Appendix H

Project Team Meeting Summaries

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Groundbreaking by Design.

MEETING MINUTES

Project: Pembroke Corridor Study

Christian County, KY Item No. 2-381.00

Purpose: Project Team Meeting No. 1

Present Existing Conditions and Gather Input

Place: Pembroke Baptist Church, Pembroke, KY

Meeting Date: November 10, 2016

11:00 a.m. CST

Prepared By: Andy Gilley

In Attendance:

Nick Hall
Pamela Broadston
KYTC District 2 Planning
Nick
Pamela Broadston
KYTC District 2 Environmental
Charlotte Cotton
KYTC District 2 Design
Cha
Mikael Pelfrey
KYTC CO. Planning
Daniel Hulker
KYTC CO. Planning
Allen Rust
KYTC CO. R/W and Utilities
Alle

Craig Morris Pennyrile Area Development District Annette Coffey Qk4, Inc.

Annette Coffey Qk4, Inc.
Andy Gilley Qk4, Inc.
Tom Springer Qk4, Inc.

Nick.Hall@ky.gov
Pamela.Broadston@ky.gov
Charlotte.Cotton@ky.gov
Mikael.Pelfrey@ky.gov
Daniel.Hulker@ky.gov
Allen.Rust@ky.gov
Craig.Morris@ky.gov
acoffey@qk4.com
agilley@qk4.com
tspringer@qk4.com

Pembroke Corridor Study Christian County November 10, 2016 Project Team Meeting No. 1 Minutes Page 2 of 5

Nick Hall began the meeting by thanking everyone for attending and by reiterating the purpose of the meeting. All attendees introduced themselves.

Handouts included a meeting agenda and three study area maps showing existing conditions, traffic, and environmental review information (Attachment A). Andy Gilley guided the project team through key components and highlights from the attached presentation (Attachment B) to be presented to the Local Officials/Stakeholders at 1:00 pm CST. A summary of key discussion items is provided below, in accordance with the meeting agenda.

Scope of Work, Study Area, and Purpose of the Study

Mikael Pelfrey noted the identified Kentucky Transportation Cabinet (KYTC) Highway Plan projects (Attachment B, p. 10) are not in the current biennium; i.e., a new Highway Plan will be developed and approved before these projects are advanced.

The project team made note that two additional study area Project Identification Forms PIFs may exist for projects numbered 66 and 72 on the Christian County unscheduled needs map from 2014 (Attachment B, p. 13).

Daniel Hulker asked if there was a long-term concept to provide a complete bypass around Pembroke in the southeast quadrant of town. While a complete bypass has not been identified in the past, heavy trucks travel east-west on US 41 through Pembroke.

Existing Conditions

Andy explained the lane and shoulder information provided in the KYTC's Highway Information System (HIS) database for much of KY 115 does not provide a clear representation of the existing conditions. The HIS information lists seven miles of KY 115 as having 9-foot-wide lanes and shoulders ranging from 4 to 6 feet wide. Based on field review, the majority of KY 115 has 10- to 10.5-foot-wide travel lanes, which could be approximated as 9-foot-wide lanes and 1- to 1.5-foot-wide paved shoulders. The grass shoulders range from zero feet (drop offs) to five feet in gently sloped areas. Most of the corridor has no more than 1- to 2-foot-wide grass shoulders.

Both US 41 and KY 115 are identified on the Kentucky Highway Freight Network as Tier 3 corridors. Tier 3 corridors have the following criteria:

- Statewide Regional Significance
- Intermodal connectors recognized by/filed with the Federal Highway Administration (FHWA)
- Arterials and collectors with an Average Annual Daily Truck Traffic (AADTT) of 500 to 4,000
- Manual revisions to ensure local freight corridor connectivity

In addition, US 41 is triple A rated for 80,000 lbs. max load and KY 115 is single A rated for max load of 44,000 lbs.

With any widening improvements proposed in the study area, two structures may need to be replaced. The first structure is a culvert located on US 41 at MP 3.42 that is 39 feet wide from curb to curb. Nick said local officials have brought to District 2 staff's attention that the culvert has flooded over the road in the past. He remarked it was an off-site issue that the KYTC could not fix. The second structure is a bridge located on KY 115 at MP 9.91. The bridge is narrow—its curb-to-curb width is 20 feet— and is considered Functionally

Pembroke Corridor Study Christian County November 10, 2016 Project Team Meeting No. 1 Minutes Page 3 of 5

Obsolete (FO). The bridge is also in a high crash location and appears to be a secondary factor (less forgiving) in crashes. (The most notable primary cause is driver error.)

The US 41/KY 115 intersection has insufficient turn radii for large trucks. The intersection has been identified as a high crash location with five crashes reported on KY 115 and seven on US 41 in the last five years. Charlotte Cotton stated access will be an issue with redesigning this intersection. Nick informed the project team about a current Local Public Agency (LPA) project to rebuild the sidewalks in this area, which should be coordinated with any improvement projects proposed in this study. Andy noted the stop bar on KY 115 northbound was recently relocated closer to US 41; however, the stop sign was not moved with it.

The crash analysis identified six high crash locations within the study area and one extremely high crash location just south of the study area near the Pilot Truck Stop on KY 115. A large percentage of crashes in the study area, are single vehicle and take place outside daylight hours. Angle type crashes on US 41 occur more frequently than the statewide average. There was one fatal crash on US 41 and two on KY 115 during the five-year period. Crashes involving semi-tractor trailers are more than twice the statewide average on US 41 and more than four times on KY 115.

Traffic

Andy summarized the traffic and peak hour intersection movement counts performed in September 2016, truck percentages, and resulting Levels of Service (LOS) for US 41 and KY 115. Andy also called attention to a notable reduction in truck percentages on KY 115—from the 2011 count of 420 trucks per day (28.3%) at Station 325 to the 2016 count of 260 (10.7%) a difference of 160 trucks per day.

Nick informed the team a new classification count on KY 115 should have been completed this year. He will check following the meeting and report his finding to the project team.

The Frank Yost Lane left-turn movement onto US 41 is operating at LOS F during the PM peak hour with about 300 vehicles turning northwest on US 41. The estimated delay for this leg of the intersection is approximately 230 seconds per vehicle.

Qk4 counted 51 trains over a 48-hour period at the KY 115 train crossing. The average disruption to KY 115 during the hours observed was almost 4 minutes, with the maximum disruption being nearly 38 minutes.

Environmental, Socioeconomic and Environmental Justice, and Geotechnical Overview

Tom Springer explained and led discussion on the environmental overview information shown in the attached presentation (Attachment B, beginning on p. 50).

A Pembroke Historic District, with 51 previously recorded Kentucky Heritage Council (KHC) resources, is recommended eligible for listing in the National Register of Historic Places (NRHP). One of the resources, the Richardson House (CH-72), is listed in the NRHP.

There are several ecological resources that will need to be addressed during a bypass/connector project. There are a large number of sinkholes in the KY 115 corridor south of Pembroke. Prime farmland is abundant in the study area.

Pembroke Corridor Study Christian County November 10, 2016 Project Team Meeting No. 1 Minutes Page 4 of 5

The limited English proficiency population percentage in the study area is more than three times higher than the statewide percentage. Craig Morris mentioned the high percentage may be attributed to German being the first language of many in the Amish community.

Purpose and Need Review

Discussion revolved around whether to include in the Purpose and Need Statement, "Improve safety and geometric deficiencies at the intersection of US 41 and KY 115 in Pembroke to better facilitate truck turning movements." No decision was made. Additional goals for the project were not discussed.

Craig reiterated this project is about the truck traffic going to and from the industrial area to I-24.

Next Steps

Qk4 will summarize and review input from today's meeting and develop improvement alternatives.

Stakeholders Discussion

The project team briefly discussed agenda items for the Local Officials/Stakeholders meeting.

Discussion Items/Design Considerations

Charlotte remarked that spanning the railroad will require a major structure, but widening options are limited through town.

Charlotte requested we meet the radius requirements for horizontal and vertical curves; however 11-foot-wide lanes would be sufficient.

Passing lanes are not desirable on KY 115 because of the large trucks turning in/out of farm fields.

The Pembroke community would like to see Amish provided a safe shoulder to accommodate horse and buggy travel. A shoulder design similar to that used on US 41A south of Hopkinsville (i.e., 10-foot-wide shoulder with a one-foot-wide rumble strip between the travel lane and the shoulder) should be used with widening concepts on US 41 and KY 115.

The bypass/connector will be presented as partial controlled access. Charlotte suggested using eight- footwide shoulders on the connector.

The bridge over the railroad needs to be 23 feet from the top of the rail to the bottom of the bridge beam. Allen noted the railroad companies have sometimes asked the KYTC to span the entire right-of-way at the same height.

Regarding the southern termini of the US 41/KY 115 bypass/connector, Qk4 will look at location options for connecting to KY 115.

Schedule

Pembroke Corridor Study Christian County November 10, 2016 Project Team Meeting No. 1 Minutes Page 5 of 5

The project schedule is included on the meeting agenda.

The meeting adjourned at 12:30 p.m. CST.

End of Minutes



Christian County Item Number 2-381.00

Project Team Meeting No. 1

Local Officials/Stakeholders Meeting No. 1

November 10, 2016





Scope of Work

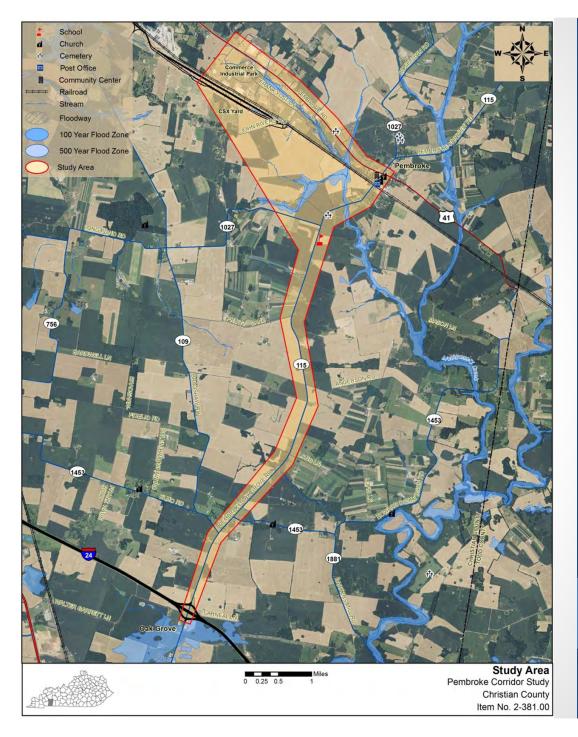
Analyze access, primarily for freight, from the newly expanded Commerce Park, along US 41 northwest of Pembroke, to I-24





Study Area





Purpose of the Study



- Improve truck access from the newly expanded Commerce Park along US 41 to KY 115 to I-24.
- In addition, the intersection of US 41 and KY 115 in Pembroke does not have the required turning radius for trucks.





Commerce Park Expansion









Commerce Park Expansion

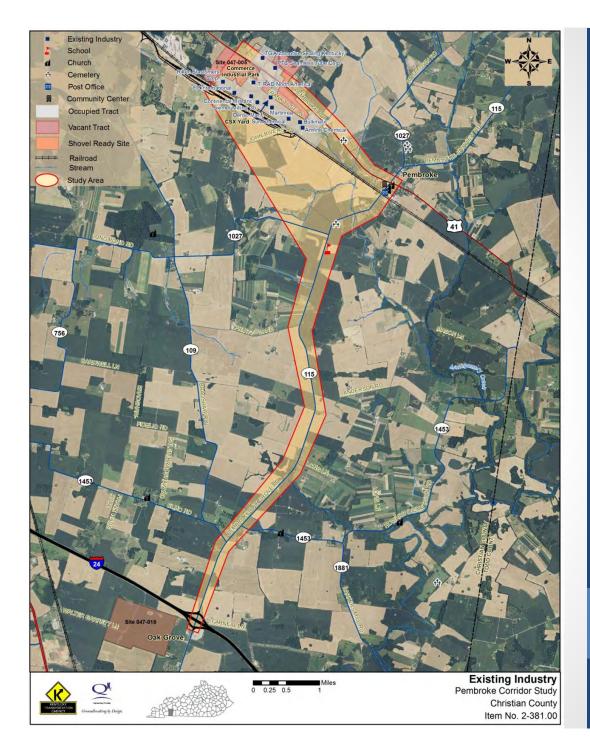






Existing Industry







Scope of Work Items



- Inventory and Assess Existing Conditions
- Environmental, Socioeconomic, and Geotechnical Overview
- Establish Project Purpose and Goals
- Develop and Analyze Alternate Improvement Options
- Estimate Cost
- Conduct Public Involvement Activities
 - Two Local Official/Stakeholders Meetings
 - One Resource Agency Mailing
 - One Public Meeting
- Prioritize Improvements
- Document Study Process and Results





Schedule



Project Team and Local Officials/ Stakeholders Meeting 1 November 2016

Project Team Meeting 2

February 2017

Local Officials/
Stakeholders
Meeting 2
and Public
Meeting 1

April 2017 Project Team Meeting 3

May 2017

Draft Report

June 2017 Final Report Submitted to KYTC

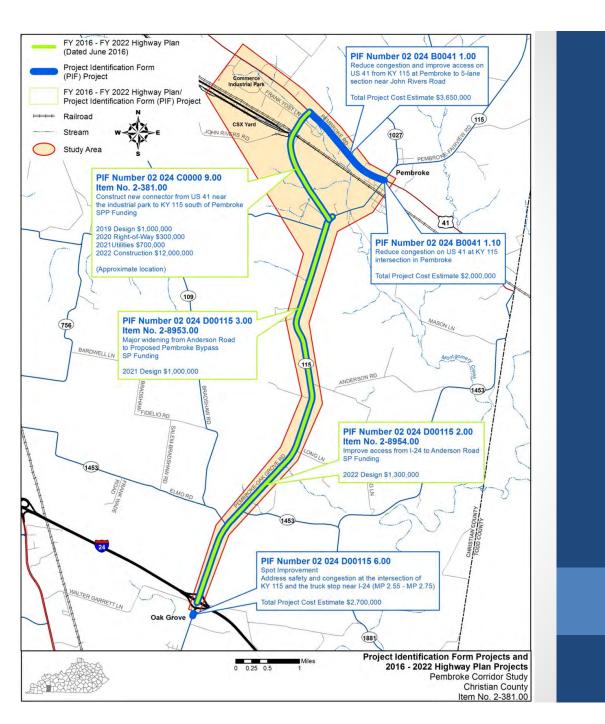
August 2017



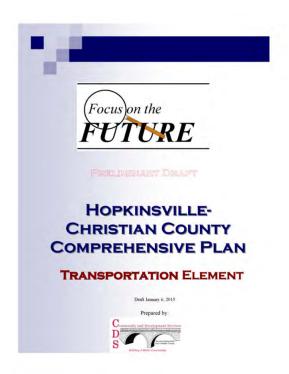


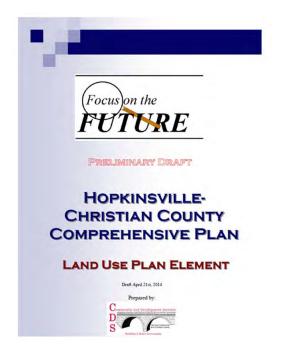
KYTC Projects in the Area





Review of Other Reports









Christian County Transportation Goals

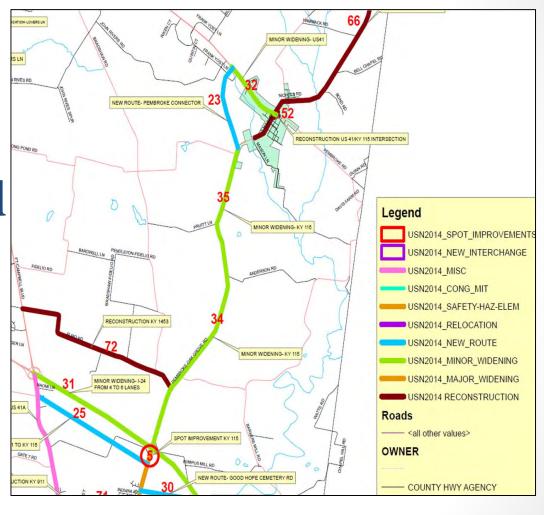
- 2. The community must design and provide a transportation system that offers a high degree of mobility in a reliable, safe, and efficient fashion and that integrates into the existing transportation systems.
 - A. To improve access to I-24 in Christian County
 - B. To examine improvements to facilitate the movement of vehicles and reduce congestion
 - C. To provide alternatives to reduce heavy freight traffic within congested areas
 - 2. By constructing a **truck bypass route near Pembroke** along US 41 and KY 115
- 8. Streets and Highways
 - B. To rank and develop an orderly transition of the projects on the **unscheduled needs plan** to the 6-Year Plan

(p. 6-7, 14-15, Transportation Element, emphasis added)





Christian
County
Unscheduled
Highway
Needs Map
2014

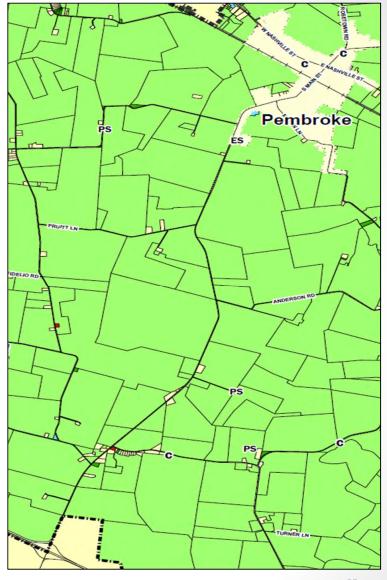






Christian County Land Use Map 2012









"Mega Industrial Site"







"Mega Industrial Site"

The location of this area to US Hwy 41A, KY 115, and I-24 make this area highly attractive to future industrial activity. The placement of large automotive manufacturing company in this area would provide a substantial economic impact to Christian County and surrounding jurisdictions.

Study the likely transportation improvements needed to accommodate additional traffic.

Alterations to the **on and off ramps of I-24** at both the US-41A and **KY 115** exits;

Widening of both US-41A and KY 115;

(p. 83 and 91, Land Use Element, emphasis added)





Existing Conditions

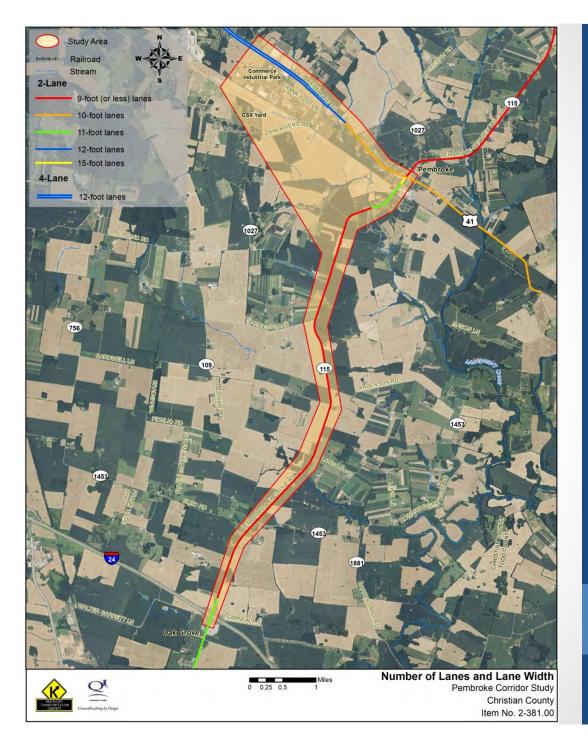
- Lane and Shoulder Widths
- Roadway Geometrics
- Sight Distance
- Truck Route(s)
- Structures
- US 41/KY 115 Intersection
- Crashes
- Travel Times
- Multimodal Accommodations
- 2016 Traffic, Truck, and Train Volumes
- Peak Hour Turn Movement Counts
- Capacity Analysis





Lane Widths





Shoulder Widths





Narrow Lanes and Shoulders







Roadway Geometrics





Horizontal Curve



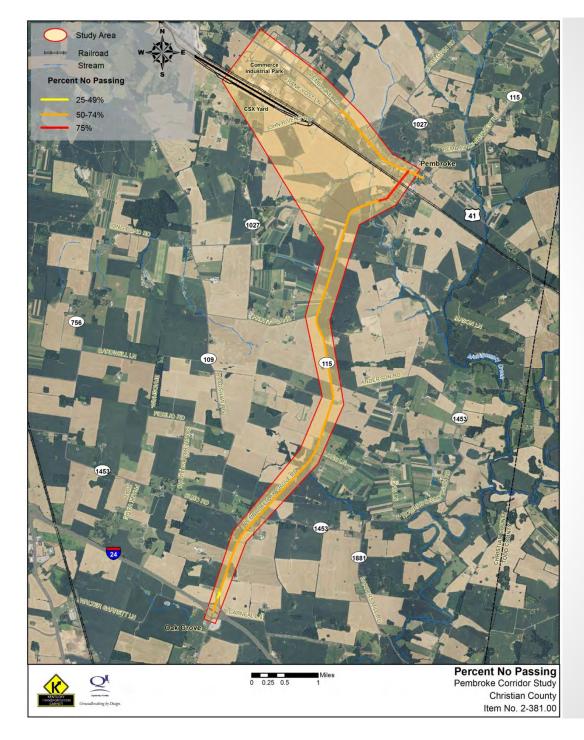


Vertical Curve



Passing Sight Distance





Sight Distance Issues







Sight Distance Issues







Kentucky Freight Network (Tier 3)

US 41 – AAA (80,000 lbs. Max)

KY 115 – A (44,000 lbs. Max)



