

APPENDIX A

KYTC Project Identification FormCycle Year: **2005**Priority: L: **Hi** R: **Hi** D: **Hi**Tier: **3**

Tier Rank: R: _____ D: _____

Overall Top Ten: R: _____ D: _____

Section I – General Information

Requested by:	Unknown
Title/Organization:	
Date:	
Form Completed by:	B.Duncan/C.Phillips
Title/Organization:	BGADD/DOH5
Date:	9-27-2004
Revision 1 by:	B.Duncan/T. Hall
Title/Organization:	BGADD/DOH5
Date:	8-15-2008
Revision 2 by:	
Title/Organization:	
Date:	

UPL Control #: 05 037 B0421 16.10 Co. #: 037		
Parent Control #: _____		
RSE Unique Number: 037 US-421		
District: 5	County: FRANKLIN	Route: US 421
ADD: BGADD	MPO: _____	SUA: _____
Mode: Highway	State System: State Primary	
Type: Major Widening	Funct'l Class: Rural Min Art	
Project Length: 5.742		Total Cost Estimate: \$ 39700
(P: _____)		D:3000 R:3700 U:3000 C:30000)
Possible Funding Sources (Check all that apply):		
<input type="checkbox"/> IM <input checked="" type="checkbox"/> NH <input type="checkbox"/> HES <input type="checkbox"/> BR <input checked="" type="checkbox"/> STP <input checked="" type="checkbox"/> SP <input type="checkbox"/> TE <input type="checkbox"/> CMAQ <input type="checkbox"/> PLH <input type="checkbox"/> Other: _____		
Highway Networks (Check all that apply):		
<input type="checkbox"/> NN <input type="checkbox"/> Scenic Byway <input type="checkbox"/> Coal Haul <input type="checkbox"/> Bike <input checked="" type="checkbox"/> NHS <input type="checkbox"/> Defense <input type="checkbox"/> Strahnet <input type="checkbox"/> Ext. Wt. <input type="checkbox"/> ADHS () <input type="checkbox"/> Forest		
Existing Project Studies (Year):		

Section II – Problem Statement

Route Number: US 421	(Use Report Year)	Original	Rev. 1	Rev. 2
Beginning MP: 5.390	AdequacyRating:	48.80: (05)	: ()	: ()
Ending MP: 11.132	• CRF: (Year)	2.64: (05)	: ()	: ()
Total Length: 5.742	• IRI: (Year)	147: (05)	: ()	: ()
	• V/SF: (Year)	0.25: (05)	: ()	: ()
Primary Purpose: Upgrade Existing System(Major)	Current ADT: (Year):	3,246: (02)	: ()	: ()
	Percent Trucks: (Year):	: ()	: ()	: ()
	Projected ADT (HDO): Year:	2022	%Growth: 1.25	ADT: 4,160

Please provide a clear problem statement for this project:

Composit rating is 48.80 for segment 5.390 to MP 10.536. The remainder is 77.30. High CRF of 2.64 indicates safety problems along this segment of US 421 from aproximately 0.9 miles north of US 127 to KY 12 in Franklin County. IRI varies from 113 to 147. V/SF ranges from 0.10 to 0.25. Vertical Alignment of 4 indicates significant sight distance restrictions. Horizontal Alignment of 3 indicates infrequent curves with design speeds less than the prevailing speed limit. US 127 is on the NHS and the State Authorized Truck Network.

Section III – Project Description

Project Description Narrative:

Improve safety and level of service on US 421 (Bald Knob Hill) from the end of existing improvements approx. 0.9 miles north of US 127 to KY 12 in Franklin County.

Regional Goals/Objectives Addressed: To promote the safe and efficient movement of people, goods, and services to benefit all of the residents of the region.

