Nelse, frequently flooded, and similar soils: 35 percent

Chagrín, frequently flooded, and similar soils: 35 percent

Wheeling, frequently flooded, and similar soils: 10 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chagrín, Frequently Flooded

Setting

Landform: Flood plains

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Mixed fine-loamy alluvium

Typical profile

H1 - 0 to 10 inches: loam

H2 - 10 to 39 inches: silt loam

H3 - 39 to 90 inches: silt loam

Properties and qualities

Slope: 2 to 25 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat):

Moderately high to high (0.60 to 1.98 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: Frequent

Frequency of ponding: None

Available water storage in profile: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: B

Description of Nelse, Frequently Flooded

Setting

Landform: Flood plains

Down-slope shape: Linear

Across-slope shape: Linear

Parent material: Mixed coarse-loamy alluvium

Typical profile

H1 - 0 to 12 inches: stratified loam to fine sandy loam

H2 - 12 to 100 inches: stratified loam to sandy loam

Properties and qualities

Slope: 2 to 25 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Runoff class: Low
 Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
 Depth to water table: More than 80 inches
 Frequency of flooding: Frequent
 Frequency of ponding: None
 Available water storage in profile: Low (about 5.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
 Land capability classification (nonirrigated): 4e
 Hydrologic Soil Group: A

Description of Wheeling, Frequently Flooded**Setting**

Landform: Stream terraces
 Landform position (three-dimensional): Tread
 Down-slope shape: Linear
 Across-slope shape: Linear
 Parent material: Mixed fine-loamy alluvium

Typical profile

H1 - 0 to 6 inches: loam
 H2 - 6 to 49 inches: loam
 H3 - 49 to 85 inches: stratified sandy loam

Properties and qualities

Slope: 2 to 75 percent
 Depth to restrictive feature: More than 80 inches
 Natural drainage class: Well drained
 Runoff class: High
 Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 5.95 in/hr)
 Depth to water table: More than 80 inches
 Frequency of flooding: Frequent
 Frequency of ponding: None
 Available water storage in profile: Moderate (about 6.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
 Land capability classification (nonirrigated): 7e
 Hydrologic Soil Group: A

Minor Components**Combs**

Percent of map unit: 8 percent

Huntington

Percent of map unit: 6 percent

Faywood

Percent of map unit: 3 percent

Caneyville

Percent of map unit: 3 percent

Co—Combs fine sandy loam, occasionally flooded**Map Unit Setting**

National map unit symbol: 1ng6y
 Elevation: 380 to 500 feet
 Mean annual precipitation: 40 to 46 inches
 Mean annual air temperature: 52 to 57 degrees F
 Frost-free period: 172 to 204 days
 Farmland classification: All areas are prime farmland

Map Unit Composition

Combs, occasionally flooded, and similar soils: 90 percent
 Minor components: 10 percent
 Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Combs, Occasionally Flooded**Setting**

Landform: Flood plains
 Down-slope shape: Linear
 Across-slope shape: Linear
 Parent material: Mixed coarse-loamy alluvium

Typical profile

H1 - 0 to 14 inches: loam
 H2 - 14 to 77 inches: fine sandy loam
 H3 - 77 to 102 inches: silt loam

Properties and qualities

Slope: 0 to 4 percent
 Depth to restrictive feature: More than 80 inches
 Natural drainage class: Well drained
 Runoff class: Low
 Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 5.95 in/hr)
 Depth to water table: About 42 to 70 inches
 Frequency of flooding: Occasional
 Frequency of ponding: None
 Available water storage in profile: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
 Land capability classification (nonirrigated): 2w
 Hydrologic Soil Group: A

Minor Components**Huntington**

Percent of map unit: 8 percent

Nelse

Percent of map unit: 2 percent

Ha—Huntington silt loam, occasionally flooded

Map Unit Setting

*National map unit symbol: 1ng6v
Elevation: 380 to 500 feet
Mean annual precipitation: 40 to 46 inches
Mean annual air temperature: 52 to 57 degrees F
Frost-free period: 172 to 204 days
Farmland classification: All areas are prime farmland*

Map Unit Composition

*Huntington, occasionally flooded, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Huntington, Occasionally Flooded