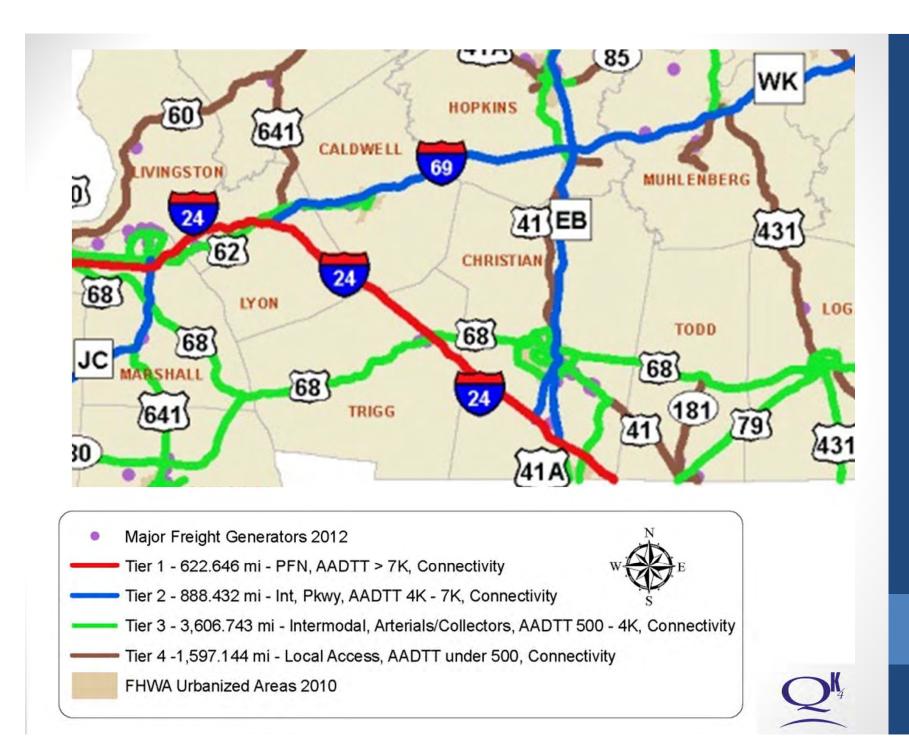
US 41 – AAA (80,000 lbs. Max)



KY 115 – A (44,000 lbs. Max)

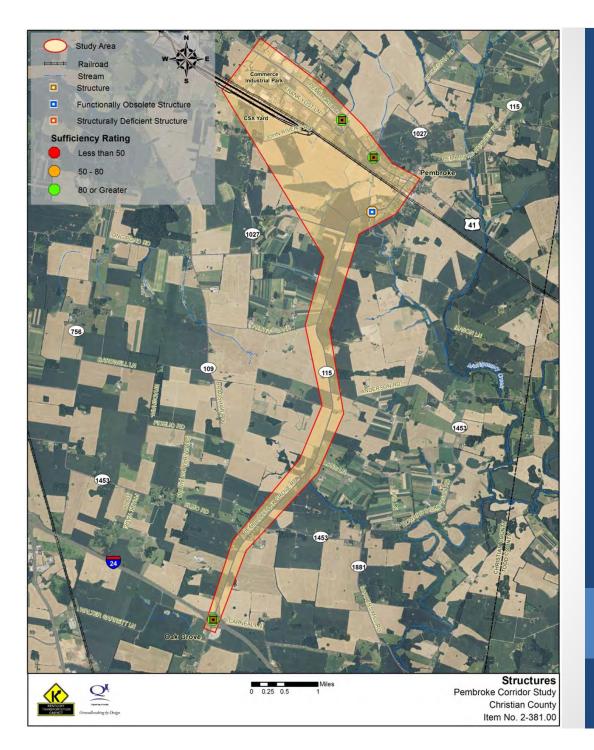






Structures





US 41 Culvert







KY 115 Narrow Bridge







KY 115 Narrow Bridge







KY 115 Narrow Bridge













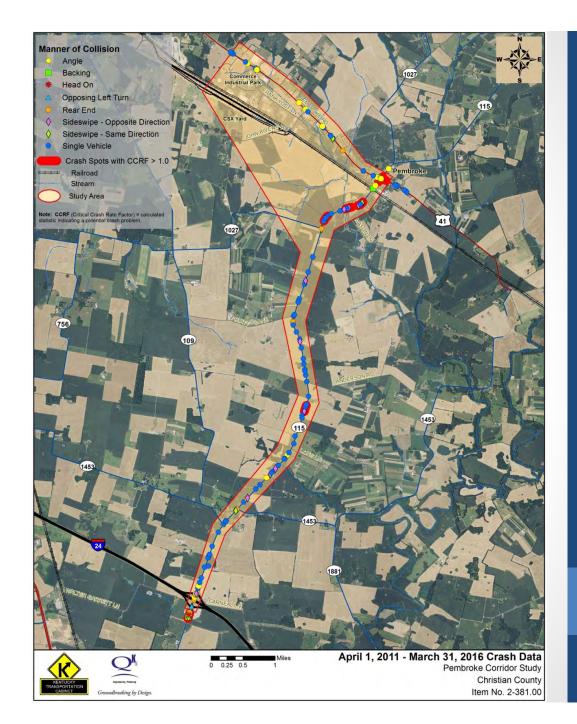




Crash Directional Analysis

5 -Years





Crash Type

5 -Years





Crash Summary (2011-2016)

Percent of Crashes:	US 41 MP 2.5-5.8	KY 115 MP 2.6-10.7	Statewide Average
Occurring in darkness	37.8%	43.4%	29.4%
Occurring when roads are wet	32.4%	24.5%	25.5%
Single vehicle crashes	45.9%	51.0%	39.6%
Angle crashes	40.5%	12.6%	17.4%
Sideswipe crashes	2.7%	18.2%	11.3%
Rear-end crashes	8.1%	11.2%	22.8%
Opposing left turn	0	3.5%	Not Shown
Backing up crashes	2.7%	2.8%	2.5%
Fatal crashes	2.7%	1.4%	0.5%
Injury crashes, not including fatal	24.3%	28.0%	18.0%
Property damage only crash	73.0%	70.6%	81.5%
Crash occurring on horizontal curve	2.7%	24.5%	20.1%
Crash involving semi-tractor trailer	10.8%	17.5%	4.1%



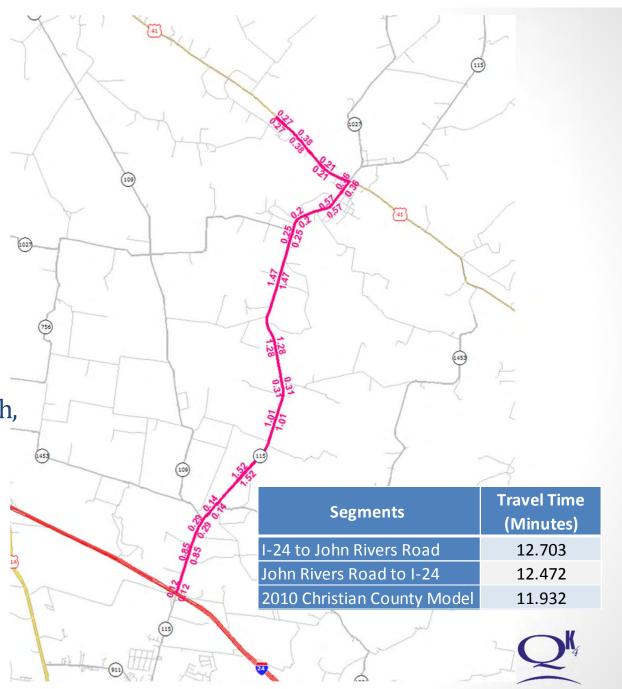


Travel Times

- Off Peak

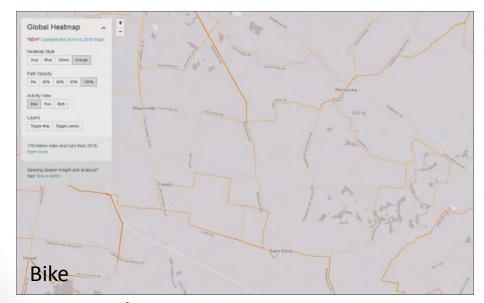
- No Trains, Farm — Implements, Amish, etc.

KENTUCKY TRANSPORTATION CABINET





Multimodal Accommodations



http://labs.strava.com/heatmap/



Source: KYTC HIS Extract



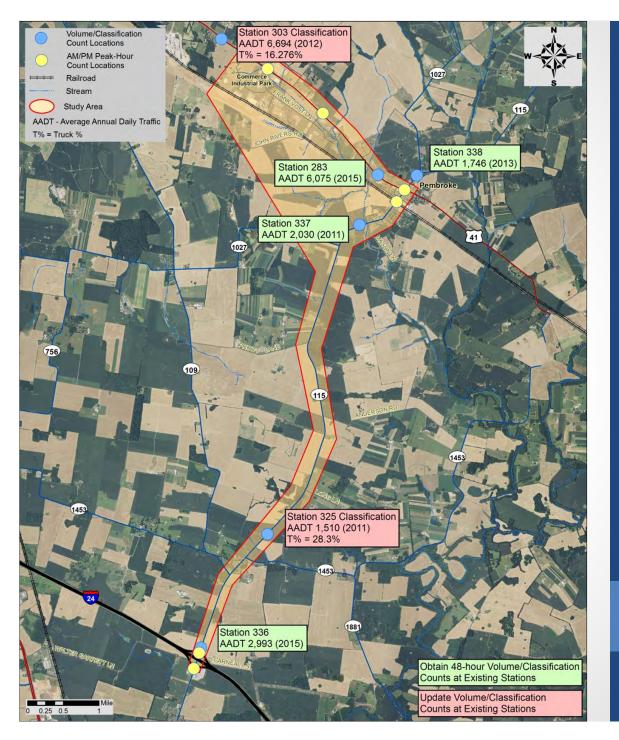
Source: 2014 Hopkinsville-Christian County Draft Transportation Element of the Draft Comprehensive Plan





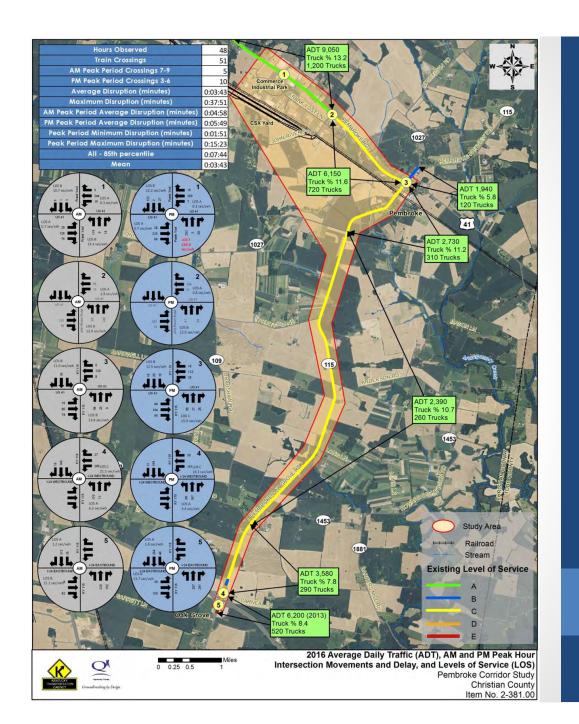
KYTC Traffic Counts

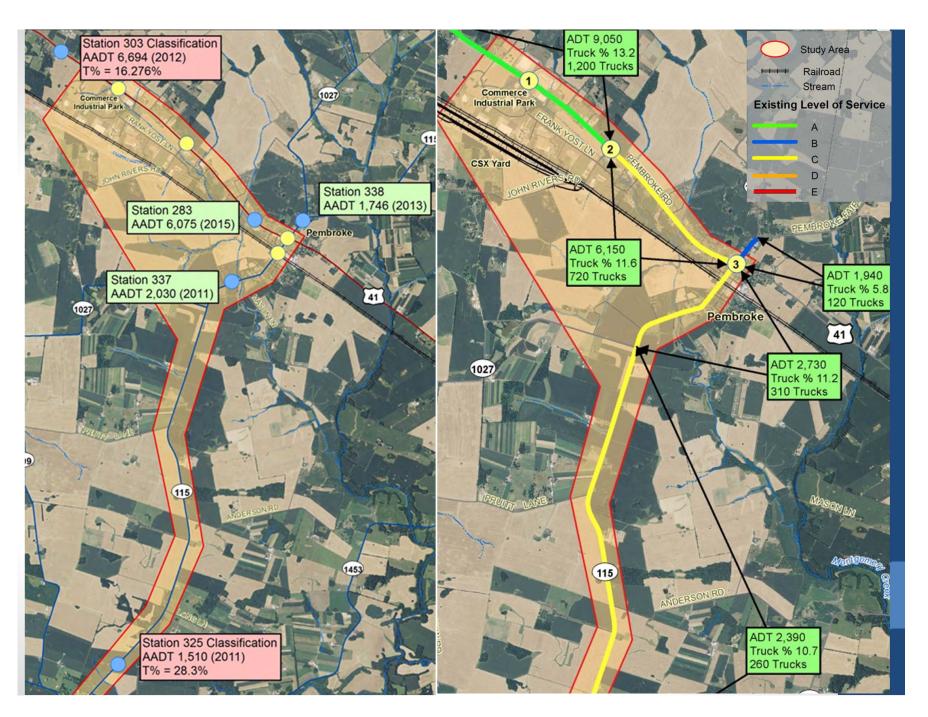


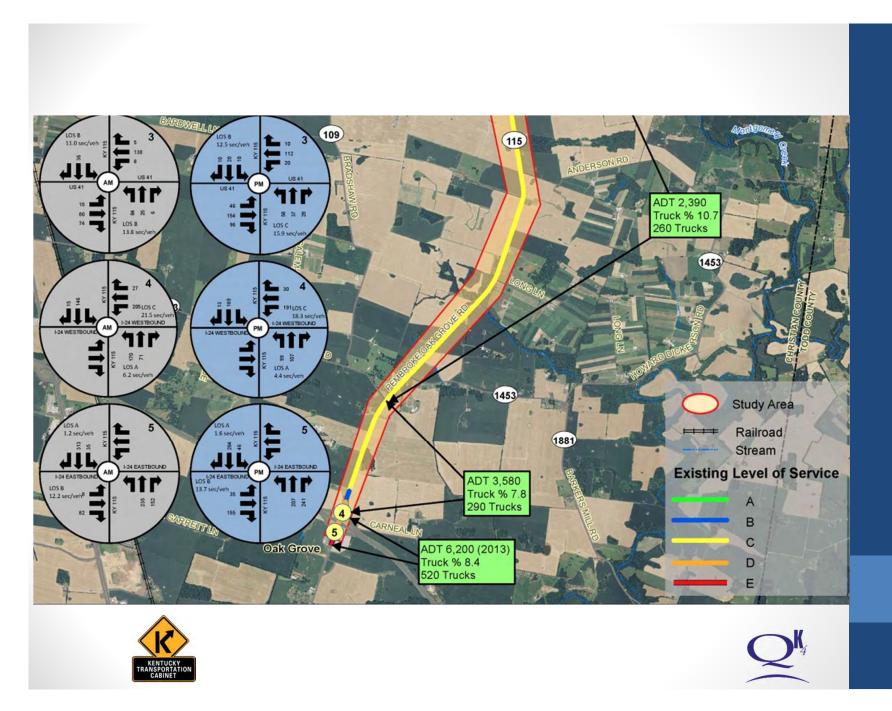


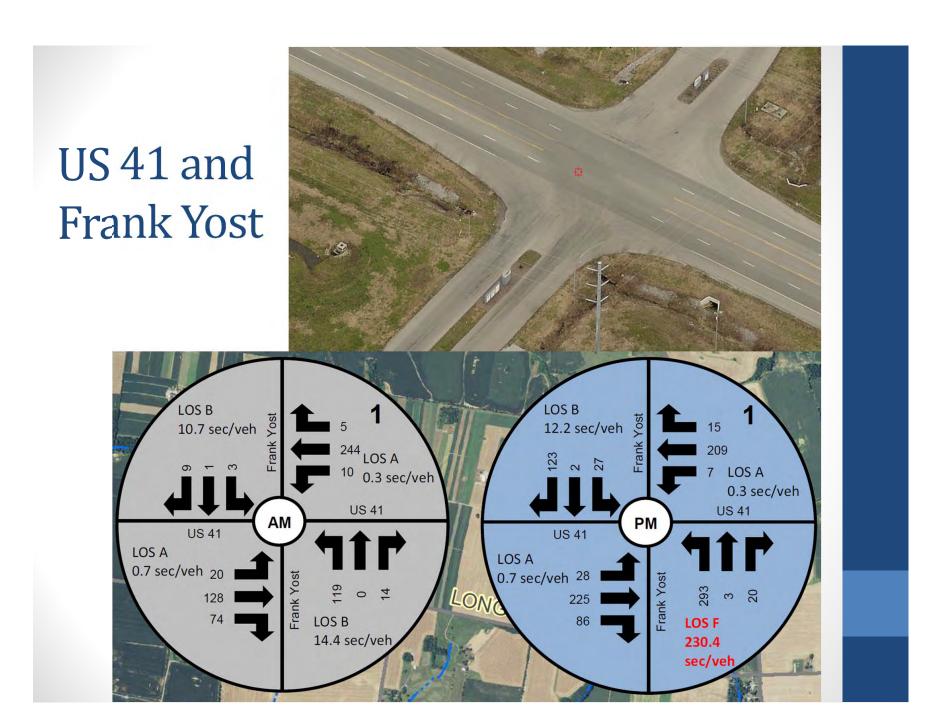
2016Traffic andOperations

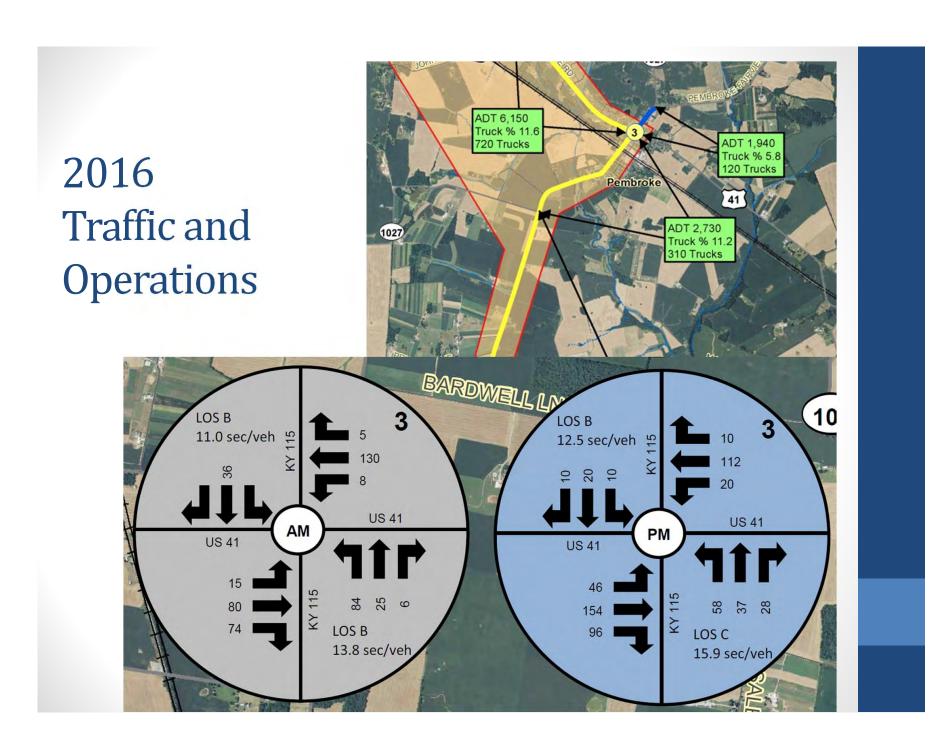












KY 115 Train Crossing

Hours Observed	48
Train Crossings	51 (25/day)
AM Peak Period Crossings 7-9	5
PM Peak Period Crossings 3-6	10
Average Disruption (minutes)	3:43
Maximum Disruption (minutes)	37:51
AM Peak Period Average Disruption (minutes)	4:58
PM Peak Period Average Disruption (minutes)	5:49
Peak Period Minimum Disruption (minutes)	1:51
Peak Period Maximum Disruption (minutes)	15:23
All - 85th percentile	7:44

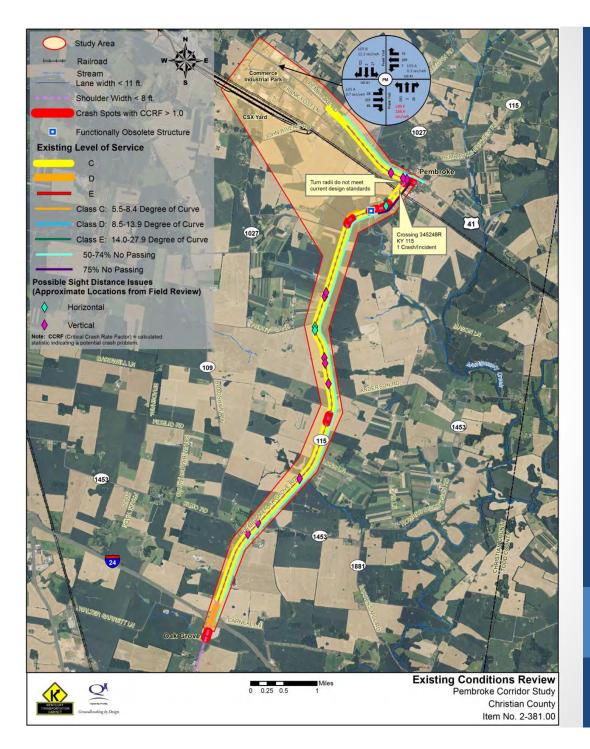






Existing Conditions Review





Environmental Overview

- Potential Historic District and Archaeological Resources
- Potential Ecological Resource Impacts
- Protected Species (Indiana bat, gray bat, northern long-eared bat)
- Potential Hazardous Materials/USTs
- Amish Community





Cultural Historic/Archaeology

Cultural Historic

63 recorded architectural resources

1 on National Register of Historic Places (NRHP)