Section IV – Project Area Information:

1. Miscellaneous Roadway Conditions	Access Control:	Existing: <u>Permit</u> Proposed: <u>Permit</u>	Median Type:	Existing: <u>N/A</u> Proposed: _____	Width: <u>NA</u> Width: _____
	Lane No./Width:	Existing: <u>2/12</u> Proposed: _____ / _____	Shoulders:	Existing: <u>Earth</u> Proposed: _____	Width: <u>3</u> Width: _____
	No. of Bridges:	Existing: <u>5</u> Proposed: _____	Other Improvement Projects in Area:	<input type="checkbox"/> None <input type="checkbox"/> SYP <input type="checkbox"/> Resurface <input type="checkbox"/> Other _____	
	Comments: mp 8.438, 8.6, 13.088,14.061				
2. Right of Way	Avg. Width:	Existing: <u>45</u>	Source: <input checked="" type="checkbox"/> HIS <input type="checkbox"/> Plans <input type="checkbox"/> Microfilm <input type="checkbox"/> Other _____		
	Current Primary Use: <input type="checkbox"/> Industrial <input type="checkbox"/> Commercial <input type="checkbox"/> Residential <input checked="" type="checkbox"/> Farmland <input type="checkbox"/> Other: _____				
	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Project may require additional R/W.		Possible Relocations : Homes: _____ Businesses: _____		
	Comments:				
3. Utilities	Existing Utilities:	<input checked="" type="checkbox"/> Power <input checked="" type="checkbox"/> Gas <input checked="" type="checkbox"/> Telephone <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Sewer <input checked="" type="checkbox"/> Water <input type="checkbox"/> ITS <input type="checkbox"/> None <input type="checkbox"/> Other: _____			
	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Project may require Utility Relocations.		Comments:		
4. Environmental Impacts	(Check all that apply):				
	<input checked="" type="checkbox"/> Blueline Streams <input type="checkbox"/> Wetlands <input type="checkbox"/> Floodplain <input type="checkbox"/> Wildlife Managed Areas <input type="checkbox"/> Historic Properties <input type="checkbox"/> Cemeteries <input type="checkbox"/> Schools <input type="checkbox"/> Churches <input type="checkbox"/> Endangered Species <input type="checkbox"/> Public Land/Park <input type="checkbox"/> Noise Impact <input type="checkbox"/> Arch. Sites <input type="checkbox"/> NR Properties <input type="checkbox"/> Potential NR Properties <input type="checkbox"/> Other:				
	<input type="checkbox"/> Potential Contaminated sites:		<input checked="" type="checkbox"/> Gas Stations <input type="checkbox"/> Landfills <input type="checkbox"/> Auto Repair <input type="checkbox"/> Junkyards <input checked="" type="checkbox"/> Other		
	Comments: Boat Repair Shop				
5. Air Quality	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Project is located in a Maintenance or Nonattainment Area <input type="checkbox"/> Ozone <input type="checkbox"/> PM 2.5				
	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Project adds through lane capacity				
	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Project results from a Congestion Management Plan				
	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Project is included in TIP/STIP TIP Page # STIP Page #				
	Comments:				
6. Economic Impacts	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Planning/Zoning Regulations exist in Community		<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Project may affect established Business, Commercial or Industrial Districts.		
	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes This project has economic impacts on regional/local economy: <input type="checkbox"/> Development <input type="checkbox"/> Tax Revenues <input type="checkbox"/> Employment Opportunity <input type="checkbox"/> Retail Sales <input type="checkbox"/> Other		Please Describe:		
	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes This project provides direct access to major points of interest: <input type="checkbox"/> Nat'l/State Parks <input type="checkbox"/> Monuments <input type="checkbox"/> Historic Sites <input type="checkbox"/> Amusement Parks <input type="checkbox"/> US Public Land <input type="checkbox"/> Other		Please Describe:		
	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes This project provides direct access to major traffic generators: <input type="checkbox"/> Shopping Centers <input type="checkbox"/> Schools <input type="checkbox"/> Industries <input type="checkbox"/> Military Installations <input type="checkbox"/> Other		Please Describe:		

7. Multimodal Opportunities	This project is a candidate for: (check all that apply)			<input type="checkbox"/> Bicycle Paths	<input type="checkbox"/> Sidewalks	<input type="checkbox"/> Shared-Use Paths
				<input type="checkbox"/> Park/Ride Lots	<input checked="" type="checkbox"/> N/A	
	This project improves direct access to: (check all that apply)			<input type="checkbox"/> Airports	<input type="checkbox"/> Railways	<input type="checkbox"/> Riverports
				<input type="checkbox"/> Trucking Routes	<input checked="" type="checkbox"/> N/A	
Type of Public Transportation available:			<input type="checkbox"/> Fixed Route	<input checked="" type="checkbox"/> Demand Response		
Comments:						