Setting

*Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed fine-silty alluvium*

Typical profile

*H1 - 0 to 22 inches: silt loam
H2 - 22 to 59 inches: silt loam
H3 - 59 to 94 inches: silt loam*

Properties and qualities

*Slope: 0 to 4 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat):
Moderately high to high (0.60 to 1.98 in/hr)
Depth to water table: About 41 to 62 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water storage in profile: High (about 11.8 inches)*

Interpretive groups

*Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B*

Minor Components

Nolin

Percent of map unit: 4 percent

Elk

Percent of map unit: 3 percent

Lindside

Percent of map unit: 3 percent

Hf—Huntington silt loam, frequently flooded

Map Unit Setting

*National map unit symbol: 1ng6w
Elevation: 380 to 500 feet
Mean annual precipitation: 40 to 46 inches
Mean annual air temperature: 52 to 57 degrees F
Frost-free period: 172 to 204 days
Farmland classification: Prime farmland if protected from flooding or not frequently flooded during the growing season*

Map Unit Composition

*Huntington, frequently flooded, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Huntington, Frequently Flooded

Setting

*Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed fine-silty alluvium*

Typical profile

*H1 - 0 to 22 inches: silt loam
H2 - 22 to 59 inches: silt loam
H3 - 59 to 94 inches: silt loam*

Properties and qualities

*Slope: 0 to 4 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat):
Moderately high to high (0.60 to 1.98 in/hr)
Depth to water table: About 41 to 62 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Available water storage in profile: High (about 11.8 inches)*

Interpretive groups

*Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B*

Minor Components**Combs***Percent of map unit: 4 percent***Linside***Percent of map unit: 3 percent***Elk***Percent of map unit: 3 percent***OtB—Otwood silt loam, 2 to 6 percent slopes****Map Unit Setting**

National map unit symbol: 1ng79
Elevation: 410 to 700 feet
Mean annual precipitation: 40 to 46 inches
Mean annual air temperature: 52 to 57 degrees F
Frost-free period: 172 to 204 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Otwood and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Otwood**Setting**

Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Mixed fine-silty alluvium over mixed loamy alluvium

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 27 inches: silt loam
H3 - 27 to 46 inches: silt loam
H4 - 46 to 83 inches: silt loam
H5 - 83 to 91 inches: stratified sandy loam to loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: 20 to 36 inches to fragipan
Natural drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.01 in/hr)
Depth to water table: About 15 to 30 inches
Frequency of flooding: None
Frequency of ponding: None

Calcium carbonate, maximum in profile: 20 percent
Available water storage in profile: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C/D

Minor Components**Lawrence***Percent of map unit: 4 percent***Elk***Percent of map unit: 3 percent***Nolin***Percent of map unit: 3 percent***UmC—Urban land-Alfic Udarents-Crider complex, 0 to 12 percent slopes****Map Unit Setting**

National map unit symbol: 1ng9k
Elevation: 500 to 800 feet
Mean annual precipitation: 40 to 46 inches
Mean annual air temperature: 52 to 57 degrees F
Frost-free period: 172 to 204 days
Farmland classification: Not prime farmland

Map Unit Composition

Urban land: 50 percent
Crider and similar soils: 25 percent
Alfic udarents and similar soils: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Urban Land**Interpretive groups**

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8

Description of Alfic Udarents**Setting**

Landform: Ridges
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Thin fine-silty loess over clayey residuum weathered from limestone and dolomite

Typical profile

H1 - 0 to 24 inches: silt loam
H2 - 24 to 100 inches: silty clay loam

Properties and qualities

Slope: 0 to 12 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 10.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D

Description of Crider**Setting**

Landform: Ridges
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Thin fine-silty loess over clayey residuum weathered from limestone and dolomite

Typical profile

H1 - 0 to 7 inches: silt loam
H2 - 7 to 24 inches: silt loam
H3 - 24 to 100 inches: silty clay loam

Properties and qualities

Slope: 0 to 12 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 10.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B

WhA—Wheeling loam, 0 to 2 percent slopes**Map Unit Setting**

National map unit symbol: 1ng7x
Elevation: 400 to 600 feet
Mean annual precipitation: 40 to 46 inches
Mean annual air temperature: 52 to 57 degrees F
Frost-free period: 172 to 204 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Wheeling and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wheeling**Setting**

Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed fine-loamy alluvium

Typical profile

H1 - 0 to 6 inches: loam
H2 - 6 to 49 inches: loam
H3 - 49 to 85 inches: stratified sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: A

Minor Components**Elk**

Percent of map unit: 4 percent

Otwood*Percent of map unit: 3 percent***Nolin***Percent of map unit: 3 percent***WhB—Wheeling loam, 2 to 6 percent slopes****Map Unit Setting***National map unit symbol: 1ng7y**Elevation: 400 to 600 feet**Mean annual precipitation: 40 to 46 inches**Mean annual air temperature: 52 to 57 degrees F**Frost-free period: 172 to 204 days**Farmland classification: All areas are prime farmland***Map Unit Composition***Wheeling and similar soils: 90 percent**Minor components: 10 percent**Estimates are based on observations, descriptions, and transects of the mapunit.***Description of Wheeling****Setting***Landform: Stream terraces**Landform position (three-dimensional): Tread**Down-slope shape: Convex**Across-slope shape: Linear**Parent material: Mixed fine-loamy alluvium***Typical profile***H1 - 0 to 6 inches: loam**H2 - 6 to 49 inches: loam**H3 - 49 to 85 inches: stratified sandy loam***Properties and qualities***Slope: 2 to 6 percent**Depth to restrictive feature: More than 80 inches**Natural drainage class: Well drained**Runoff class: Low**Capacity of the most limiting layer to transmit water (Ksat):**Moderately high to high (0.60 to 5.95 in/hr)**Depth to water table: More than 80 inches**Frequency of flooding: None**Frequency of ponding: None**Available water storage in profile: Moderate (about 6.7 inches)***Interpretive groups***Land capability classification (irrigated): None specified**Land capability classification (nonirrigated): 2e**Hydrologic Soil Group: A***Minor Components****Elk***Percent of map unit: 4 percent***Nolin***Percent of map unit: 3 percent***Otwood***Percent of map unit: 3 percent***WhC—Wheeling loam, 6 to 12 percent slopes****Map Unit Setting***National map unit symbol: 1ng7z**Elevation: 400 to 600 feet**Mean annual precipitation: 40 to 46 inches**Mean annual air temperature: 52 to 57 degrees F**Frost-free period: 172 to 204 days**Farmland classification: Farmland of statewide importance***Map Unit Composition***Wheeling and similar soils: 90 percent**Minor components: 10 percent**Estimates are based on observations, descriptions, and transects of the mapunit.***Description of Wheeling****Setting***Landform: Stream terraces**Landform position (three-dimensional): Tread**Down-slope shape: Convex**Across-slope shape: Linear**Parent material: Mixed fine-loamy alluvium***Typical profile***H1 - 0 to 6 inches: loam**H2 - 6 to 49 inches: loam**H3 - 49 to 85 inches: stratified sandy loam***Properties and qualities***Slope: 6 to 12 percent**Depth to restrictive feature: More than 80 inches**Natural drainage class: Well drained**Runoff class: Medium**Capacity of the most limiting layer to transmit water (Ksat):**Moderately high to high (0.60 to 5.95 in/hr)**Depth to water table: More than 80 inches**Frequency of flooding: None**Frequency of ponding: None**Available water storage in profile: Moderate (about 6.7 inches)*

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A

Minor Components**Elk**

Percent of map unit: 4 percent

Nolin

Percent of map unit: 3 percent

Otwood

Percent of map unit: 3 percent

WkA—Wheeling loam, 0 to 2 percent slopes, occasionally flooded**Map Unit Setting**

National map unit symbol: 1ng7r
Elevation: 400 to 600 feet
Mean annual precipitation: 40 to 46 inches
Mean annual air temperature: 52 to 57 degrees F
Frost-free period: 172 to 204 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Wheeling, occasionally flooded, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wheeling, Occasionally Flooded**Setting**

Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Mixed fine-loamy alluvium

Typical profile

H1 - 0 to 6 inches: loam
H2 - 6 to 49 inches: loam
H3 - 49 to 85 inches: stratified sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat):
 Moderately high to high (0.60 to 5.95 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: Occasional