51 within a newly identified Pembroke Historic District

11 additional resources within half mile of study area

5 additional resources potentially eligible

Archaeology

5 recorded archaeological sites

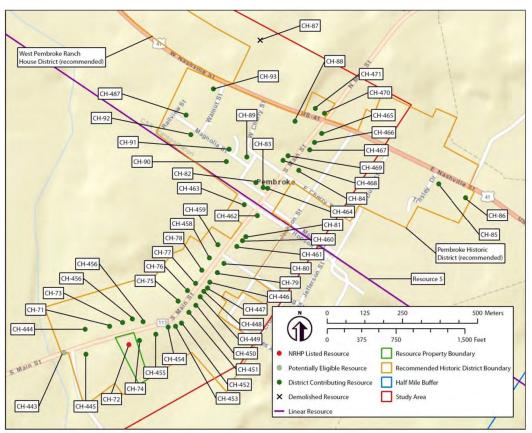
4 in the northern portion of Study Area

1 near the southern end of Study Area





Recommended Eligible Pembroke Historic District







Recommended Eligible Pembroke Historic District



Late nineteenth century to mid-twentieth century commercial buildings on South Main Street (KY 115)



The Richardson House, CH-72, is listed on the National Register of Historic Places





Ecological Resources

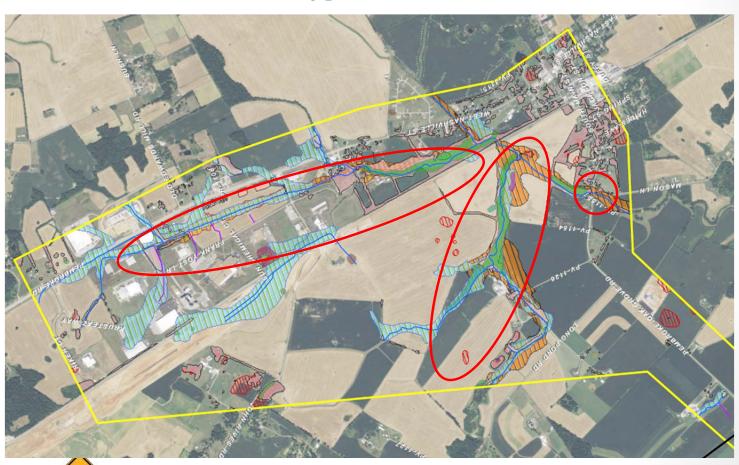
- Wetlands
- Streams
- Floodplains
- Endangered Bat Habitat
- 68 Sinkholes
- Prime Farmland





Ecological Resources

– Bypass Area







Ecological Resources

- KY 115 Corridor







Federally-listed Species

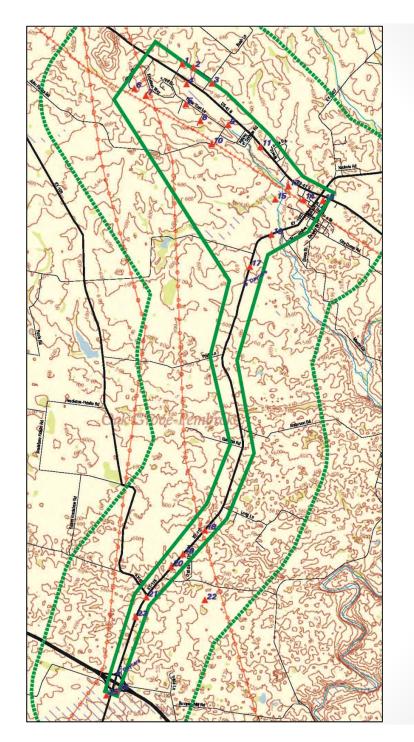
Species	Common Name	Status	Habitat Potentially Present
3 Listed Mammals (Bats):			
Indiana bat		Е	Yes
gray bat		Е	Yes
northern long-eared bat		Т	Yes
7 Listed Mussels			No
1 Listed Bird			No



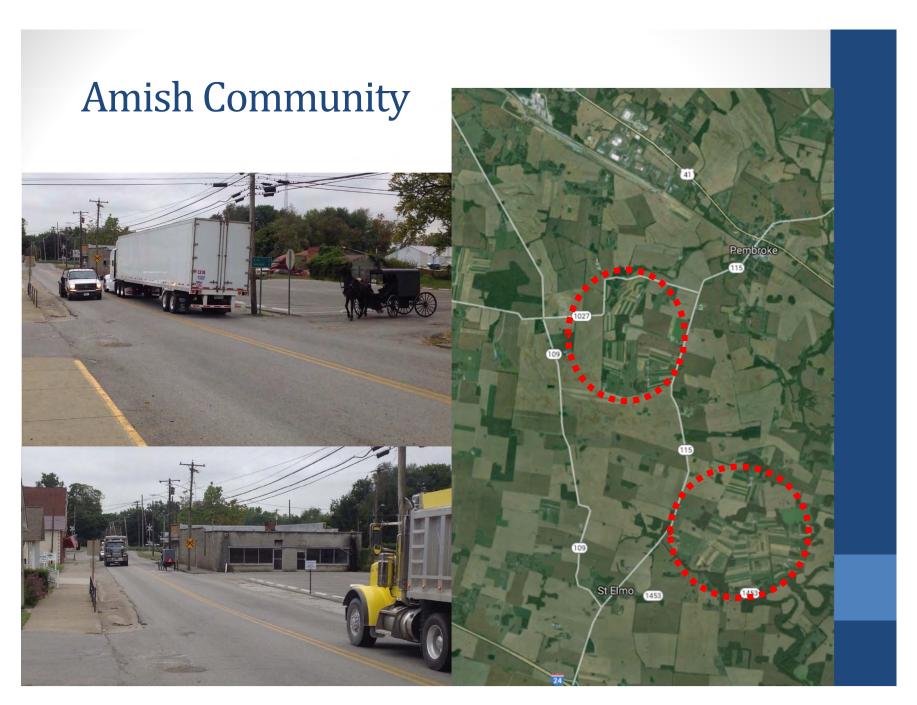


Hazardous Materials/ USTs





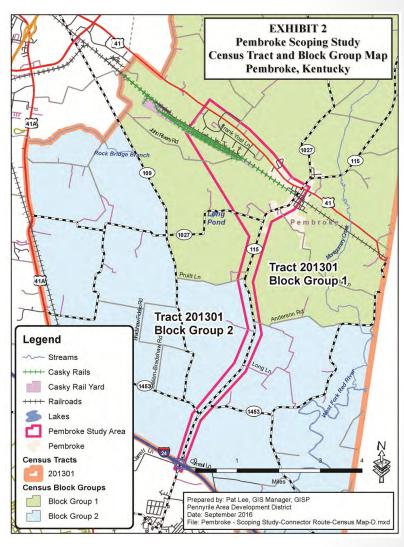




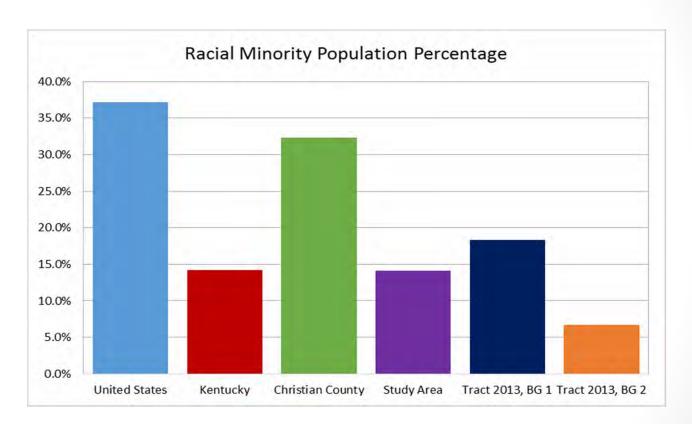
Study Area is comprised of the following Census Tract Block Groups:

Census Tract 201301 Block Group 1 Census Tract 201301 Block Group 2



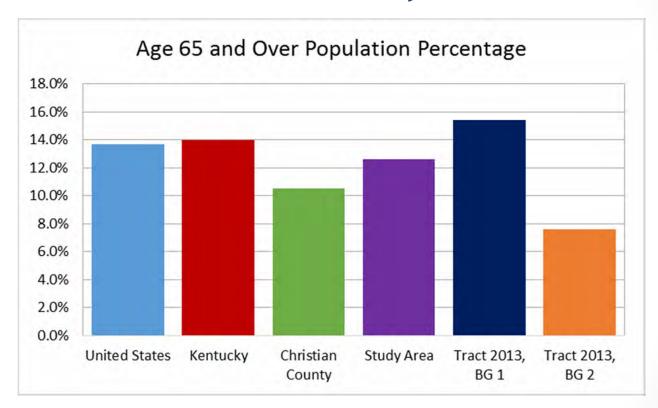






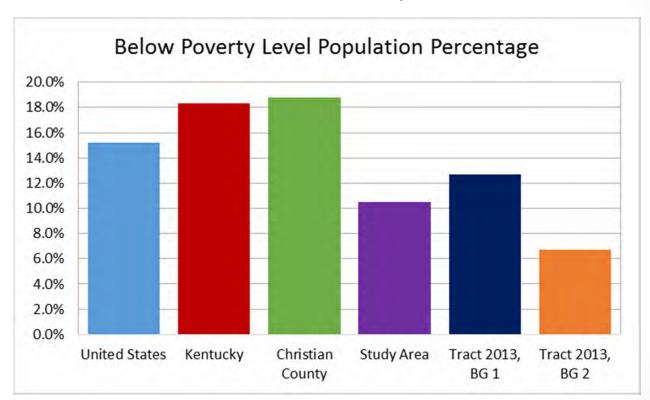






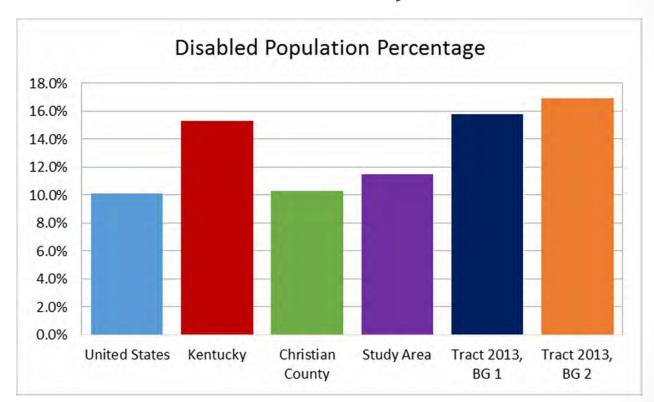








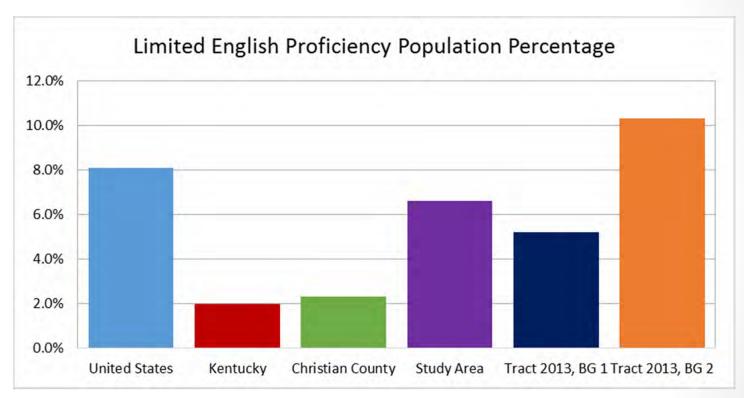








Socioeconomic and Environmental Justice







Geotechnical Overview

Study area exhibits high and very high karst potential in areas

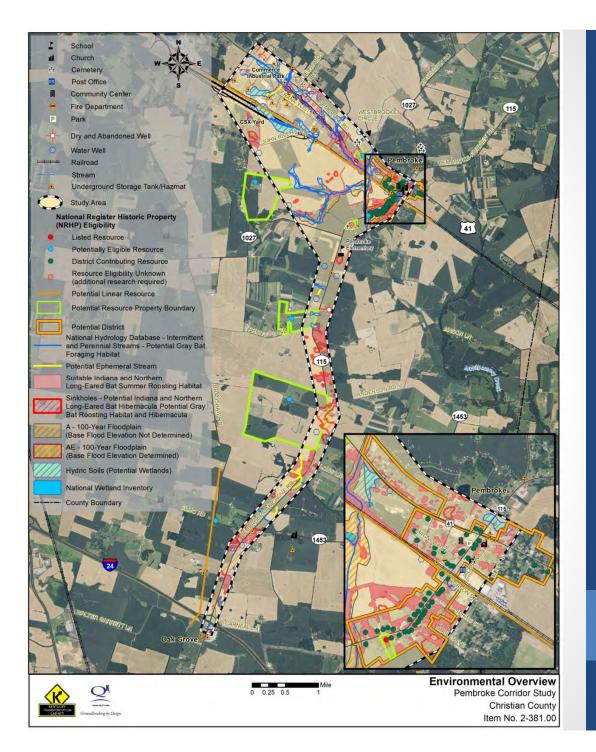
Numerous sinkholes were indicated, particularly south of US 41 and south of Pembroke





Environmental Review





Existing Corridor Issues

- Train delays
- KY 115/US 41 intersection
- Historic District
- Narrow lanes (9 and 10 feet)
- Narrow shoulders (0 3 feet)
- KY 115 truck Class is 44,000 lbs.
- High crash locations
- Sight distance issues
- Narrow bridge and culvert
- Left turn LOS F for Frank Yost to US 41
- Amish community





Preliminary Purpose and Need Statement

Improve truck maneuverability from the newly expanded Commerce Park along US 41 to KY 115 to I-24.

Improve safety and geometric deficiencies at the intersection of US 41 and KY 115 in Pembroke to better facilitate truck turning movements.





Next Steps

- Summarize and Review input from today's meeting
- Develop Improvement Alternatives
 - Pembroke Area
 - Concept A
 - Rebuild US 41 to KY 115
 - Rebuild the US 41/KY 115 intersection
 - Concept B
 - Construct a new connector from US 41 west of Pembroke to KY 115 south of Pembroke.
 - Include a grade separated railroad crossing
 - Partial control of access
 - KY 115 Corridor
 - Rebuild KY 115 south to I-24





What we need from you

What existing conditions did we miss?

Where do you see Pembroke Growing?

- New Housing
- New Industry/Jobs
- School

Thoughts on Bypass and Potential Connection Locations?

- Commerce Park
- KY 115

Anything else that should be considered?





Project Team Discussion Items

- Design Speed
 - 55mph south of Pembroke
 - 45 mph for Concept A or B, within Pembroke
- Typical Sections
 - Two 11-foot lanes
 - Various shoulder widths
- Truck %
- Rail Expansion
- Multimodal Considerations
- Passing Lanes on KY 115
- Emergency Response Times
- Purpose, Need, Goals of Project





Schedule

Milestone	Activity		Dates		
Project Team Local Official/ Stakeholders	Meeting 1	Present existing conditions and gather input.	October 30, 2016		
Project Team	Meeting 2	Review and analyze local officials input and discuss alternative concepts.	January 30, 2017		
Local Official/Stakeholders	Meeting 2	Present findings from LO/S Meeting 1 and gather input on identified short- and long-term improvement alternatives.			
Public	Meeting 1	Present existing conditions and gather input on identified short- and long-term improvement alternatives.	March 30, 2017		
Project Team	Meeting 3	Review and analyze LO/S Meeting 2 and Public Meeting input and prioritize improvements.	April 30, 2017		
Draft Report and Executive Summary Submitted			May 31, 2017		
Final Report and Executive Summary Submitted			July 31, 2017		



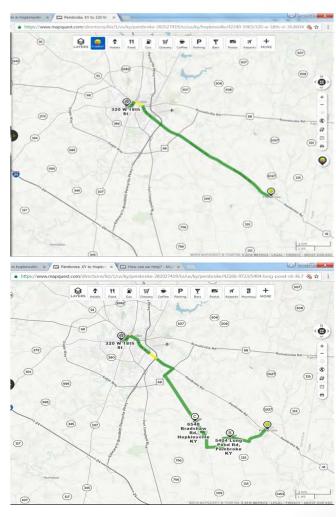


Emergency Response

- US 41 to Hospital
 - 17 minutes, 10.5 miles

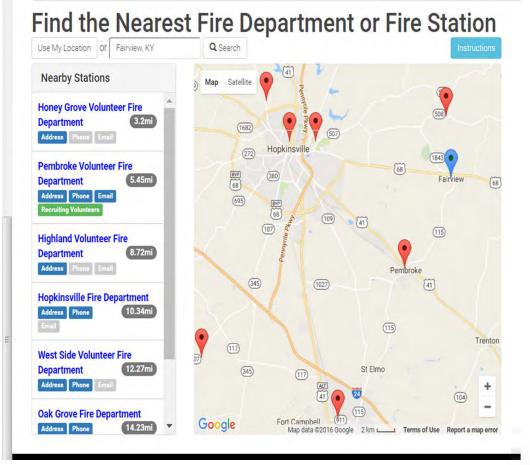
- Long Pond Road, KY 109, US 68 to US 41 bypass to US 41, KY 107, then 18th street
 - 25 minutes, 14.1 miles







Emergency Response







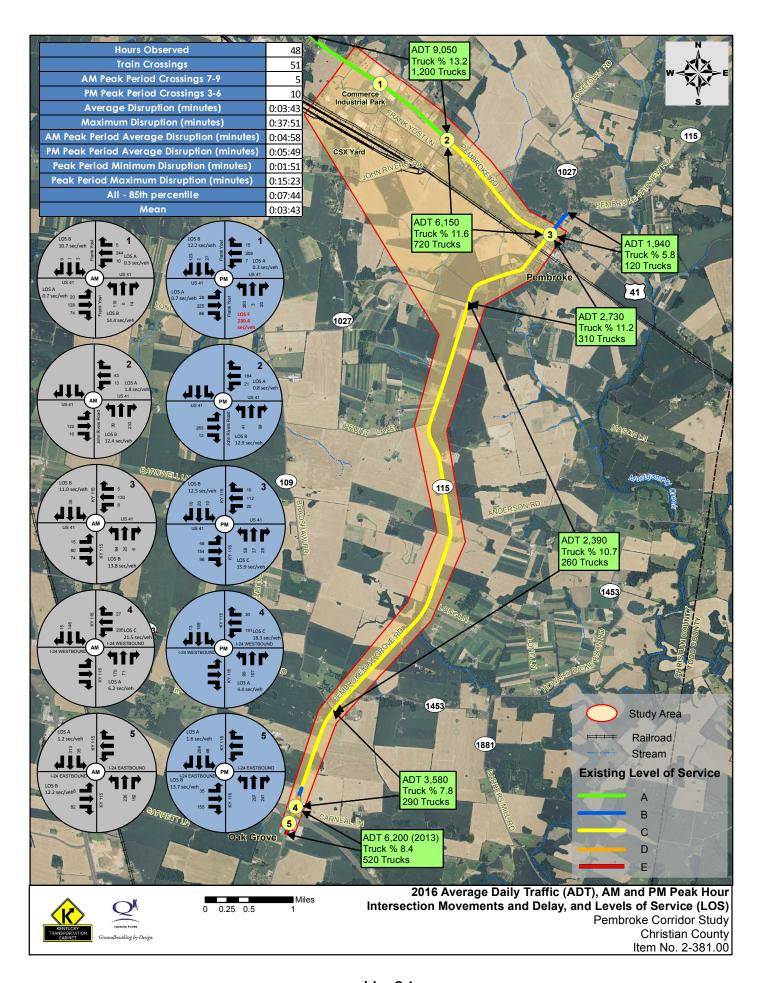


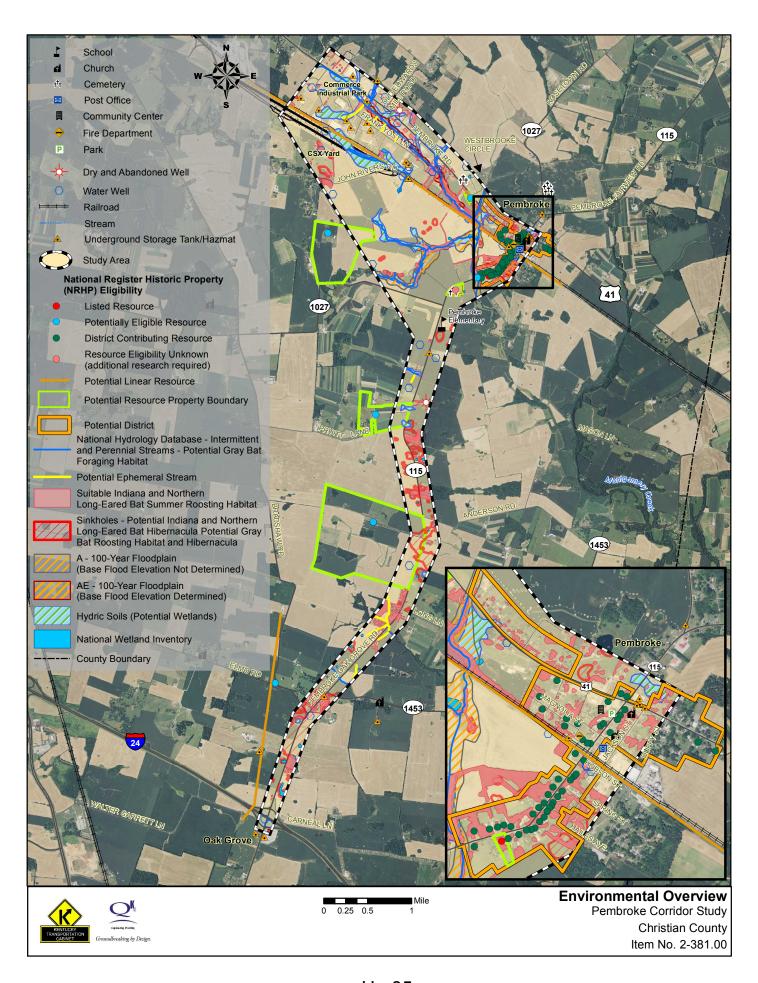
Christian County Item Number 2-381.00

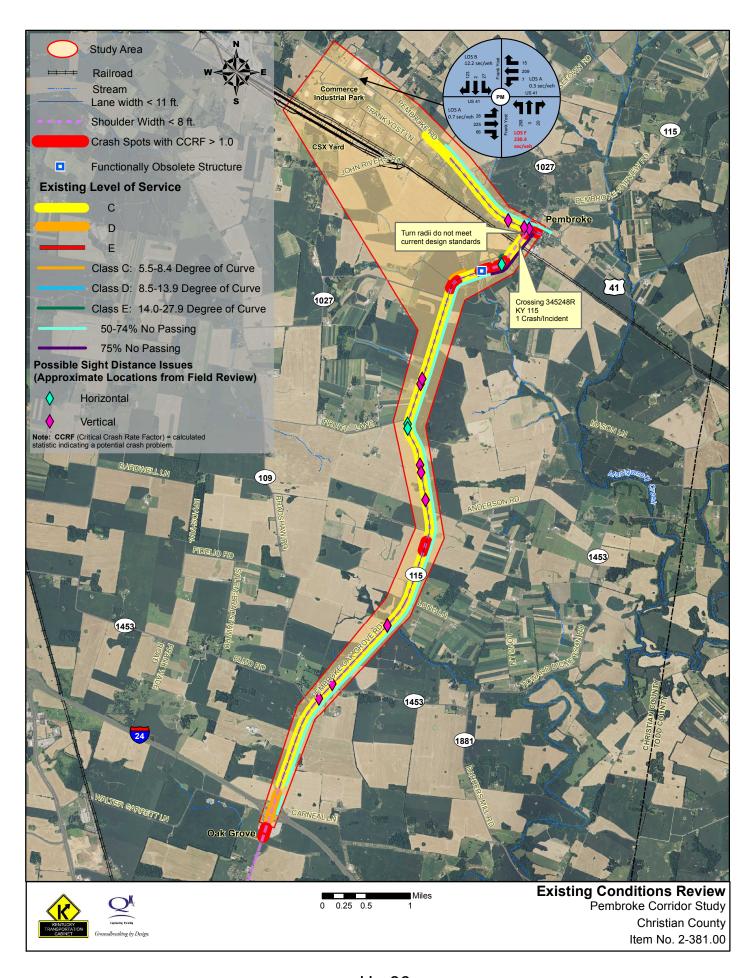
Consultant Project Manager Andy Gilley agilley@qk4.com 502.719.7893













Groundbreaking by Design.

MEETING MINUTES

Project: Pembroke Corridor Study

Christian County, KY Item No. 2-381.00

Purpose: Project Team Meeting No. 2

Review and analyze local officials input and discuss alternative concepts.

Place: KYTC District 2 Small Conference Room, Madisonville, KY

Meeting Date: February 13, 2017

10:00 a.m. CST

Prepared By: Annette Coffey/Andy Gilley

In Attendance:

Wade Clements KYTC District 2 CDE Wade.Clements@ky.gov
Nick Hall KYTC District 2 Planning Nick.Hall@ky.gov

Pamela Broadston KYTC District 2 Environmental Pamela.Broadston@ky.gov Charlotte Cotton KYTC District 2 Design Charlotte.Cotton@ky.gov Shane McKenzie KYTC CO Planning Shane.McKenzie@ky.gov Craig Morris Pennyrile Area Development District Craig.Morris@ky.gov

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Pembroke Corridor Study Christian County February 13, 2017 Project Team Meeting No. 2 Minutes Page 2 of 5

Introductions—Nick Hall began the meeting by thanking everyone for attending and by reiterating the purpose of the meeting. All attendees introduced themselves. Handouts included a meeting agenda, a one-page reference map identifying improvement concepts, and a one-page table with improvement concept descriptions and estimated costs by phase (Attachment A).

Following introductions, Andy Gilley led discussion from the attached presentation (Attachment B). A summary of the meeting dialogue is provided below, in accordance with the meeting agenda.

- Scope of Work, Study Area, and Purpose of the Study—For the benefit of those unable to attend the first Local Officials/Stakeholders (LO/S) and/or Project Team meetings (both held on November 10, 2016), Andy gave a brief review of the scope of work, study area, and purpose of the study; and summarized the 2016 traffic and operations, existing conditions, and environmental data collected.
- Review and Input: Project Team and LO/S Meetings—The conversation then turned to reviewing decisions made, and feedback from the first Project Team meeting and first LO/S meeting.
- Comments made:
 - Wade Clements stated widening in this project is a priority.
 - Lighting was identified in the Project Identification Forms (PIFs).
 - Pamela Broadston said CSX is extending the length of side-by-side tracks in the area.
 - Although very little growth was expected by local officials (as stated at first LO/S meeting), Wade
 noted that Pembroke housing could expand greatly if tax rules change to make it more desirable for
 Fort Campbell soldiers, families, and civilian employees to live in Kentucky instead of Tennessee.
 The potential tax changes could result in construction of thousands of homes.
 - Nick Hall mentioned drainage issues are reoccurring at the US 41/KY 115 intersection.
- **Concepts**—Andy reviewed improvement concepts for attendees. The following are descriptions and discussion items regarding each concept:
- **A1. US 41 Widening:** Widen US 41 1.21 miles from KY 115 (MP 2.786) to the widened section east of Salubria Springs Road (MP 4.0).
 - Proposed typical section: 11-foot lanes and 10-foot paved shoulders.
 - Existing two-span culvert at MP 3.42 would require widening.
 - Reconstruct existing sidewalk on south side of US 41 from west of Walnut Street to KY 115.

A_I. US 41/KY 115 Intersection Improvements:

- Concept A_II: Turn Radius Widening Based on 2011 AASHTO Green Book, Three Centered Curves for Turns at Intersections using a WB-67 Design Vehicle (p. 9-61, Table 9-16)
- Concept A_I2: Turn Radius Widening Based on minimum two-foot offset of AutoTURN software WB-67 Design Vehicle turn path.
- Concept A_I3: Turn Radius Widening Based on 2011 AASHTO Green Book, Three Centered Curves for Turns at Intersections using a WB-50 Design Vehicle.

Discussion Items:

- Proposed pavement widening corresponds to southeast and southwest intersection quadrants or corresponding right turns from US 41 East to KY 115 South and KY 115 North to US 41 East.
- Will need to discourage Pembroke Community Center guests from parking on or close to a wide pavement section at improved intersection.

Pembroke Corridor Study Christian County February 13, 2017 Project Team Meeting No. 2 Minutes Page 3 of 5

To make the intersection as safe as possible, Concept A_I3 was eliminated because it would still
require WB-67 semi-tractor trailers to track into the opposing northbound lane when turning right
from US 41 to KY 115.

B. Construct a New Connector—Pembroke Connector

- Design speed: 45 MPH
- Partial control of access.
- Proposed typical section: 11-foot lanes and eight-foot paved shoulders.
- Grade-separated crossing over the railroad.
 - o Minimum Vertical Clearance is 23 feet from top of rail to bottom of bridge.
 - o Minimum Horizontal Clearance is 25 feet from centerline of track.
- KY 115 connection
 - o Option 1 concepts can tee into existing KY 115 alignment.
 - Option 2 concepts can become though movement with KY 115 to I-24. KY 115 from Pembroke would tee into new connector alignment.

Concept B1: Proposed 1.8 mile Connector from KY 115 across from Rosedale Cemetery (MP 9.66) to US 41 (MP 4.23) 0.166 miles east of John Rivers Road.

- Estimated 285-foot Steel Girder Three-Span Bridge over railroad (55 feet, 175 feet, and 55 feet).
- Per PVA data, CSX railroad right-of-way at crossing is approximately 172 feet.
- Two stream crossings: estimated 12x11-foot and 22x11-foot culverts.
- Concept ties into existing three-lane, 10-foot paved shoulder section of US 41.
- May want to extend two-lane eastbound section of US 41 0.25 miles to create right-turn-lane at proposed connector concept. (Cost not included in concept estimate.)
- With Concept B-1, John Rivers Road connection is easier and it may be possible to eliminate a high-speed crossing at John Rivers Road.
- Concept may separate a large tract of farmland on the east side of connector south of the railroad.
- Concept profile elevation designed to allow a connection to Frank Yost Lane if desired.
- Concept profile grades are 1.57% and -3.87% on either side of bridge over railroad.

Concept B2: Proposed 1.25-mile connector from KY 115 across from Rosedale Cemetery (MP 9.66) to US 41 (MP 3.73) 0.666 miles east of John Rivers Road.

- Estimated 240-foot Pre-Stressed Concrete I-Beam (PCIB) Three-Span Bridge over railroad (55 feet, 130 feet, 55 feet).
- CSX railroad right-of-way at crossing is approximately 120 feet.
- Two stream crossings (Estimated 12-foot by 11-foot and 22-foot by 11-foot culverts).
- Concept ties into US 41 0.3 mile east of US 41 two-lane section with 10-foot paved shoulders, and 0.443 mile east of three-lane section. (US 41 widening improvements are not included in concept estimate.)
- Concept follows property lines throughout length.
- Concept profile grades are 3.56% and -5.95% on either side of bridge over railroad. Grades could be flattened somewhat; however, the embankment would be increased.

Concept B3: Proposed 1.0-mile Connector from KY 115 across from Rosedale Cemetery (MP 9.66) to US 41 (MP 3.33) 1.066 miles east of John Rivers Road.

• Estimated 240-foot Pre-Stressed Concrete I-Beam (PCIB) Three-Span Bridge over railroad (55 feet, 130 feet, 55 feet).

Pembroke Corridor Study Christian County February 13, 2017 Project Team Meeting No. 2 Minutes Page 4 of 5

- Per PVA data, CSX railroad right-of-way at crossing is approximately 120 feet.
- Two stream crossings: estimated 24x12-foot and 22x11-foot culverts.
- Concept ties into US 41 0.7 miles east of US 41 two-lane section with 10-foot paved shoulders and 0.843 miles east of three-lane section. (US 41 widening improvements are not included in concept estimate.)
- Concept profile grades are 5.69% and -7.57% on either side of bridge over railroad. Grades can be flattened somewhat; however, the embankment would be increased.

Discussion Items:

- Pembroke Mayor Judy Peterson would like a pedestrian/bike facility included with proposed connector concepts (Attachment C). The Mayor's first preference would be a trail separated from traffic and with connection to the bridge over the railroad. The second choice would be for bikes and pedestrians to have a place on the shoulder of the road.
- Amish buggies would be prohibited from the connector due to the presence of expected 40% trucks and a safer, slower alternative route through town.
- To reduce costs, a reduced shoulder could be implemented in design. This would also discourage Amish buggies from using and mixing with the expected high-volume truck traffic.
- Would a new US 41/Connector intersection need to be signalized?
- Concept B3 is shorter in length and closer to downtown Pembroke, but would require the longest section of US 41 widening, have more earthwork than Concepts B1 and B2, and have steeper grades.
- **C.** Widen KY 115—Concept C4: Widen KY 115 6.86 miles from Carneal Lane north of I-24 (MP 3.137) to north of Mason Lane (MP 10.0) in Pembroke.
 - Proposed Typical: 11-foot lane widths, 10-foot paved shoulders.
 - Reconstruct Functionally Obsolete Bridge at MP 9.91.
 - Reviewed four alignments for impacts and cost: Widen Middle (C1), Widen Left (C2), Widen Right (C3), and Best Fit (C4).
 - Did not change existing horizontal alignment.
 - An urban template could be used in spots to minimize impacts.

Estimates—Charlotte Cotton is agreeable with the proposed \$/cubic yard of excavation and embankment for each alternative concept.

Alternative	Design	Right of Way	Utilities	Construction	Total
Concept A1 - US 41 Widening	\$300,000	\$2,750,000	\$1,750,000	\$2,800,000	\$4,850,000
Concept A_I1 - US 41/KY 115 Intersection	\$25,000	\$100,000	\$150,000	\$90,000	\$265,000
Concept A_I2 - US 41/KY 115 Intersection □	\$25,000	\$75,000	\$150,000	\$70,000	\$320,000
Concept A_I3 - US 41/KY 115 Intersection □	\$25,000	\$75,000	\$150,000	\$50,000	\$300,000
Concept B1 - Pembroke Connector	\$1,000,000	\$1,000,000	\$500,000	\$9,400,000	\$11,900,000
Concept B2 - Pembroke Connector	\$750,000	\$500,000	\$500,000	\$7,300,000	\$9,050,000
Concept B3 - Pembroke Connector	\$750,000	\$750,000	\$500,000	\$7,600,000	\$9,600,000
Concept C4 - KY 115 Widening	\$1,500,000	\$2,500,000	\$4,250,000	\$14,400,000	\$22,650,000

Note-Right of Way Estimates added post meeting.

Pembroke Corridor Study Christian County February 13, 2017 Project Team Meeting No. 2 Minutes Page 5 of 5

- ➤ 2040 No-Build and Build Traffic—Jeremy Lukat discussed the projected traffic operations. The Build scenario projection indicates about 2,200 vehicles (40% trucks) would use a new connector from US 41 near the commerce park to KY 115. This only reduced the 2040 projected traffic on KY 115 in Pembroke by about 500 vehicles (from existing 4,000 to projected 3,500 ADT). However, a noticeable reduction in truck percentage (from 11% to 4%) is projected to result with the Build scenario.
- **Purpose and Need**—A draft Purpose and Need Statement was presented; safety modifications were suggested for freight hauling, agriculture hauling (not 365 days per year), and Amish buggies.

Next Steps—

A. Resource Agency Mailing

Qk4 will assemble Resource Agency packets for mailing by KYTC. Thirty days will be allowed for comments.

B. Local Officials/Stakeholders Meeting 2 and Public Meeting 1

The LO/S and Public meeting should be scheduled following April 10, 2017, to allow for the 30-day responses for the Resource Agency mailing and to occur after the Christian County Public Schools April 3-7 Spring Break. Possible dates include: April 11, 13, 18, 20, and 25.

Additional topics discussed:

- Schedule the LO/S meeting at 10:00 AM and the public meeting from 4:00 to 7:00 PM CST.
- Eliminate B-3 Connector from consideration and do not present to public.
- Display alignment lines for concepts B1 and B2 and hatch area between as possible location for connector. Show connector as the through movement with KY 115 south to I-24. Indicate to the public the old pavement in front of the cemetery will be removed.
- Show banded area for US 41 and KY 115 concepts: hatch area from widening left disturb limits to right disturb limits.
- No formal presentation during public meeting. Could present a short video loop of about 10 slides.
- Prepare exhibits:
 - Existing Conditions
 - Environmental Overview
 - Crashes
 - o Existing and Future Traffic (Simplified)
 - Concepts
 - Bridge Visualization
 - o Improvements
- For exhibits, use same scale of concepts presented at Project Team meeting.
- Set up three display stations for the public meeting.
- Develop survey to get feedback from the public. Include question regarding bicycle/pedestrian accommodations for the connector and ask the public if they would use such a facility.

End of Minutes



Pembroke Corridor Study Christian County Item Number 2-381.00

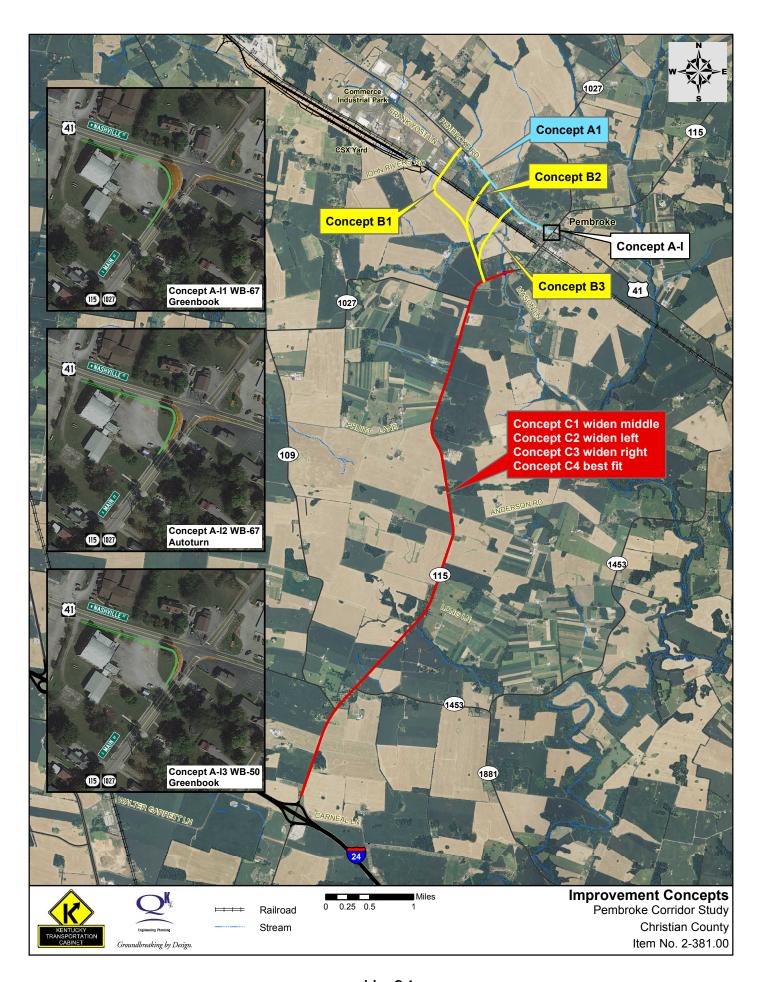


PROJECT TEAM MEETING NO. 2 10:00 AM CDT District 2 - Madisonville February 13, 2017 AGENDA

- 1. Introductions
- 2. Scope of Work, Study Area, and Purpose of the Study
- 3. PTM 1 and Local Officials/Stakeholders Meeting 1 Review and Input
- 4. Concepts, Estimates, and 2040 No-Build and Build Traffic
 - A. Widen US 41
 - A1. US 41/KY 115 Intersection Improvements
 - B. Construct a new Connector
 - C. Widen KY 115
- 5. Draft Purpose and Need Review
- 6. Next Steps Discussion
 - A. Resource Agency Mailing
 - B. Local Officials/Stakeholders Meeting No. 2 and Public Meeting

Final Report Draft **Project Team Project Team Project Team** Submitted to and Local Report **Meeting 3** Meeting 2 Stakeholders **KYTC** Officials/ Meeting 2 Stakeholders and Public Meeting 1 Meeting 1 **February** November May June April 2017 2017 2016 2017 2017 2017

Milestone	Activity		Dates	
Project Team Local Official/ Stakeholders	Meeting 1	Present existing conditions and gather input.	November 10, 2016	
Project Team	Meeting 2	Review and analyze local officials input and discuss alternative concepts.	January 30, 2017	
Local Official/Stakeholders	Meeting 2	Present findings from LO/S Meeting 1 and gather input on identified short-and long-term improvement alternatives.	March 30, 2017	
Public	Meeting 1	Present existing conditions and gather input on identified short- and long-term improvement alternatives.	Waldi	
Project Team	Meeting 3	Review and analyze LO/S Meeting 2 and Public Meeting input and prioritize improvements.	April 30, 2017	
Draft Report and Executive Summary Submitted			May 31, 2017	
Final Report and Executive Summary Submitted			July 31, 2017	



Alternative	Description	Length (miles)	Design	Right of Way	Utilities	Construction	Total
Concept A - US 41 Widening	From KY 115 (MP 2.786) to widened section east of Salubria Springs Road (about MP 4.0) Proposed Typical – 11' lane widths, 10' paved shoulders Existing two span culvert at MP 3.42 Reconstruct existing sidewalk on south side from KY 115 to MP 3.05 (west of Walnut St)	1.2	\$300,000	\$0	\$1,750,000	\$2,800,000	\$4,850,000
Concept A_I1 - US 41/KY 115 Intersection	US 41 (MP 2.786) / KY 115 (MP 10.662) Turn Radius Widening Based on 2011 AASHTO Green Book Three Centered Curves for Turns at Intersections using a WB-67 Design Vehicle (page 9-61, table 9-16)		\$25,000	\$0	\$150,000	\$90,000	\$265,000
Concept A_I2 - US 41/KY 115 Intersection	US 41 (MP 2.786) / KY 115 (MP 10.662) Turn Radius Widening Based on minimum 2 foot offset of AutoTURN software WB-67 Design Vehicle turn path.		\$25,000	\$0	\$150,000	\$70,000	\$245,000
Concept A_I3 - US 41/KY 115 Intersection	US 41 (MP 2.786) / KY 115 (MP 10.662) Turn Radius Widening Based on 2011 AASHTO Green Book Three Centered Curves for Turns at Intersections using a WB-50 Design Vehicle (page 9-61, table 9-16)	0.0	\$25,000	\$0	\$150,000	\$50,000	\$225,000
Concept B1 - Pembroke Connector	From KY 115 across from Rosedale Cemetary (MP 9.66) to US 41 (MP 4.23) Estimated 285' Steel Girder Three-Span Bridge (55'-175'-55') Railroad RW at crossing is about 172 feet Estimated two large culverts May want to extend 2 lane EB section of US 41 0.25 miles to create right turn lane at Connector (not included in cost)	1.8	\$1,000,000	\$0	\$500,000	\$9,400,000	\$10,900,000
Concept B2 - Pembroke Connector	From KY 115 across from Rosedale Cemetary (MP 9.66) to US 41 (MP 3.73) Estimated 240' Pre-Stressed Concrete I-Beam (PCIB) Three-Span Bridge (55'-130'-55') Railroad RW at crossing is about 120 feet Estimated two large culverts 0.3 miles of US 41 would need widened (not included in cost)	1.25	\$750,000	\$0	\$500,000	\$7,300,000	\$8,550,000
Concept B3 - Pembroke Connector	From KY 115 across from Rosedale Cemetary (MP 9.66) to US 41 (MP 3.33) Estimated 240' Pre-Stressed Concrete I-Beam (PCIB) Three-Span Bridge (55'-130'-55') Railroad RW at crossing is about 120 feet Estimated two large culverts 0.7 miles of US 41 would need widened (not included in cost)	1.0	\$750,000	\$0	\$500,000	\$7,600,000	\$8,850,000
Concept C4 - KY 115 Widening	From Carneal Lane north of I-24 (MP 3.137) to north of bridge near Mason Lane (MP 10.0) Proposed Typical – 11' lane widths, 10' paved shoulders Reconstruct Functionally Obsolete bridge at MP 9.91 Looked at four alignments for impacts and cost - Widen Middle, Widen Left, Widen Right, and Best Fit.	6.9	\$1,500,000	\$0	\$4,250,000	\$14,400,000	\$20,150,000