Frequency of ponding: None

Available water storage in profile: Moderate (about 6.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: A

Minor Components**Elk**

Percent of map unit: 4 percent

Otwood

Percent of map unit: 3 percent

Huntington

Percent of map unit: 3 percent

WkB—Wheeling loam, 2 to 6 percent slopes, occasionally flooded**Map Unit Setting**

National map unit symbol: 1ng7s
Elevation: 400 to 600 feet
Mean annual precipitation: 40 to 46 inches
Mean annual air temperature: 52 to 57 degrees F
Frost-free period: 172 to 204 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Wheeling, occasionally flooded, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wheeling, Occasionally Flooded**Setting**

Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Mixed fine-loamy alluvium

Typical profile

H1 - 0 to 6 inches: loam
H2 - 6 to 49 inches: loam
H3 - 49 to 85 inches: stratified sandy loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat):
 Moderately high to high (0.60 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: A

Minor Components

Elk
Percent of map unit: 4 percent

Otwood
Percent of map unit: 3 percent

Huntington
Percent of map unit: 3 percent

WkC—Wheeling loam, 6 to 12 percent slopes, occasionally flooded**Map Unit Setting**

National map unit symbol: 1ng7t
Elevation: 400 to 600 feet
Mean annual precipitation: 40 to 46 inches
Mean annual air temperature: 52 to 57 degrees F
Frost-free period: 172 to 204 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Wheeling, occasionally flooded, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wheeling, Occasionally Flooded**Setting**

Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Mixed fine-loamy alluvium

Typical profile

H1 - 0 to 6 inches: loam
H2 - 6 to 49 inches: loam
H3 - 49 to 85 inches: stratified sandy loam

Properties and qualities

Slope: 6 to 12 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat):
 Moderately high to high (0.60 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A

Minor Components

Elk
Percent of map unit: 4 percent

Huntington
Percent of map unit: 3 percent

Otwood
Percent of map unit: 3 percent

WkD—Wheeling loam, 12 to 25 percent slopes, occasionally flooded**Map Unit Setting**

National map unit symbol: 1ng7v
Elevation: 400 to 600 feet
Mean annual precipitation: 40 to 46 inches
Mean annual air temperature: 52 to 57 degrees F
Frost-free period: 172 to 204 days
Farmland classification: Not prime farmland

Map Unit Composition

Wheeling, occasionally flooded, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wheeling, Occasionally Flooded**Setting**

Landform: Stream terraces
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Mixed fine-loamy alluvium

Typical profile

H1 - 0 to 6 inches: loam
H2 - 6 to 49 inches: loam
H3 - 49 to 85 inches: stratified sandy loam

Properties and qualities

Slope: 12 to 25 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat):
 Moderately high to high (0.60 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A

Minor Components**Elk**

Percent of map unit: 5 percent

Huntington

Percent of map unit: 3 percent

Otwood

Percent of map unit: 2 percent

WkF—Wheeling loam, 25 to 55 percent slopes, occasionally flooded**Map Unit Setting**

National map unit symbol: 1ng7w
Elevation: 400 to 600 feet
Mean annual precipitation: 40 to 46 inches
Mean annual air temperature: 52 to 57 degrees F
Frost-free period: 172 to 204 days
Farmland classification: Not prime farmland

Map Unit Composition

Wheeling, occasionally flooded, and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wheeling, Occasionally Flooded**Setting**

Landform: Stream terraces
Landform position (three-dimensional): Riser
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Mixed fine-loamy alluvium

Typical profile

H1 - 0 to 6 inches: loam
H2 - 6 to 49 inches: loam
H3 - 49 to 85 inches: stratified sandy loam

Properties and qualities

Slope: 25 to 55 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat):
 Moderately high to high (0.60 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A

Minor Components**Elk**

Percent of map unit: 4 percent

Otwood

Percent of map unit: 2 percent

Alford

Percent of map unit: 2 percent

Nolin
Percent of map unit: 2 percent

Data Source Information

Soil Survey Area: Jefferson County, Kentucky
Survey Area Data: Version 12, Dec 16, 2013