Christian County Item Number 2-381.00

Project Team Meeting No. 2

February 13, 2017







Pembroke Corridor Study Christian County Item Number 2-381.00



PROJECT TEAM MEETING NO. 2 10:00 AM CDT District 2 - Madisonville February 13, 2017 AGENDA

- 1. Introductions
- 2. Scope of Work, Study Area, and Purpose of the Study
- 3. Local Officials/Stakeholders Input
- 4. 2040 No-Build Traffic
- 5. Concepts, Estimates, and 2040 Build Traffic
 - A. Widen US 41
 - A1. US 41/KY 115 Intersection Improvements
 - B. Construct a new Connector
 - C. Widen KY 115
- 6. Purpose and Need Review
- 7. Next Steps Discussion
 - A. Resource Agency Mailing
 - B. Local Officials/Stakeholders Meeting No. 2
 - C. Public Meeting

Project Team and Local Officials/ Stakeholders Meeting 1 November 2016 Project Team Meeting 2

> February 2017

Local
Officials/
Stakeholders
Meeting 2
and Public
Meeting 1

April 2017 Project Team Meeting 3

May 2017_

Draft Report

June 2017 Final Report Submitted to KYTC

> August 2017

Scope of Work

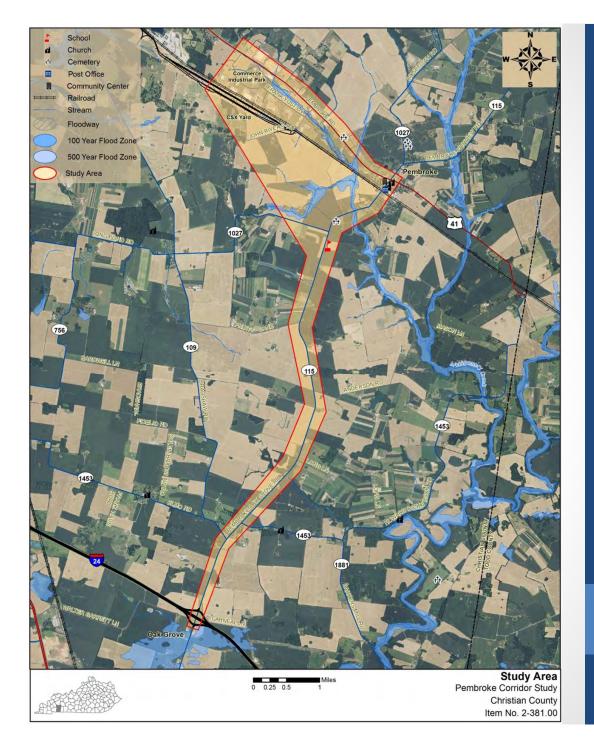
Analyze access, primarily for freight, from the newly expanded Commerce Park, along US 41 northwest of Pembroke, to I-24





Study Area





Purpose of the Study



- Improve truck access from the newly expanded Commerce Park along US 41 to KY 115 to I-24.
- In addition, the intersection of US 41 and KY 115 in Pembroke does not have the required turning radius for trucks.





Commerce Park Expansion

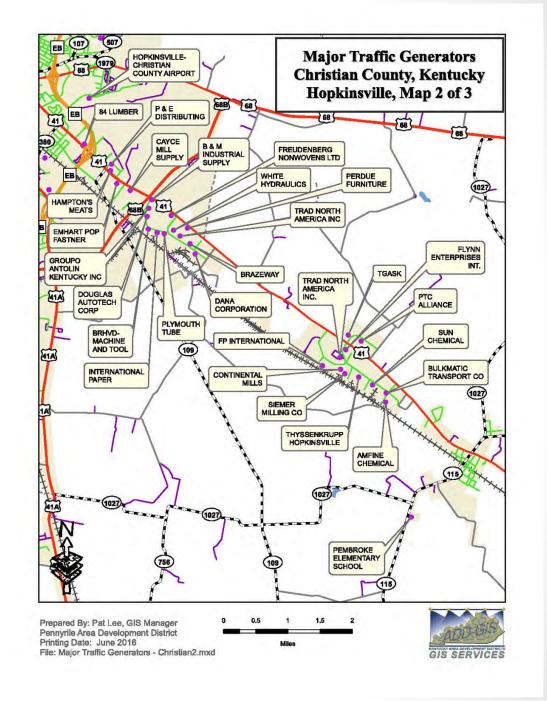








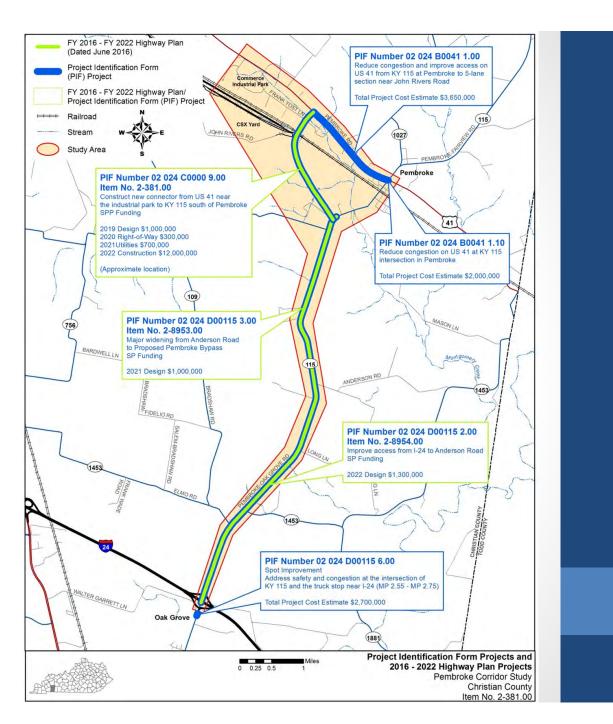
Major Traffic Generators



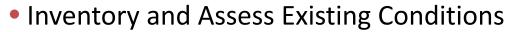


KYTC Projects in the Area





Scope of Work Items





 Environmental, Socioeconomic, and Geotechnical Overview



- Establish Project Purpose and Goals
- Develop and Analyze Alternate Improvement Options
- Estimate Cost
- Conduct Public Involvement Activities
 - Two Local Official/Stakeholders Meetings
 - One Resource Agency Mailing
 - One Public Meeting
- Prioritize Improvements
- Document Study Process and Results

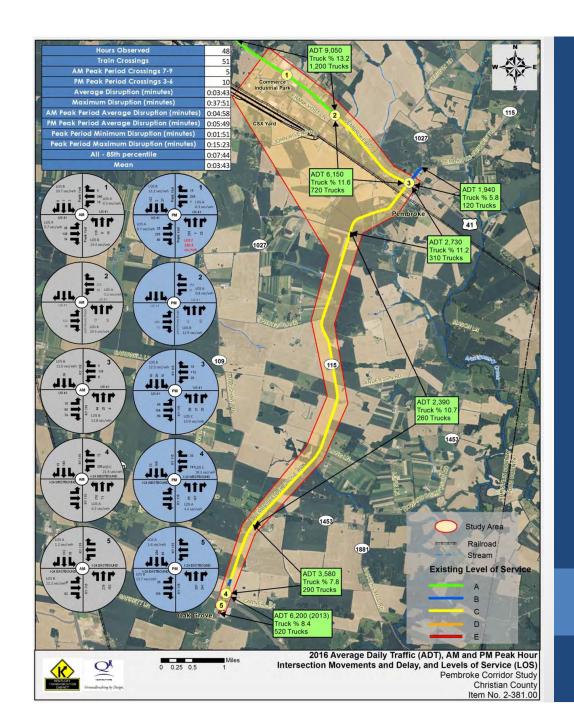






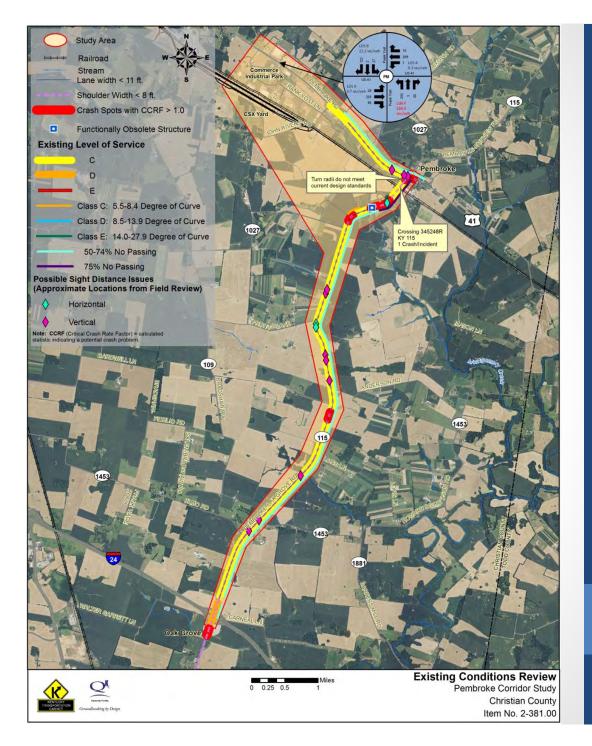
2016Traffic andOperations





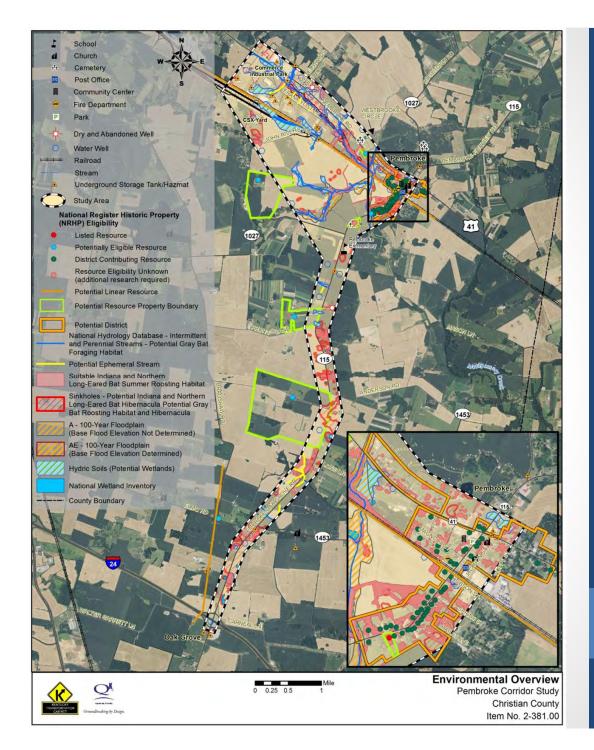
Existing Conditions Review





Environmental Review





Existing Corridor Issues

- Train delays
- KY 115/US 41 intersection
- Historic District
- Narrow lanes (9 and 10 feet)
- Narrow shoulders (0 3 feet)
- KY 115 truck Class is 44,000 lbs.
- High crash locations
- Sight distance issues
- Narrow bridge and culvert
- Left turn LOS F for Frank Yost to US 41
- Amish community





Project Team Meeting No. 1 Items

- Use 11-foot-wide lanes for widening concepts
- The Pembroke community would like to see Amish provided a safe shoulder to accommodate horse and buggy travel. A shoulder design similar to that used on US 41A south of Hopkinsville (i.e., 10-foot-wide shoulder with a one-foot-wide rumble strip between the travel lane and the shoulder) should be used with widening concepts on US 41 and KY 115.
- Passing lanes are not desirable on KY 115 because of the large trucks turning in/out of farm fields.





Project Team Meeting No. 1 Items

- The connector will be presented as partial controlled access with eight- foot-wide shoulders.
- Spanning the railroad will require a major structure, but widening options are limited through town.
- Bridge over the railroad needs to be 23 feet from top of rail to bottom of bridge beam. Allen noted the railroad companies have sometimes asked the KYTC to span the entire right-of-way at the same height.
- Regarding the southern termini of the US 41/KY 115 connector, Qk4 will look at location options for connecting to KY 115.





LO/S - What we need from you

What existing conditions did we miss?

Where do you see Pembroke Growing?

- New Housing
- New Industry/Jobs
- School

Thoughts on Connector and Potential Tie-in Locations?

- Commerce Park
- KY 115

Anything else that should be considered?





LO/S Meeting No. 1 Feedback

- A connector has been planned for decades John Mahre.
- Traffic has worsened with recent Pembroke Elementary, Commerce Park, and CSX expansions.
- Oak Grove people travel KY 115 to Pembroke Elementary and the Commerce Park.
- Pembroke people travel KY 115 to work at Fort Campbell.
- Mayor Peterson A connector that ties to KY 115 south of the school would impact more farmland and be less appealing to landowners.
- A connector should follow property lines if possible.
- A connector project will receive push back by the community sensing that it may hurt the downtown area.
- Local officials are working with CSX to reduce trains blocking KY 115
- KY 115 should be widened before a connector is built.

Commonwealth of Kentucky House of Representatives

MVRON DOSSETT 7155 Salubria Springs Road Pembroke, Kentucky 42260 Home 270 475,9503 State Message Line, 500,372,7181



STATE REPRESENTATIVE Room 424D, Capitol Annex Frankfort, Kentucky 40601 502,564,8100 EXT, 657 Fax: 502,564-1820 email: myron.dossetta-lrc.ky.gov

To Whom It May Concern:

I would like to thank you in part for participating in discussions through local entities in regards to the 6 year road plan concerning the Pembroke bypass and the widening of KY-115. At this time I personally believe the widening of KY-115 to be my most important priority.

There has been a total of 678 accidents on this stretch of road in the past 12 years with 158 of them ending in injury and 5 in a fatality and well as many reports of property damage. These numbers tell us this road is unsafe and needs to be improved.

Personally my family uses this highway on a daily basis as do the residents of Pembroke, its surrounding communities, and many of the workers at the two industrial park complexes. Any additional traffic on this road such as commercial vehicles will cause an increase in accidents on KY-115, and I personally believe that he safety concerns of our citizens should be my top priority.

Sincerely

Myron Dossett 9th House District

MD/mjr

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I would like to thank you in part for participating in discussions through local entities in regards to the 6 year road plan concerning the Pembroke bypass and the widening of KY-115. At this time I personally believe the widening of KY-115 to be my most important priority.

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2002 thru CURRENT ALL COLLISIONS ON KY 115 CHRISTIAN CO. MILE POINT 0 thru 11

COLLISIONS	678
COLLISIONS W/ INJURIES	158
COLLISIONS W/ FATALITIES	5
COLLISIONS W/ PROPERTY DAMAGE	515
COLLISONS W/ COMMERCIAL VEHICLE	53
TOTAL INJURIES	246
TOTAL FATALITIES	5
TOTAL	678

Next Steps

- Summarize and Review input from today's meeting
- Develop Improvement Alternatives
 - Pembroke Area
 - Concept A
 - Widen US 41 to KY 115
 - Improve the US 41/KY 115 intersection
 - Concept B
 - Construct a new connector from US 41 west of Pembroke to KY 115 south of Pembroke.
 - Include a grade separated railroad crossing
 - Partial control of access
 - KY 115 Corridor
 - Widen KY 115 south to I-24





Schedule



Project Team and Local Officials/ Stakeholders Meeting 1 November 2016

Project Team Meeting 2

February 2017

Local Officials/
Stakeholders
Meeting 2
and Public
Meeting 1
April

2017

Project Team Meeting 3

> May 2017

Draft Report

June 2017

Final Report Submitted to KYTC

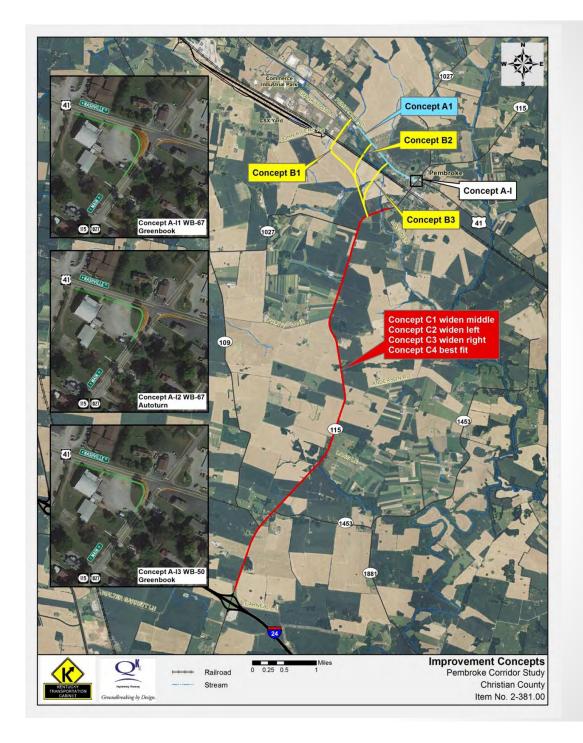
August 2017





Concepts





Concept A1 – Widen US 41

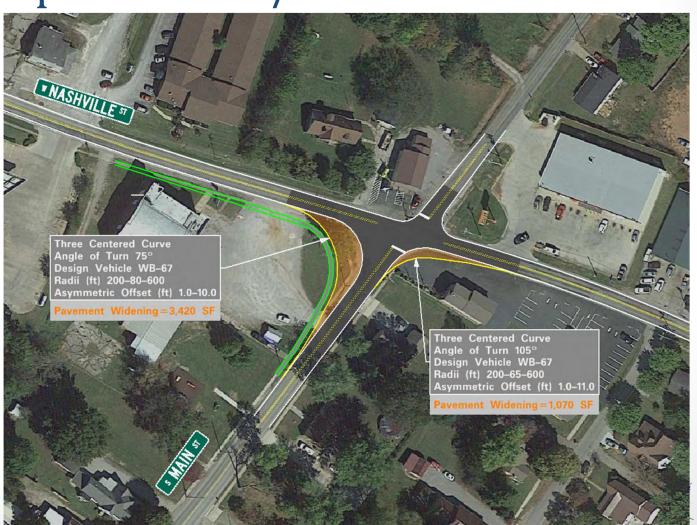
- Length 1.21 Miles from KY 115 (MP 2.79) to widened section east of Salubria Springs Road (MP 4.00)
- Proposed Typical 11-foot-wide lane widths, 10-foot-wide paved shoulders
- Two Span Culvert at MP 3.42
- Reconstruct existing sidewalk on south side from MP 3.05 (west of Walnut St) to KY 115

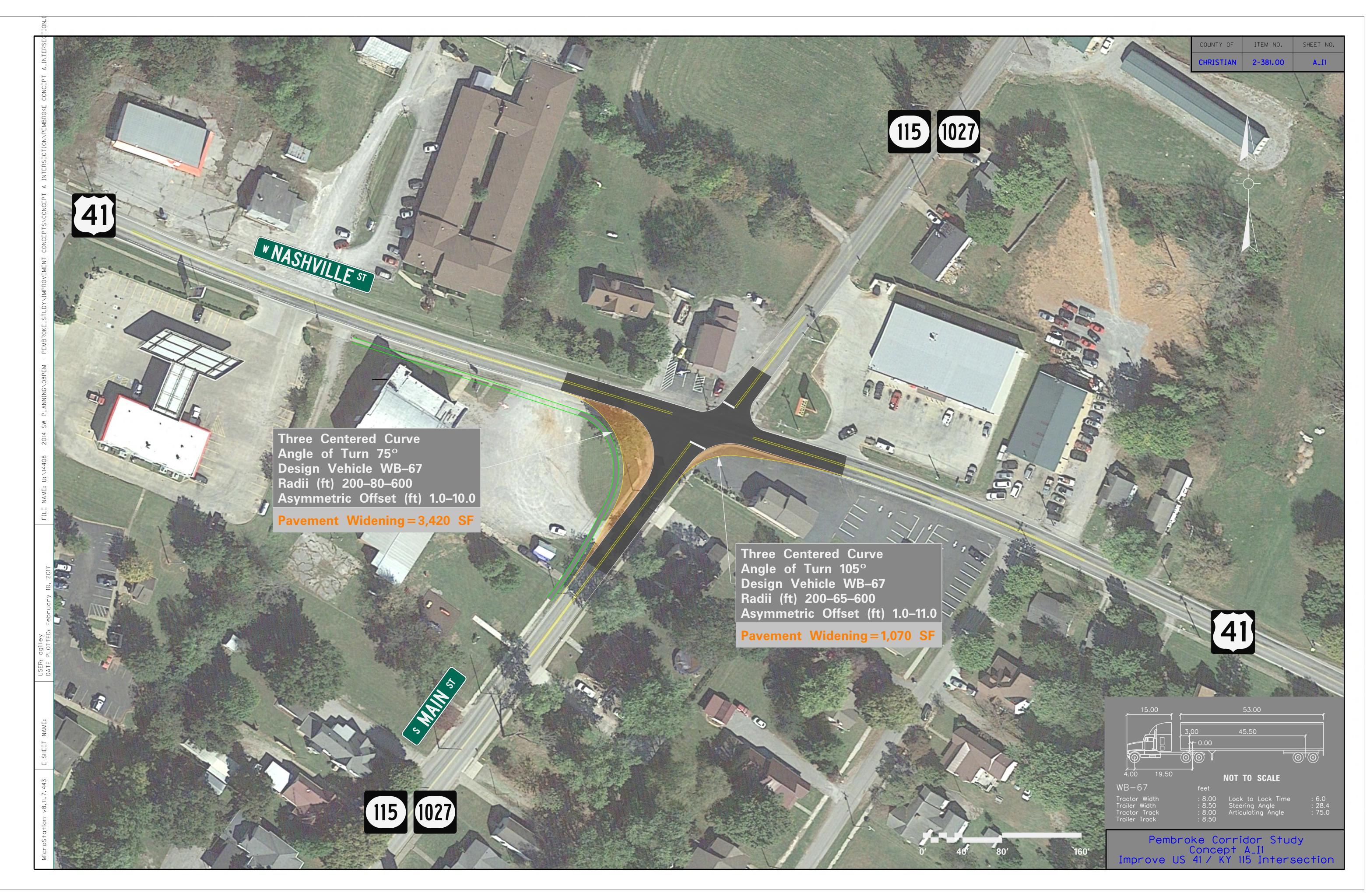




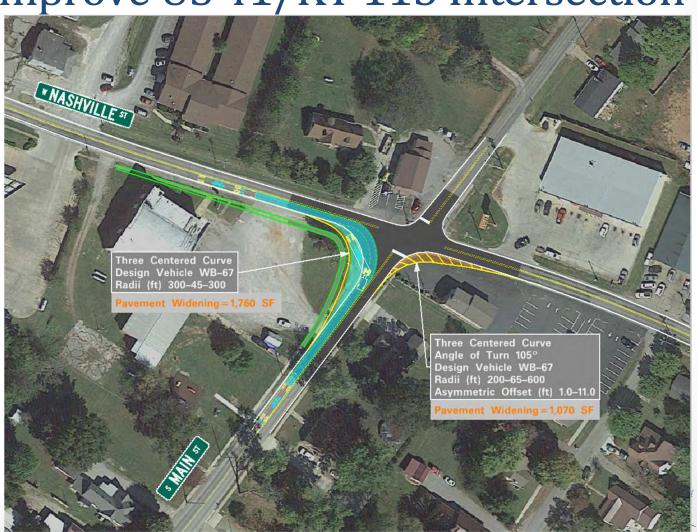


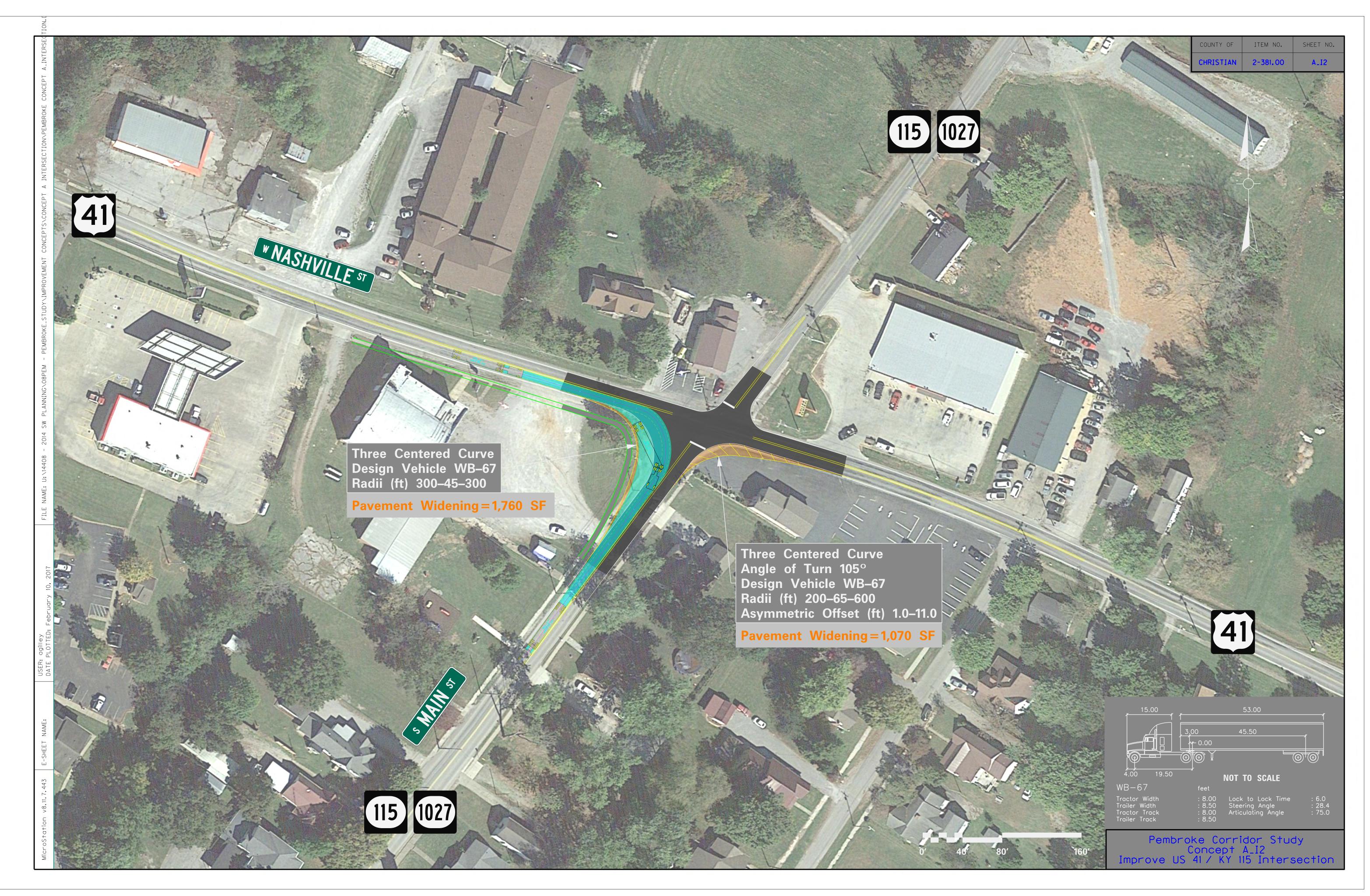
Concept A_I1 Improve US 41/KY 115 Intersection



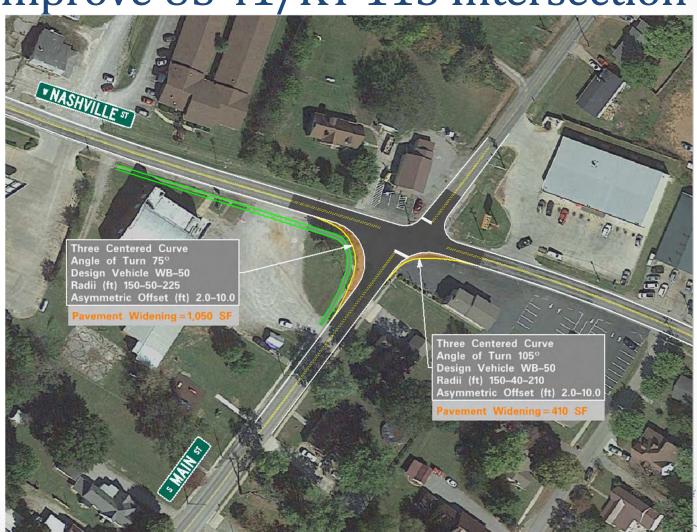


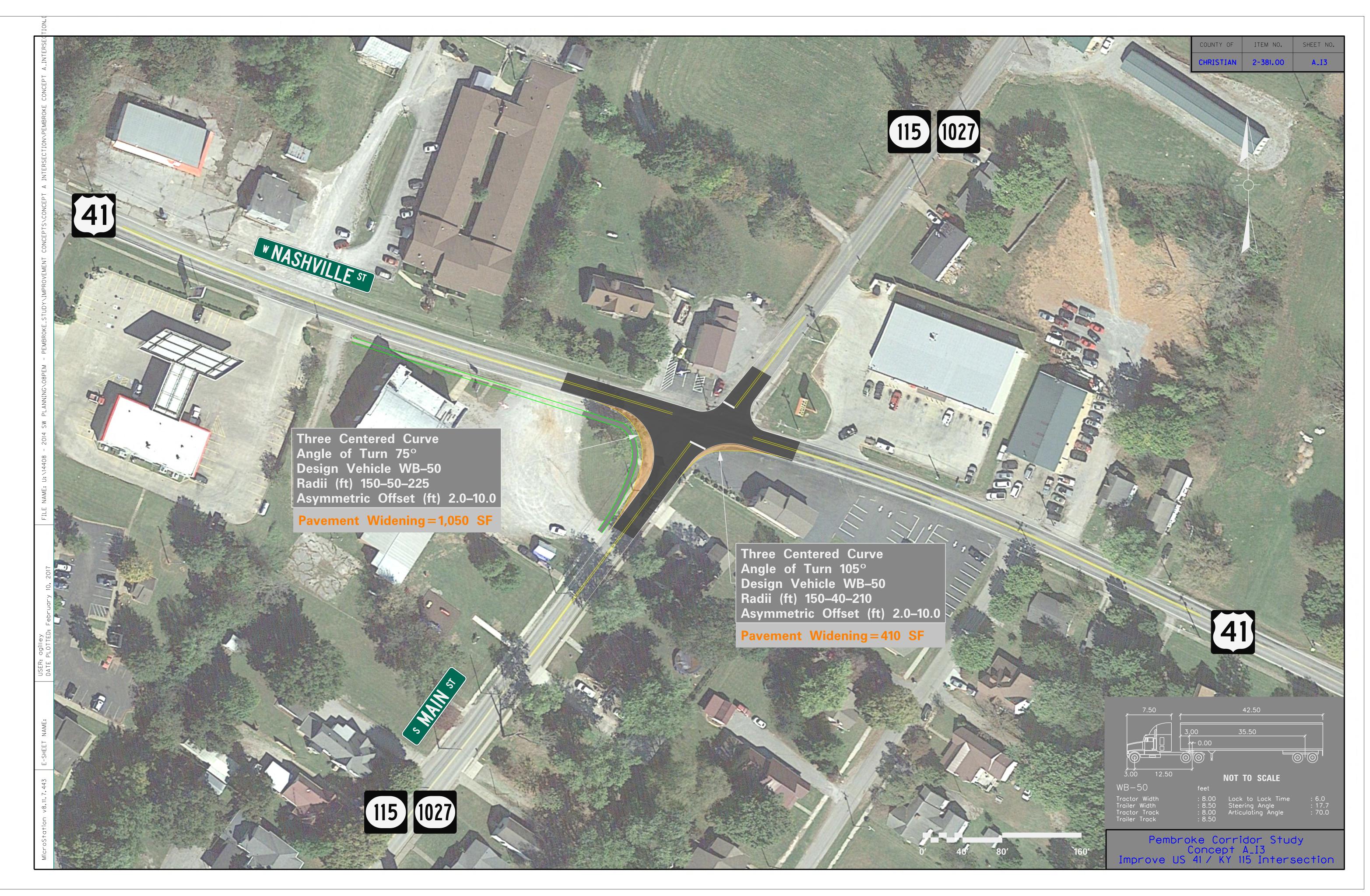
Concept A_I2 Improve US 41/KY 115 Intersection





Concept A_I3 Improve US 41/KY 115 Intersection





Concept B – New Connector

• Item No. 2-381.00

US-41 2.500

CONSTRUCT NEW CONNECTOR FROM US 41 NEAR THE INDUSTRIAL PARK TO KY

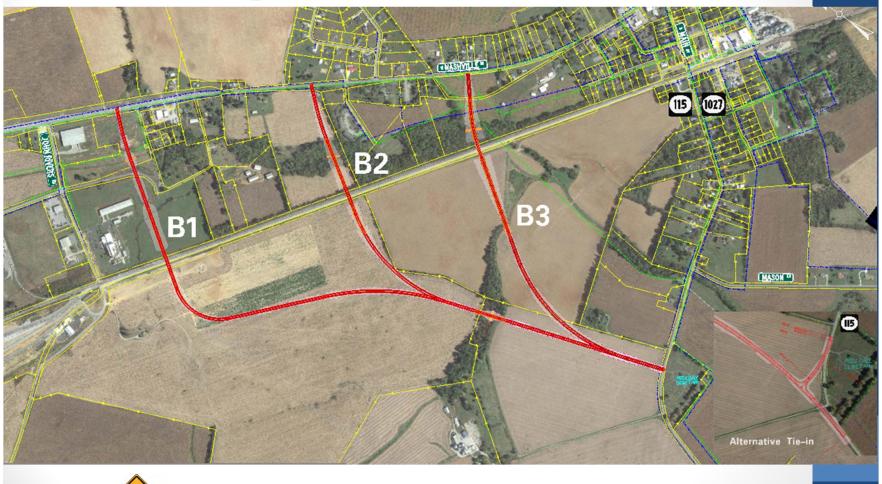
115 SOUTH OF PEMBROKE. (16CCR)

Milepoints: From: To

Purpose and Need: RELIABILITY / NEW ROUTE(O)

FUNDING	PHASE	YEAR	AMOUNT
SPP	D	2019	\$1,000,000
SPP	R	2020	\$300,000
SPP	U	2021	\$700,000
SPP	C	2022	\$12,000,000
	Tota	d.	\$14,000,000

Concept B – New Connectors







Concept B – New Connectors

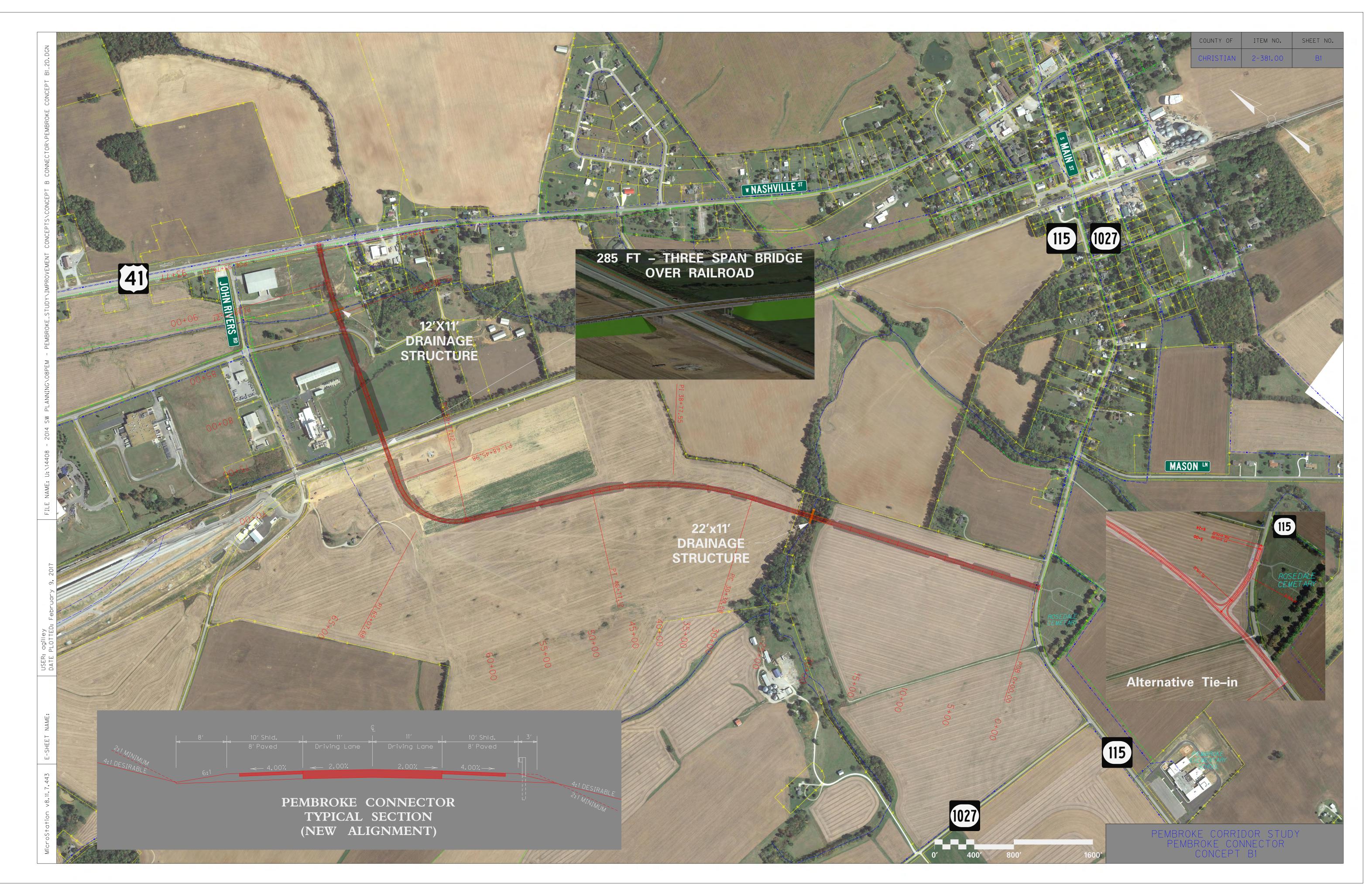
- Design Speed 45 MPH
- Partial Control of Access
- Proposed Typical 11' lane widths, 8' paved shoulders
- Grade Separated Crossing over the railroad.
 - Minimum Vertical Clearance is 23 feet top of rail to bottom of bridge.
 - Minimum Horizontal Clearance is 25 feet from centerline of track.



Concept B1 – Connector

- Length 1.8 miles
- Estimated 285' Steel Girder Three-Span Bridge (55'-175'-55')
- Railroad RW at crossing is about 172 feet
- Estimated two large culverts
- May want to extend 2 lane EB section of US 41 0.25 miles to create right turn lane at Connector





Concept B2 – Connector

- Length 1.25 miles
- Estimated 240' Pre-Stressed Concrete I-Beam (PCIB) Three-Span Bridge (55'-130'-55')
- Railroad RW at crossing is about 120 feet
- Estimated two large culverts
- 0.3 miles of US 41 would need widened

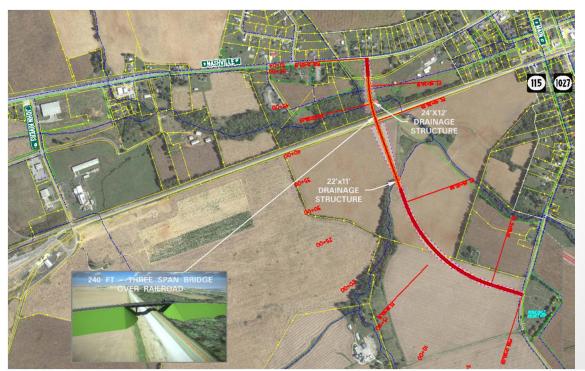






Concept B3 – Connector

- Length 1.0 miles
- Estimated 240' Pre-Stressed Concrete I-Beam (PCIB) Three-Span Bridge (55'-130'-55')
- Railroad RW at crossing is about 120 feet
- Estimated two large culverts
- 0.7 miles of US 41 would need widened







Concept C – Widen KY 115

- Length 6.86 Miles from Carneal Lane (North of I-24) to Pembroke (north of bridge near Mason Lane)
- Proposed Typical 11' lane widths, 10' paved shoulders
- Reconstruct Functionally Obsolete bridge at MP 9.91
- Looked at four alignments for impacts and cost Widen Middle, Widen Left, Widen Right, and Best Fit.







Estimated Cost

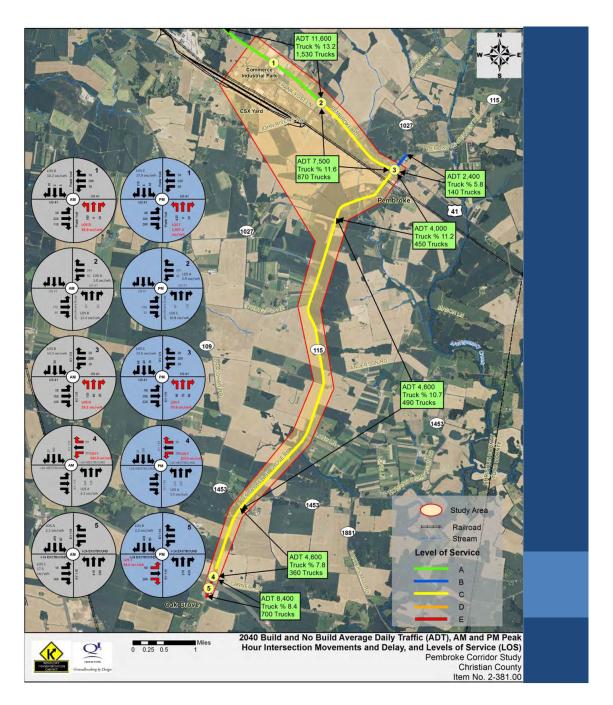
Concept	Length	Design	Right of Way	Utilities	Construction	Total
Concept A - US 41 Widening	1.21	\$300,000	\$0	\$1,750,000	\$2,800,000	\$4,850,000
Concept A_I1 US 41/KY 115 Intersection	0	\$25,000	\$0	\$150,000	\$90,000	\$265,000
Concept A_I2 US 41/KY 115 Intersection	0	\$25,000	\$0	\$150,000	\$70,000	\$245,000
Concept A_I3 US 41/KY 115 Intersection	0	\$25,000	\$0	\$150,000	\$50,000	\$225,000
Concept B1 - Pembroke Connector	1.8	\$1,000,000	\$0	\$500,000	\$9,400,000	\$10,900,000
Concept B2 - Pembroke Connector	1.25	\$750,000	\$0	\$500,000	\$7,300,000	\$8,550,000
Concept B3 - Pembroke Connector	1.0	\$750,000	\$0	\$500,000	\$7,600,000	\$8,850,000
Concept C4 - KY 115 Widening	6.86	\$1,500,000	\$0	\$4,250,000	\$14,400,000	\$20,150,000





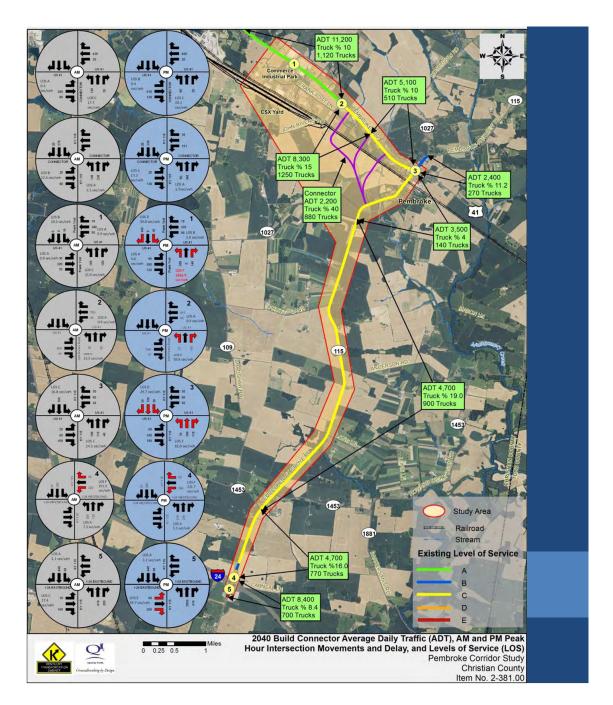
2040 Build and No-Build Traffic and Operations





2040 Build Traffic and Operations







Intersection Summary

Intersections	2016 LOS		2040 No Build LOS		2040 Build LOS		Problem if D, E, or F
	AM	PM	AM	PM	AM	PM	
KY 115/I-24WB	A/C	A/C	A/F	A/F	F/A	F/A	WB Ramp
KY 115/I-24EB	A/B	A/B	A/C	B/E	C/A	E/A	EB Ramp
US 41/Johns Rivers Road	A/B	A/B	A/B	A/C	A/C	A/F	John Rivers Road
US 41/Frank Yost Road	A/B	A/F	B/D	C/F	B/C	F/D	Frank Yost
US 41/KY 115	B/B	B/C	B/D	C/F	c/c	D/F	KY 115 NB
US 41/KY 115 CONNECTOR					A/C	B/C	
KY 115/KY 115 CONNECTOR					A/B	A/C	

Intersections are stop-controlled and the LOS only reflects the worst movement at the intersection.





Travel Time Reduction

No Build

Build

Auto VHT	69,208	Auto VHT	69,183
Auto VMT	3,509,063	Auto VMT	3,508,629
Truck VHT	7,917	Truck VHT	7,905
Truck VMT	442,537	Truck VMT	442,080
Total VHT	77,125	Total VHT	77,088
Total VMT	3,951,600	Total VMT	3,950,709



37 Change in VHT 891 Change in VMT



Impacts

	A1	B1	B2	B3	C4
UST/Hazmat	0	1	0	0	2
NRHP	0	0	0	0	1
Oil/Gas Well			None		
Water Well			None		
School			None		
Church			None		
Cemetery			None		
Int and Perennial Stream	60.0	400.0	400.0	330.0	270.0
Ephemeral Stream (feet)	0	0	0	0	50.0
Historic Linear Resource (RR)	no	yes	yes	yes	no
Bat Habitat (acres)	0.5	1.5	3.0	1.5	124.0
Flood zone (acres)	0.2	1.0	2.0	4.0	0.5
Hydric Soils (potential Wetlands in acres)	0.2	0.5	0.5	3.0	1.0
Sinkholes (number or acres)	0.0	.5 acres	0	0	9
Historic Property Boundary (acres)	0.1	0	0	0	0.5
Historic District (acres)	1.5	0	0	0	1.0
Travel Time SAVINGS in VHT		37	37	37	
Savings in VMT		892	892	892	
Safety	16% reduction in crashes	30% reduction for KY 115 and 16% for US 41 only	30% reduction for KY 115 and 16% for US 41 only	30% reduction for KY 115 and 16% for US 41 only	30% reduction in crashes

Cost-Benefit Analysis

- Reduced Travel Time Savings Benefit
- Reduced Crashes Savings Benefit





Preliminary Purpose and Need Statement

The purpose for any project resulting from the planning process would be to improve the safe and efficient movement of traffic, especially freight traffic, to and from I-24 and the Commerce Industrial Park northwest of Pembroke.

The needs are based on the fact that KY 115 is a narrow, single A (44,000 lbs. maximum load) facility on the Kentucky Highway Freight Network connecting a AAA (80,000 lbs. maximum load) designated facility (US 41) to Interstate 24. Within the community of Pembroke, the US 41/KY 115 intersection has substandard turning radii, especially for large vehicles, the at-grade railroad crossing on KY 115 poses geometric and travel time delays, and a bridge carrying KY 115 over Montgomery Branch, is functionally obsolete.

Goals of any project advanced from this planning study are to (1) where feasible, improve safety for Amish horse and buggy traffic, and (2) advance relevant transportation elements of the 2014 Hopkinsville-Christian County Comprehensive Plan (HCCCP) that support continued growth for the area.



Pembroke Corridor Study Christian County Item Number 2-381.00



PROJECT TEAM MEETING NO. 2 10:00 AM CDT District 2 - Madisonville February 13, 2017 AGENDA

- 1. Introductions
- 2. Scope of Work, Study Area, and Purpose of the Study
- 3. Local Officials/Stakeholders Input
- 4. 2040 No-Build Traffic
- 5. Concepts, Estimates, and 2040 Build Traffic
 - A. Widen US 41
 - A1. US 41/KY 115 Intersection Improvements
 - B. Construct a new Connector
 - C. Widen KY 115
- 6. Purpose and Need Review
- 7. Next Steps Discussion
 - A. Resource Agency Mailing
 - B. Local Officials/Stakeholders Meeting No. 2
 - C. Public Meeting

Project Team and Local Officials/ Stakeholders Meeting 1 November 2016 Project Team Meeting 2

> February 2017

Local
Officials/
Stakeholders
Meeting 2
and Public
Meeting 1

April 2017 Project Team Meeting 3

> May 2017

Draft Report

June 2017 Final Report Submitted to KYTC

> August 2017

Clements, Wade B (KYTC-D02)

From: Judy Peterson <mayorjudyp@gmail.com> Sent: Friday, February 10, 2017 12:37 PM To:

Clements, Wade B (KYTC-D02)

Cc: Rudd, John W (KYTC-D02); Dossett, Myron (State Rep.) (LRC); judge@christiancountyky.gov

Subject: Pembroke Bypass

I understand there is a meeting next week concerning the Pembroke Bypass/connector route. As future plans are made for the construction of this Bypass we request that there should be a bike and pedestrian trail designed and constructed as part of the new route. I believe a separate Bike/Ped route that is in the new right of way but separate from the traffic lanes would be a great asset to the City. The engineers would need to co-route the Bike/Ped path into the shoulder on the bridge that goes over the railroad tracks, but the other sections could be separate from the traffic lanes. My second choice would be to have the Bike/Ped facilities as part of the shoulder of the road, but the more the separate distance is from the traffic lanes, the safer is for kids and it is just a better experience if you are not 6 feet away from a truck going 45 MPH.

The City of Pembroke could make a long term goal of trying to connect sidewalks to the Bypass' trail by extending new sidewalks in the US 41A and KY 115 ROWs from the downtown to where they will intersect with the new Bypass, which would create a loop round the southwest side of the City and residents can walk or bike on. I understand that this would be a future plan but one which would benefit our community and our future!

Thank you for your consideration in this project.

Sincerely, Judy R. Peterson Mayor City of Pembroke



Groundbreaking by Design.

MEETING MINUTES

Project: Pembroke Corridor Study

Christian County, KY Item No. 2-381.00

Purpose: Project Team Meeting No. 3

Review and analyze local officials/stakeholder (LO/S) and public meeting

input and discuss alternative concepts.

Place: KYTC District 2 Conference Room, Madisonville, KY

Meeting Date: May 2, 2017

10:00 AM CST

Prepared By: Annette Coffey/Andy Gilley

In Attendance:

Wade Clements KYTC District 2 CDE Wade.Clements@ky.gov Nick Hall KYTC District 2 Planning Nick.Hall@ky.gov

Pamela Broadston KYTC District 2 Environmental Pamela.Broadston@ky.gov Charlotte Cotton KYTC District 2 Design Charlotte.Cotton@ky.gov

John Rudd KYTC District 2 John.Rudd@ky.gov

Shane McKenzie KYTC CO Planning Shane.McKenzie@ky.gov Mikael Pelfrey KYTC CO Planning Mikael.Pelfrey@ky.gov Craig Morris Pennyrile Area Development District Craig.Morris@ky.gov

Annette Coffey Qk4, Inc. acoffey@qk4.com
Andy Gilley Qk4, Inc. agilley@qk4.com

Teleconferenced:

Justin Harrod KYTC MPB Justin.Harrod@ky.gov
Troy Hearn KYTC CO Planning Troy.Hearn@ky.gov
Allen Rust KYTC CO R/W and Utilities Allen.Rust@ky.gov
Daniel Hulker KYTC CO Planning Daniel.Hulker@ky.gov

Pembroke Corridor Study Christian County May 2, 2017 Project Team Meeting No. 3 Minutes Page 2 of 3

- Introductions—Nick Hall opened the meeting with introductions. Handouts included a meeting agenda and a summary of resource agency comments (Attachment A). Andy Gilley led discussion from the attached presentation (Attachment B). A summary of the meeting dialogue is provided below, in accordance with the meeting agenda.
- Summary of April 11, 2017 LO/S Meeting No. 2 and Public Meeting—The Project Team discussed the comments from the LO/S meeting and survey results from the Public meeting:

LO/S Meeting:

- Mayor Judy Peterson said if costs prohibit widening KY 115, she would support improving the US 41/KY 115 intersection (Concept A_I1) to provide some relief to citizens. She noted if the intersection is not improved before KY 115 is widened, then reconstructing KY 115 south to I-24 (Concept C) would attract more truck traffic through the existing deficient intersection.
- Local officials agreed a new connector road and a wider KY 115 would attract more trucks to the corridor.
- Mayor Peterson requested bike and pedestrian facilities be included with a connector.
- State Representative Myron Dossett identified old cemeteries adjacent to the railroad south of US 41.
- A conservation easement agreement along the west side of KY 115 across from Anderson Road (MP 8.2) was identified.

<u>Public Meeting</u>: 62 attendees signed in and 42 surveys were completed and returned. Of those responding to one/more of the survey questions:

- 79% lived or worked along the project corridor and 76% traveled the corridor two or more times
 daily; 76% neither rode a bicycle nor walked/ran along the corridor; 72% believed US 41 needed
 improvement, with 18 comments suggesting wider lanes or shoulders; and 97% believed KY 115
 needed improvement, with 32 comments suggesting wider lanes or shoulders;
- Regarding level of concern for a variety of existing conditions, responders identified narrow lanes
 and shoulders, large trucks, congestion, safety/number of crashes, and Amish traffic as the highest
 concerns. The US 41/KY 115 intersection and KY 115 at the Railroad Crossing were the highest
 concern locations for making turns and maneuvers. Impacts to farmland, schools, cemeteries, and
 residences ranked highest among environmental concerns.
- Improving/widening KY 115 was the most highly desired project (38 responses), followed by improving the US 41/KY 115 intersection (25), and constructing a new US 41/KY 115 Connector (18). Eight responders preferred and 19 opposed "No Build/Do Nothing."
- 71% would use a new US 41/KY 115 Connector for reasons that included avoiding delays caused by trains, decreasing emergency response times, and facilitating timely access to work and school.
- 84% would not use bicycle/pedestrian accommodations if available on a new US 41/KY 115 Connector.

Craig Morris mentioned the Amish ride bicycles, and it was noted no member of the Amish community attended the public meeting.

- Review Resource Agency Comments—Andy and Annette led discussion through the summary of resource agency comments. The Project Team decided the responses should be briefly discussed in the study report and provided in the appendices; and no further action was necessary at that time.
- Review of Alternatives—A preliminary alternative matrix summarizing items (impacts, pros, cons, benefit cost (B/C) ratio, costs, and public input) was reviewed and discussed. The alternatives in the matrix were:

Pembroke Corridor Study Christian County May 2, 2017 Project Team Meeting No. 3 Minutes Page 3 of 3

- Alternative 1: No Build/Do Nothing
- Alternative 2: Concept A (US 41 Widening), A_I1 (US 41/KY 115 Intersection), and Concept C (KY 115 Widening)
- Alternative 3: Concept A (US 41 Widening from West to Connector), Concept B (New Connector), and Concept C (KY 115 Widening from Connector South)

Discussion Items:

- The Project Team will not combine improvement concepts into alternatives. Qk4 will revise the matrix to categories summarized items by each concept and their components. The study report narrative will discuss the corridors studied to improve the connectivity between the Commerce Park and I-24 and present separate improvement concepts within those corridors.
- The matrix will include the following spot improvements:
 - Replace the functionally obsolete KY 115 Bridge south of Mason Lane
 - o Improve the US 41/KY 115 intersection (Concept A_1A)
- The study report will:
 - Note the cost associated with connecting John Rivers Road to a new connector alignment is not included in estimate.
 - O Add a cost estimate for a shared-use path along the connector.
 - Provide information pertaining to each concept only, and will <u>not</u> include recommendations as to a preferred concept.
 - Evaluate whether constructing a new US 41/KY 115 Connector prior to improving KY 115 would attract additional trucks to an unimproved KY 115.
- Regarding whether a partially controlled road could allow use of shoulders by bikes and pedestrians, Troy Hearn explained in an email dated May 12:
 - "Bicycle and pedestrian travel is legal on all roadways except interstates, parkways, and other fully controlled roadways. Legally the bicycles should ride as far right as practicable on the highway (includes the paved shoulders) in the same direction as the motorized traffic. Legally the pedestrians should travel as far left as practicable on the highway (includes the paved shoulders) in the direction to face motorized traffic. Both shall use a dedicated facility if available (sidewalks, bike lanes, or shared use paths)."
- KYTC may need to revise the two current Project Identification Forms (PIFs) for KY 115 widening.
- Revisit Purpose and Need—Revise the Purpose and Need Statement's goals to include reference to large farm equipment and agricultural community.

The meeting ended at approximately 11:30 AM.

End of Minutes



Pembroke Corridor Study Christian County Item Number 2-381.00



PROJECT TEAM MEETING NO. 3 10:00 AM CDT District 2 - Madisonville May 2, 2017 AGENDA

- 1. Introductions
- 2. Summary of LOS Meeting No. 2 and Public Meeting April 11, 2017
- 3. Review Resource Agency Comments
- 4. Review of Alternatives
- 5. Revisit Purpose and Need
- 6. Next Steps

Final Report Project Team Draft **Project Team Project Team** Submitted to and Local Report Meeting 2 Meeting 3 Stakeholders **KYTC** Officials/ Meeting 2 **Stakeholders** and Public Meeting 1 Meeting 1 February November May June April 2017 2017 2016 2017 2017

Representing	Summary of Comments
US Environmental Protection Agency	 Clarify if Concept A and B are mutually exclusive, and provide more details on the alternatives. The purpose and need for the project should be appropriately broad to ensure consideration of other reasonable alternatives. Expand the number of reasonable alternatives considered. For example, KY 109 appears to provide a direct link from KY 115 t the Commerce Park. Additional alternatives should be considered to ensure that "Concept B&C" do not appear to be predetermined. Discuss the proposed action in context of the other projects proposed in the Hopkinsville-Christian County Comprehensive Plan, the City of Pembroke's Comprehensive Plan, and the City of Oak Grove's Comprehensive Plan. Alternatives need supporting information to demonstrate achievement of the purpose, including LOS and Safety. Identify and discuss potential impacts to the affected communities, the number of relocations, economic impact, minority and low income populations, children from environmental health and safety risks, schools, parks, playgrounds, healthcare, the Rosedale Cemetery, air-quality, hazardous waste, aquatic resources, and farmland. Likewise, discuss any proposed mitigation measures.
US Coast Guard	Coast Guard bridge permit is not required for this project.
United States Department of Agriculture – Natural Resources Conservation Service (USDA-NRCS)	If the project area encompasses a significant acreage of Prime Farmland, and is anticipated to receive federal dollars then an AD-1006 (Farmland Conversion Impact Rating) should be initiated and forwarded on to NRCS for completion in accordance with the Farmland Policy Protection Act at the time a single alternative having the potential to convert farmland to non-ag use is determined.
KY Airport Zoning Commission (KAZC)	Any construction equipment or permanent structure greater than 200 feet above ground level would require a permit from the KAZC.
KY Cabinet for Health and Family Services	Does not lease of own property located within the area of this proposal; therefore, we do not anticipate or have any specific issues or concerns with regards to the proposed project.
KY Cabinet for Economic Development	These proposed improvements impact a multitude of industrial park sites in the immediate area, with the majority of traffic using KY 115 / US 41 intersection to access I-24. Improvements made to this corridor will have a positive effect on the economic growth in the area by decreasing traffic hazards, bottlenecks, and accidents, as well as attracting future industry. Adjacent sites alone have 10 or more active industrial facilities and 766 acres available for industrial expansion. The cabinet is not aware of environmental of conservation issues or concerns in the redevelopment area.
KY Energy And Environment Cabinet – Department for Environmental Protection	Division of Water - This project will have potential impacts to an unnamed tributary (UT) to Montgomery Creek, which are expected to be minor and temporary. The Groundwater Section of the Watershed Management Branch - endorses the proposed work. However, there are several domestic groundwater water well users near the proposed work. The vicinity of the proposed work is also located in an area with a high potential for karst development where groundwater is susceptible to direct contamination from surface activities. It is our recommendation that site be made aware of the requirements of 401 KAR 5:037 and the need to develop a Groundwater Protection Plan (GPP) for the protection of groundwater resources within that area. KY Department of Fish and Wildlife (KDFWR) - Indicate the Piping Plover, Grey bat, and Northern Long-eared bat are known to occur within 10 miles of the project area. No additional state-listed species, caves, mine portals or special natural areas are known to occur within one mile of the project area. Known locations of listed species do not occur within the outlined project area. To minimize impacts to the aquatic environment, the KDFWR recommends erosion control measures be developed and implemented prior to construction to reduce siltation into waterways and/or karst features located within the project area.

Representing	Summary of Comments	
KY Division of Waste Management	All solid waste generated by this project must be disposed at a permitted facility. If underground storage tanks, asbestos, lead paint, and/or other contaminants are encountered, they must be properly addressed. Hazardous Waste Branch – There is an old city landfill near the west side of Hailes Avenue and Dewey St./City Dump Road near the study area. Gates Grocery (along KY 115 near the southeast corner of KY 1453) had a 560 gallon gasoline tank removed in 1998. Superfund Branch - Two superfund sites: • Amfine Chemical Corp - Active • Barker Family Trust Farm – Drums - Closed	
KY Division for Air Quality	Offers the following comments: • 401 KAR 63:010 regarding Fugitive Emissions • 401 KAR 63:005 regarding open burning • Utilize alternatively fueled equipment. • Utilize other emission controls that are applicable to your equipment. • Reduce idling time on equipment.	
KY Division of Forestry	The Division of Forestry does not have any comments regarding the planning study. We do agree with using an urban template where appropriate to minimize impacts.	
KY Department of Natural Resources Division of Conservation	Portions of four agricultural districts are located within or adjacent to the study area. State agencies must mitigate any impact their programs may have on land enrolled in an agricultural district.	
KY Department of Agriculture	PACE, (Purchase of Agricultural Conservation Easements) does not exist within or near the study area.	
KY State Police (KSP)	As part of the Data Driven Enforcement Program, KSP considers KY 115 one of the nine most dangerous roads in the county in terms of crashes and is a targeted enforcement area. It also notes the roadway as very narrow for the amount of traffic it experiences. Widening the roadway surface and improving the US41/KY 115 intersection are wise	
KY State Police - Commercial Vehicle Enforcement Division	investments towards improving the safe and efficient traffic on this route. After review of the documents and a physical review of the area in question it appears, in my opinion, that all of the concepts discussed should be put in place. KY 115 is a single "A" highway (44,000 lbs.) that will need to be upgraded to a triple "AAA" highway (80,000 lbs.) due to the increase in heavy truck traffic that is expected. At the present time KY115 is not suitable to handle this type of traffic as seen in numerous collisions that have occurred due to the condition of the roadway. The US 41 / KY115 intersection will need improvements due to the increase in traffic and to allow better traffic flow in a congested area. Recommends "Concept B1" be put in place. By using this concept it may avoid the need to widen US 41 and will eliminate some truck traffic at the original intersection of US 41 and KY 115 in the limits of Pembroke.	
KY Geological Survey	 Entire length of widening project underlain with karstic limestone and vulnerable to cover collapse and possibly bedrock collapse. Protection of groundwater is critical – crosses three spring sheds Flooding of sinkholes is a possible risk. No known caves exist however, there is a 100% chance there are caves along the project route large enough to cause a major subsidence risk. 7 major caves are located east of Barkers Mill Road and Dickerson Road; including Glovers Cave about two miles east of the project study area. Extraordinary measures will have to be taken to prevent damage to water supplies and the highway pavement and subgrade by cover collapse. 	

Representing	Summary of Comments	
KY Department of Mine Reclamation and Enforcement	No impacts to mining operations in the area of this project, as there currently are no mining operations in Christian County.	
Christian County Chamber of Commerce	KY 115 is a very narrow road with many twists and turns, some of which make visibility difficult while driving. Bad weather conditions and darkness make visibility even worse. Because of the narrowness of the road, there is little room for error or room to move over. This road is traveled heavily by tractor trailers and Amish buggies which creates additional hazards. The bridge just before Mason Lane is so narrow that one vehicle has to almost stop if a tractor trailer is coming from a different direction at the same time. The intersection of 115 and Pembroke Road also has problems as you have shown in the crash site data provided. It is uneven causing cars to back up when a tractor trailer needs to turn and has visibility issues. I am very supporting of any efforts made to improve this area of roadway.	
Southwestern KY Economic Development Council	Safe and reliable access to the expanded Commerce Park is a critical asset to job creation and retention in the region. Rail accessible industrial sites are critical to economic growth and business recruitment. Enhanced roadways will also be a critical tool in the aforementioned efforts.	
Pembroke Elementary School (PES)	PES is in favor of Concept B. An elevated railroad bridge is much needed. It would allow faster access for first responders if a train were on the tracks. A train is constantly blocking access to the city of Pembroke on a daily basis. This is due to the expansion of the railroad business and the new fueling center/ exchange that was built a few years ago.	
State Representative 9 th District Myron Dossett	In favor of Widening KY 115 (Concept C): • Placing more traffic on KY 115 may increase the potential for more crashes • Concept A_I1 and B would have to see in more detail to see impacts. • Two cemeteries near or adjacent to the railroad right of way.	
Pembroke Mayor Judy Peterson		
Pembroke City Clerk Rachel Chadwick	I strongly feel that the widening of KY 115 and correcting the turning radius at the intersection of US 41 and KY 115 would be most beneficial.	
Color Key: Federal State	study Area	

Abbreviations: KY = Kentucky



Christian County Item Number 2-381.00

Project Team Meeting No. 3

May 2, 2017





Schedule **Project Final Report** Draft Team **Submitted to** Report **Meeting 3 KYTC** June August May 2, 2017 2017 2017

Survey Results



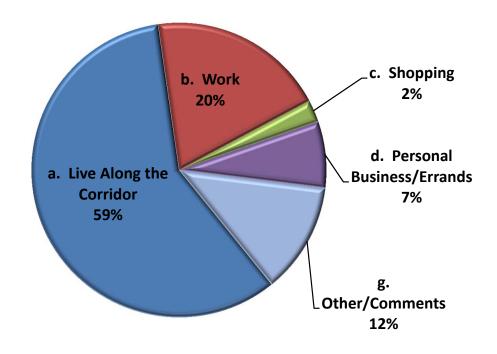
42 Surveys Returned



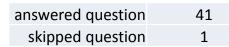


Question 1:

What is your primary reason for travel in the Project Corridor?

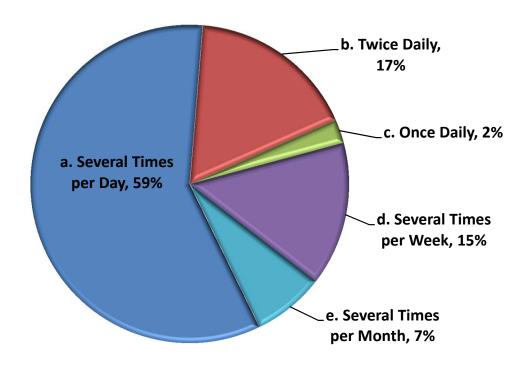








Question 2: How often do you travel within the study area?

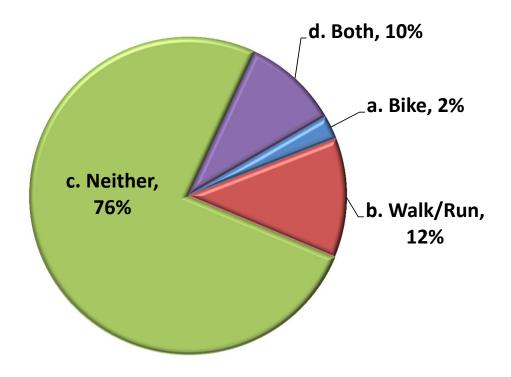




answered question	41
skipped question	1



Question 3: Do you ride a bicycle or walk/run along the corridor?

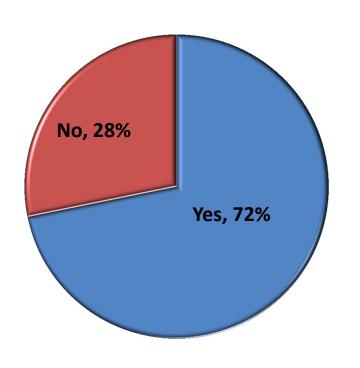


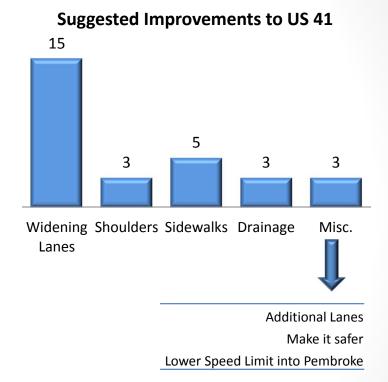


answered question	41
skipped question	1



Question 4: Do you believe US 41 needs improvement?





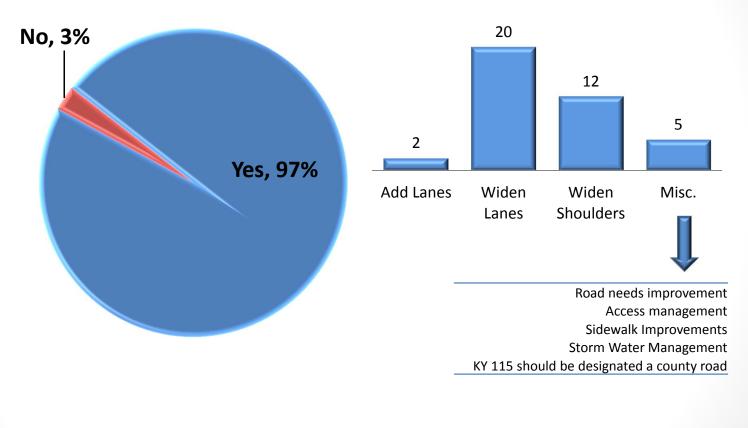


answered question	40
skipped question	2



Question 5: Do you believe KY 115 needs improvement?

Suggested Improvements to KY 115



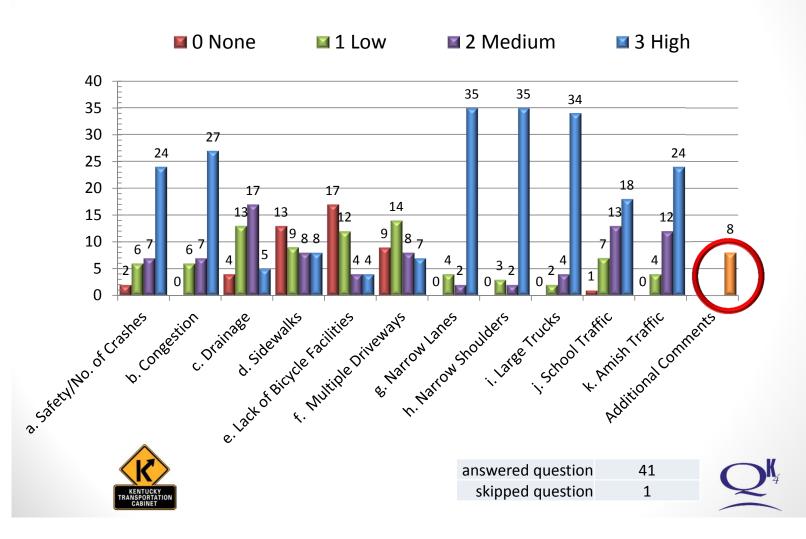


answered question	40
skipped question	2



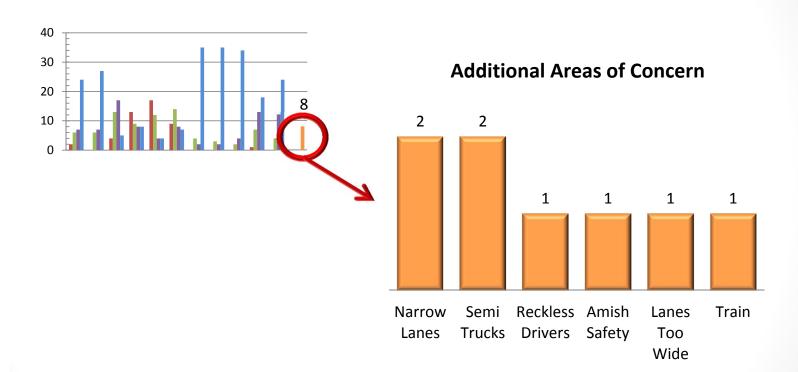
Question 6:

Please rank your level of concern in the study area from 0-3. 0 = no concern. 3 = high concern.



Question 6:

Please rank your level of concern in the study area from 0-3. 0=no concern. 3=high concern.





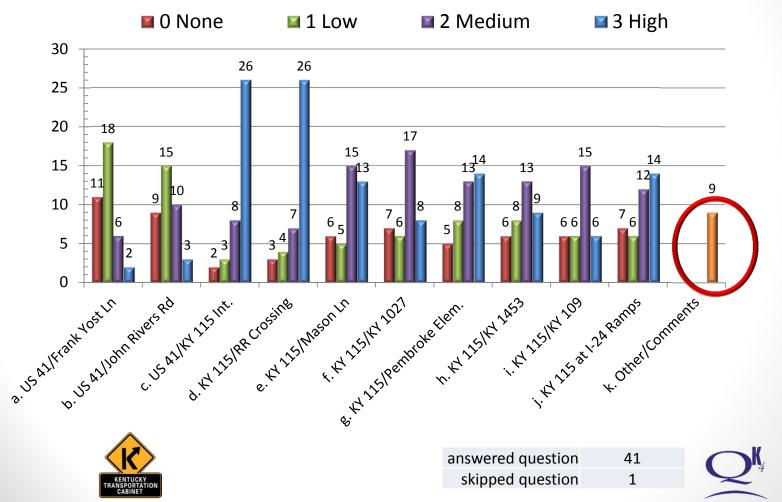
answered question	41
skipped question	1



Question 7:

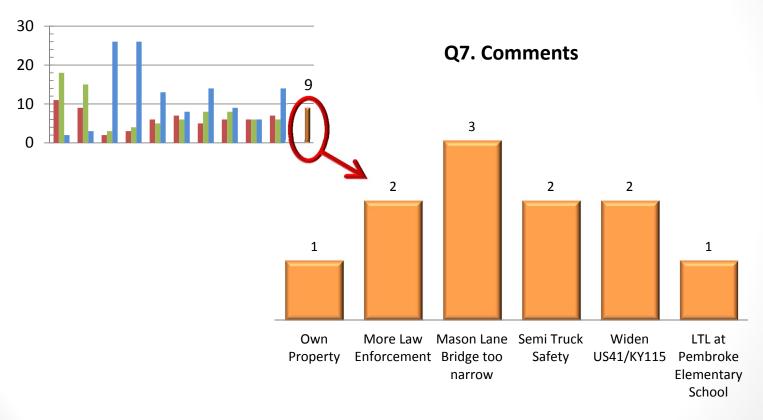
Please rank the <u>level of concern</u> you have in making turns or maneuvers at these locations in the study area.

0 = no concern. 3 = high concern.



Question 7:

Please rank the <u>level of concern</u> you have in making turns or maneuvers at these locations in the study area. 0 = no concern. 3 = high concern.



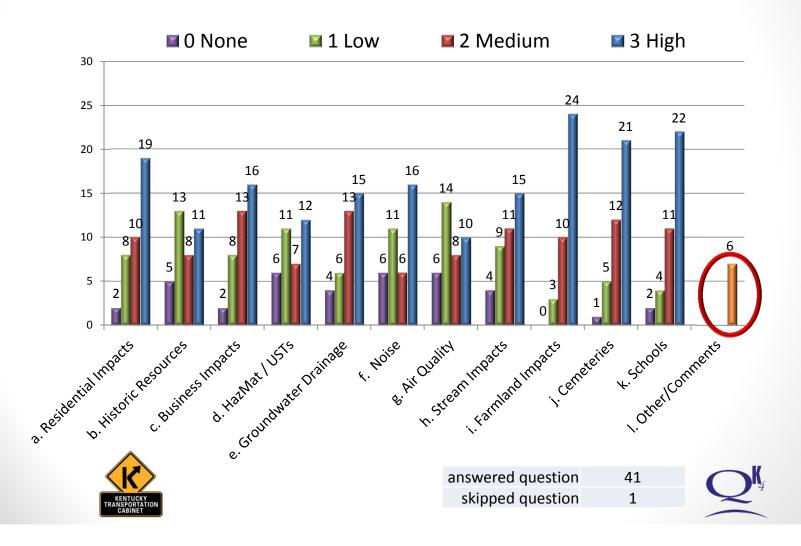


answered question	41
skipped question	1



Question 8:

Please rank your <u>level of environmental concern</u> in the study area from 0-3. 0 = no concern. 3 = high concern.



Question 8:

Please rank your <u>level of environmental concern</u> in the study area from 0-3. 0 = no concern. 3 = high concern.

Additional Environmental Concern Comments...

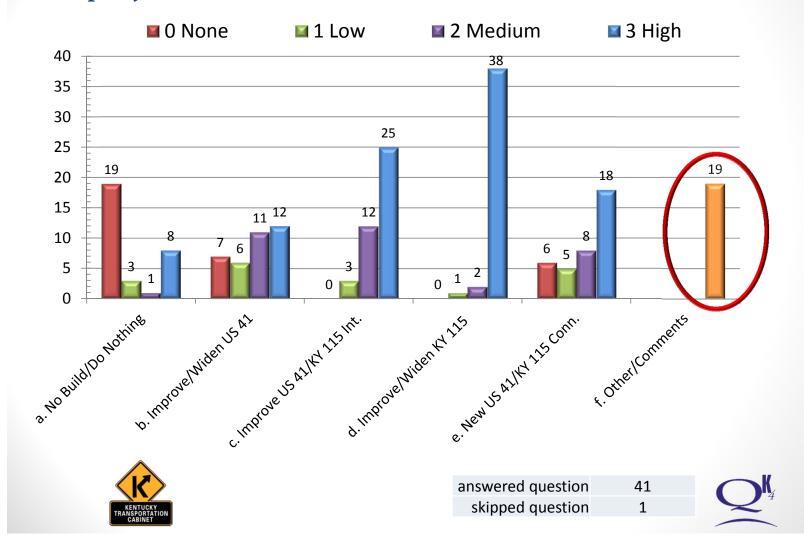
- Widening KY 115 north of bridge would negatively impact South Main Street residential property. Sidewalks and drainage improvement only in this area.
- Safety concerns due to semi traffic and school children.
- Amish need a safe area due to expected increase in traffic.
- Numerous HazMat vehicles travel through Pembroke. Dangerous.
- Use property lines where possible.



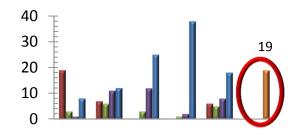
answered question	41
skipped question	1



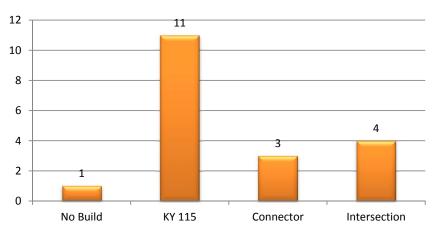
Question 9: Please identify your preference for improvements for this project. 0 = no desire. 3 = highly desired.



Question 9: Please identify your preference for improvements for this project. 0 = no desire. 3 = highly desired.



Additional Preference Comments



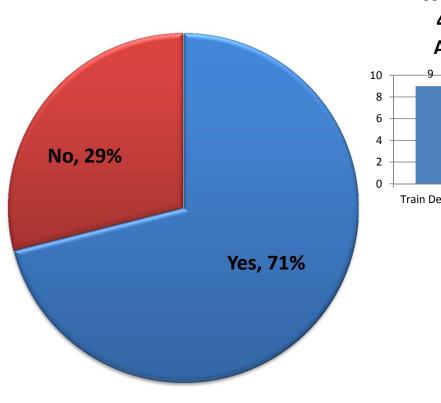


answered question	41
skipped question	1

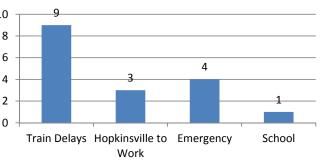


Question 10:

Would you use a new US 41/KY 115 Connector with a grade separated railroad crossing (bridge)?



Would you use a new US 41/KY 115 Connector Additional Comments





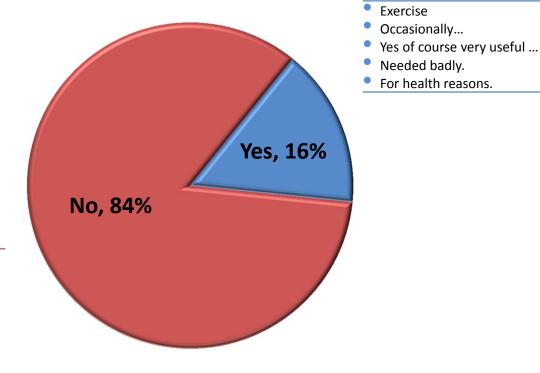
answered question	38
skipped question	4



Question 11:

If a new US 41/KY 115 Connector included bicycle/pedestrian accommodations, would you use

them?





Sidewalks are broken...

wheelchair who risk life every day on road.

Too old to ride.
Too dangerous ...
Don't have bicycle.
Know a person in

answered question	39
skipped question	3



Question 12:

Please list any additional information you think KYTC should know about.

- I would not use bicycle/pedestrian accommodations along the connector knowing traffic along the connector consists primarily of semi - trucks.
- Parent lives at 7919 Pembroke Rd.
- 1. Priority widen 115
 - 2. Priority widen 41
 - 3. Priority bypass around Pembroke
- Bridge opening under US 41 too small. Flooding.
- For Concept C and Concept B1.



answered question	39
skipped question	3



Comments from attendees taken by Qk4 at the Public Meeting

Concept A - US 41

- Culvert on US 41 floods
- Fertilizer plant presents a community safety issue
- Fumes have seeped through her front door from an unknown source.
- Along US 41, adjacent to Concept B2, is a low income housing complex including one disabled person in a scooter that could use a widened shoulder to walk/ride to the Minute Mart.

Concept B1 or B2

- It is probably cheaper to buy all of the houses in town versus purchasing farmland for the connector.
- B2 please hug property line more
- B1 could you possibly parallel the transmission line at the southern end to not leave the slivers of property that the current alignment does.
- Mr. Dossett identified two cemetery locations (shown as boxes—one family one indigent) located along the railroad in between B1 and B2 alignment.



Concept C - KY 115

- Why doesn't KYTC just restrict trucks on KY 115
- Wider shoulders would also allow large agricultural equipment (e.g. combines) to move to the shoulder of the road to allow vehicles to pass.

Intersection A_I1- US 41/KY 115

• Add to the intersection improvement, improving right turns from KY 115 southbound to US 41 for semis. A utility pole is in the way, and the building sits close.

General

- Ambulance station in Oak Grove goes to the school.
- KY 109 traffic has gone "sky high" because of people avoiding Pembroke and trains. It is a great route for DUI too.



Alternative	Impacts Pros				Prelimi	nary B/C R	atio			
			Pros	Pros Cons		Undiscounted	3% Disc	7% Disc	Costs	Public Input
Alternative 1 No Build/Do Nothing	None		No expenditure of funds	No safety improvements or cras reduction No travel time improvements Amish and agricultural equipme travel lanes Railroad delays		0			\$0	19 of 31 responses have no desire
	Farm and Residential Impacts	Yes	Wider Lanes and Shoulders							
	UST/Hazmat	2	Improves KY Freight Network route							12 of 36 responses highly desire US 41
	Cemetery	0	Upgrades KY 115 to AAA route							
Alternative 2	Intermittent and Perennial Streams (feet)	<400								
[Concept A (US 41	Ephemeral Stream (feet)	50	Improved turning aprons US 41/KY 115							Widening/Improvements 25 of 40 responses highly
Widening)	Historic Linear Resource (Railroad)	no	Reconstruct Sidewalks on US 41 and at Intersection	Trucks travel through downtown t Railroad Delays	/n		0.84			
Concept A_I1 (US	Bat Habitat (acres)	12.5				1.18		0.56		
41/KY 115 Intersection)	Flood zone (acres)	<1		Raill Odd Delays	ays	1.18	0.64	0.30		Intersection
+ Concept C (KY 115	Hydric Soils (potential Wetlands in acres)	1		n						38 of 41 responses highly desire Improve/Widen KY 115
Widening)]	Sinkholes (number)	9								
	Potentially Eligible National Register of Historic Places Resource (NRHP)	1					21/1			
	Potential Historic Property Boundary (acres)	<1			ELII	IMINARY RESUI			JLTS	
	Potential Historic District (acres)	2.5								
	Farm and Residential Impacts	Yes	Wider Travel Lanes and Shoulders			B1 + C				
	UST/Hazmat	2	Improves KY Freight Network route	Draws more trucks to network (2040 - 430 more trucks on KY 115 south of 2040 - Connector to I-24) Does not replace KY 115 bridge 5 o C Does not improve/widen US 41 into downtown Pembroke arm Does not improve roadway geometrics of US 41 / KY 115 Intersection					\$34,600,000	
	Cemetery	2 Maybe	Pupgrades KY 115 to AAA route Bridge over Railroad (Reduces train delays for schools, emergency, freight, local traffic) Reduces Trucks from downtown (2040 360 on US 41 and 310 on KY 115)							
	Intermittent and Perennial Streams (feet)	<700				0.96	0.68	0.45		
Alternative 3	Ephemeral Stream (feet)	50				0.50				
[Concept A (US 41	Historic Linear Resource (Railroad)	yes			(2040 -					
From West to		15			th of		A . I	22 . C		
Connector)	Bat Habitat (acres)	15				A + B2 + C				18 of 37 responses highly
Concept B (New	Flood zone (acres)	<3			•	cs 0.98 0.7			\$33,110,000	desire a New Connector 38 of 41 responses highly desire Improve/Widen KY 115
Connector)	Hydric Soils (potential Wetlands in acres)	1			into					
+ Concept C (KY 115 From Connector South)]	Sinkholes (number)	9			ometrics					
	Potentially Eligible National Register of Historic Places Resource (NRHP)	1					0.7	0.46		
	Potential Historic Property Boundary (acres)	<1								
	Potential Historic District (acres)	2.5	Improves 3 high crash locations	PF	RELI	MINA	IRY	RES	ULTS	