8. Social Impacts	This project may affect: (Check all that apply)					
	<input type="checkbox"/> Neighborhood or Community Cohesion <input type="checkbox"/> Travel Patterns (Vehicular, commuter, bicycle, pedestrian) <input type="checkbox"/> Household Relocations <input type="checkbox"/> Elderly, disabled, nondrivers, minorities, low-income persons <input type="checkbox"/> No adverse effects to neighborhoods apparent.					
Comments/Impact Descriptions:						

Section V – Cost Estimate Information (to be completed by Hwy District Office):**Cost Estimate by Phase:**

Phase	Original Estimate	By:	Revision 1	Date	By:	Revision 2	Date	By:
Planning								
Design	\$2,500,000	MA	\$3,000,000	11/5/08	th			
ROW	\$3,000,000	MA	\$3,700,000	11/5/08	th			
Utilities	\$2,500,000	MA	\$3,000,000	11/5/08	th			
Construction	\$25,000,000	MA	\$30,000,000	11/5/08	th			
Total Cost	\$33,000,000	MA	\$39,700,000					

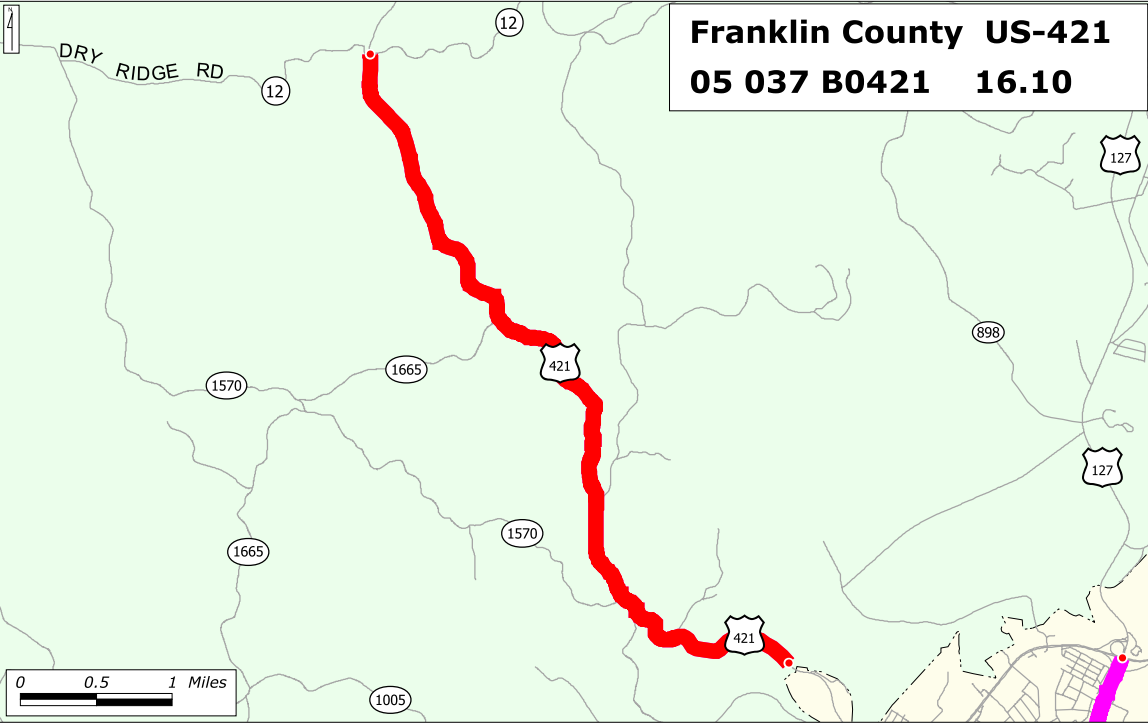
Estimate Procedure Used:

Original Estimate:	Revision 1:	Revision 2:
<input checked="" type="checkbox"/> Per Mile@ \$ <u>5.75M</u> Terrain: <u>Rolling</u>	<input type="checkbox"/> Per Mile@ \$ ____ Terrain: ____	<input type="checkbox"/> Per Mile@ \$ ____ Terrain: ____
<input type="checkbox"/> Detailed Estimate with Calculations Attached	<input type="checkbox"/> Detailed Estimate with Calculations Attached	<input type="checkbox"/> Detailed Estimate with Calculations Attached
<u>Estimate Assumptions:</u>	<u>Estimate Assumptions:</u> Update to 2008 dollars.	<u>Estimate Assumptions:</u>
Estimate Class: E-Requires further study	Estimate Class: _____	Estimate Class: _____

Section VI – Attachments:
 The following items are attached to this document: ☒ Location Map ☒ Photograph(s) ☐ Other:

Comments:

Franklin County US-421
05 037 B0421 16.10

























GENERAL INFORMATION

The PIF has an attachment. Click this Image for PDF:

Control No: 05 037 B0421 16.10
Requestor Name:
Requestor Title:
Requested By Date: 08/14/2008
Form Completed By: B.Duncan/T.Hall
Title/Organization: BGADD/DOH5
Form Completed Date: 08/15/2008
District: 5
County: Franklin
Prefix: US
Route No: 421
Route Type: B
Suffix:
BMP : 5.390
Length: 5.742
Existing Studies: NONE

Status: Active
Mode: Highways
Type: Major widening
ADD: BLUEGRASS
MPO: Select
Urban Area: Rural

Parent Control No: 05 037 B0421 16.10

RSE Unique No: 037-US-0421 -000

BMP	EMP	SPRS
4.5230	17.8860	State Primary (Other)

BMP	EMP	FC
4.5230	17.8860	Rural Minor Arterial

EMP: 11.132

Improve safety and level of service on US 421 (Bald Knob Hill) from the end of existing improvements approx. 0.9 miles north of US 127 to KY 12 in Franklin County.

Project Description:

To promote the safe and efficient movement of people, goods, and services to benefit all of the residents of the region.

Regional Goal:

Last Updated By: Regan.clauson

Last Updated Date: 10/4/2010 12:20:13 PM

Possible Funding source: ☐ IM ☒ NH ☐ HES ☐ BR ☒ STP ☒ SP ☐ TE ☐ CMAQ ☐ PLH

Other:

Highway Network: ☒ Non NHS NHS NN Scenic Way Coal Haul Bike Forest
Strahnet Ext Weight ADHS

[Cancel](#)





UNBRIDLED NEEDS



NEW PIF <> SEARCH <> STATUS

DIVISION OF PLANNING

ADMIN <> HELP <> LOGOUT

GENERAL INFO ROW/UTIL ECO/SOCIAL ENV/AIRQLTY COST EST HIGHWAY ATT PIF STATUS RANKING

RIGHT OF WAY

Avg. Width: 45

Source: ☐ HIS

☐ Plans

☐ Microfilm

Other:

Current Primary Use: ☐ Industrial

☐ Commercial

☐ Residential

☒ Farmland

Other:

Project may require additional
R/W: ☐ False ☒ True

Possible Number of Relocations: Homes

Businesses

Comments: unknown

UTILITIES

Existing Utilities: ☒ Electrical

☒ Gas

☒ Telephone

☒ Cable

☐ Sewer

☒ Water

☐ ITS

☐ None

Other:

Project may require Utility
Relocations: ☐ False ☒ True

Comments:





COST ESTIMATE

PIF #: 05 037 B0421 16.10

Revision #: 2

BMP: 5.390

EMP: 11.132

Last Updated By: 5/26/2011 9:21:57 AM

Last Updated Date: dane.blackburn

Estimate Class: Based on Limited Studies

Per Mile

	BMP	EMP	TERRAIN
Terrain:	4.5230	8.9570	Rolling
	8.9570	17.8860	Rolling

Detailed Estimate with Calculations Attached

Estimate Assumptions:

Planning: No Records

Design: No Records

Right of Way: No Records

Utilities: No Records

Construction: No Records

	Planning:	00.00
	Design:	4,000,000.00
	Right of Way:	7,000,000.00
Original Estimate:	Utilities:	7,000,000.00
	Construction:	37,000,000.00
	Total Cost:	55,000,000.00

Estimate Procedure Used:

Attachments: Location Map . Photograph(s) Others: Sheet showing Cost Estimate

Comments:





HIGHWAY ATTRIBUTES

PIF #: 05 037 B0421 16.10

BMP: 5.390

EMP: 11.132

Last Updated By: bruce.duncan

Last Updated Date: 10/8/2010 8:25:16 AM

Adequacy Rating Range

	From	To	Problem Statement
Adequacy Rating:	48.80	48.80	High CRF indicates safety problems along this segment of US 421 from approximately 0.9 miles north of US 127 to KY 12 in Franklin County. There is significant truck traffic on this two lane road.
CRF:	0.4960	1.0220	Vertical
IRI:	0	1256	Alignment of 4 indicates significant sight distance restrictions. Horizontal
V/SF:	0.15	0.15	Alignment of 3 indicates infrequent curves with design speeds less than the prevailing speed
ADT:	957	3750	
% Trucks (Single):	9.40	9.40	
% Trucks (Combination):	1.30	1.30	
Speed Limit:	55	55	
Projected ADT (HDO)/Year:	Coming Soon	% Growth: Coming Soon	Projected ADT: Coming Soon

Miscellaneous Roadway Conditions

Access Control:	BMP	EMP	TYPE
	4.5230	17.8860	None

Proposed Access Control: Partial *

Lane Width:	BMP	EMP	WIDTH	LANES
	5.4210	17.8860	10	2
	4.5230	5.4210	12	2

Proposed Lane Width: 0 *

Proposed Lanes: 0 *

MedianType:	BMP	EMP	WIDTH	TYPE
	4.5230	17.8860		None

Proposed Median Type: None *

Proposed Median Width: 0 *

Shoulders:	BMP	EMP	WIDTH	TYPE	X SECT
	5.22	5.4210	10	Combination	CR
	5.22	5.4210	10	Combination	NR
	5.4210	14.24	2	Combination	CR
	5.4210	15.35	2	Combination	NR

Proposed Shoulder Type: Earth *

Proposed Shoulder Width: 0 *

No. of Bridges: 5

Traffic Loop: Other Improvement Projects in Area: ☒ None ☐ SYP ☐ Resurface ☐ Others

Comments: mp 8.438, 8.6, 13.088, 14.061





ENVIRONMENTAL IMPACT

- Environmental Impact: ☒ Blue Line Streams ☐ Wetlands ☐ Floodplain
☐ Wildlife Managed Areas ☐ Historic Properties ☐ Cemeteries
☐ Schools ☐ Churches ☐ Endangered species
☐ Public land/Park ☐ Noise Impact ☐ Arch. Sites
☐ NR Properties ☐ Potential NR Properties
 Other:
☒ Potential Contaminated sites: ☒ Gas Stations ☐ Landfills ☐ Auto Repair
☐ Junkyards
 Other: Boat Repair Shop

Comments:

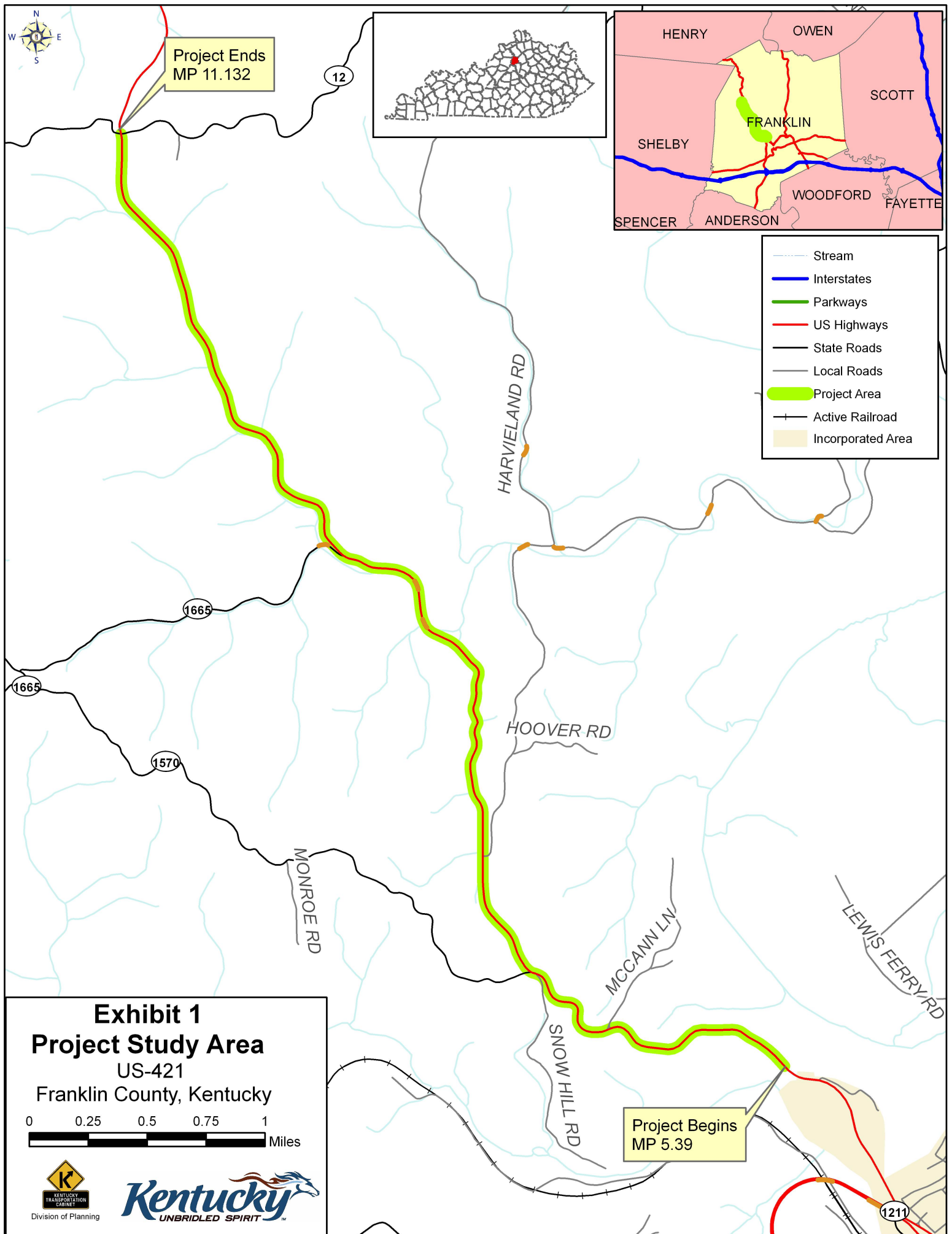
AIR QUALITY

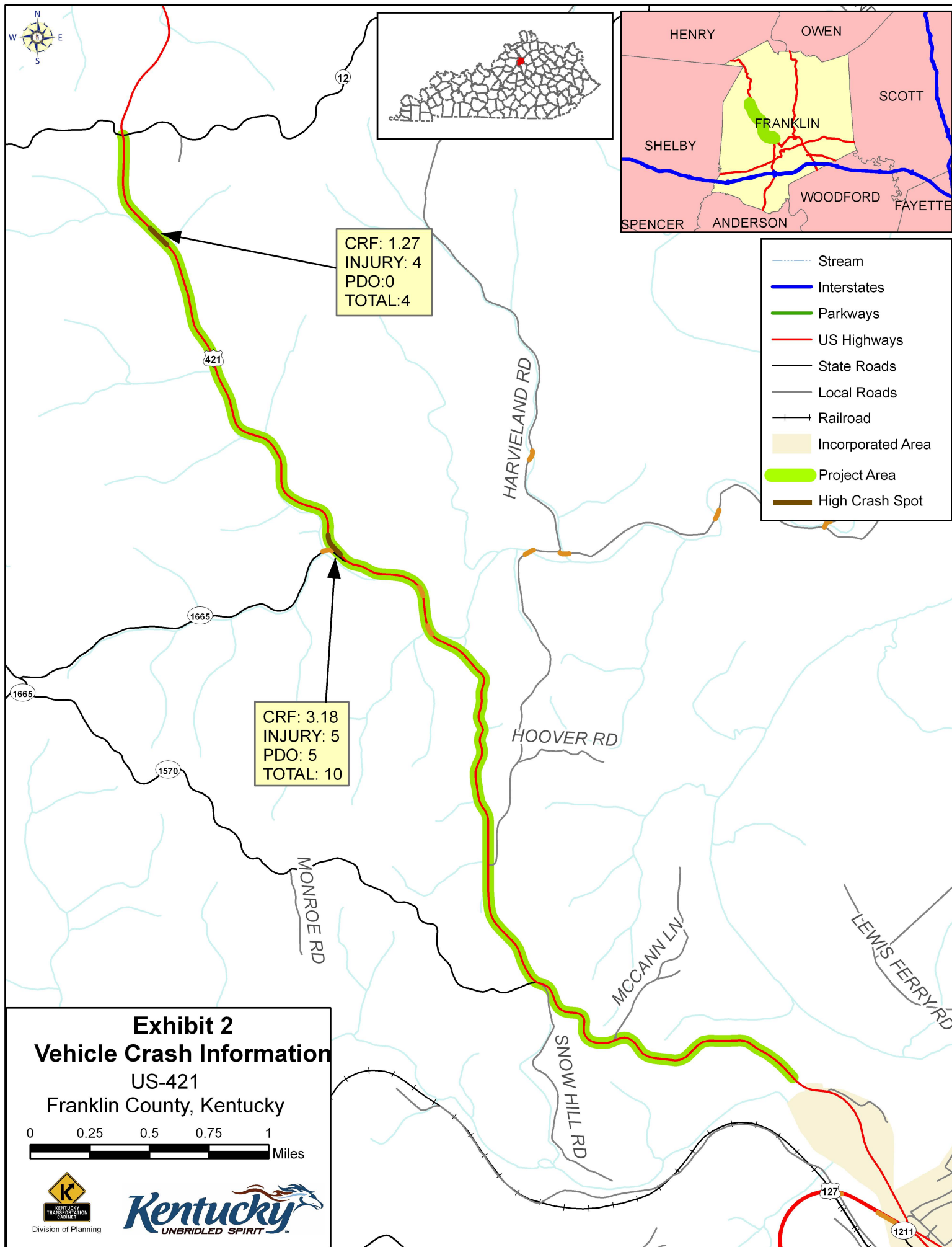
- Maintenance or Nonattainment Area: ☒ False ☐ True ☐ Ozone ☐ PM
 Adds through Lane Capacity: ☐ False ☒ True
 Congestion Management Plan: ☒ False ☐ True
 Project is included in TIP/STIP: ☒ False ☐ True

Comments:

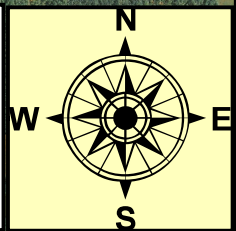


APPENDIX B





End of Project Area
at Intersection with
KY-12 at MP 11.132



LEGEND

US-421 Crash Locations

Manner of Collision

- ANGLE
- HEAD ON
- REAR END
- SIDESWIPE-OPPOSITE DIRECTION
- SIDESWIPE-SAME DIRECTION
- SINGLE VEHICLE

▲ State Road Milepoints selection

HARVIELAND RD

Number of Collisions

- 38-Total
- 2- Angle
- 1- Head on
- 2- Rear end
- 2- Sideswipe-Opposite Direction
- 1- Sideswipe-Same Direction
- 30- Single Vehicle

FRANKLIN

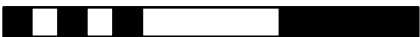
HOOVER RD

Beginning of Project Area
at end of reconstruction
at MP 5.390

EXHIBIT 2A Updated Vehicle Crash Information

US-421
Franklin County, Kentucky

1,500 750 0 1,500 3,000 Feet

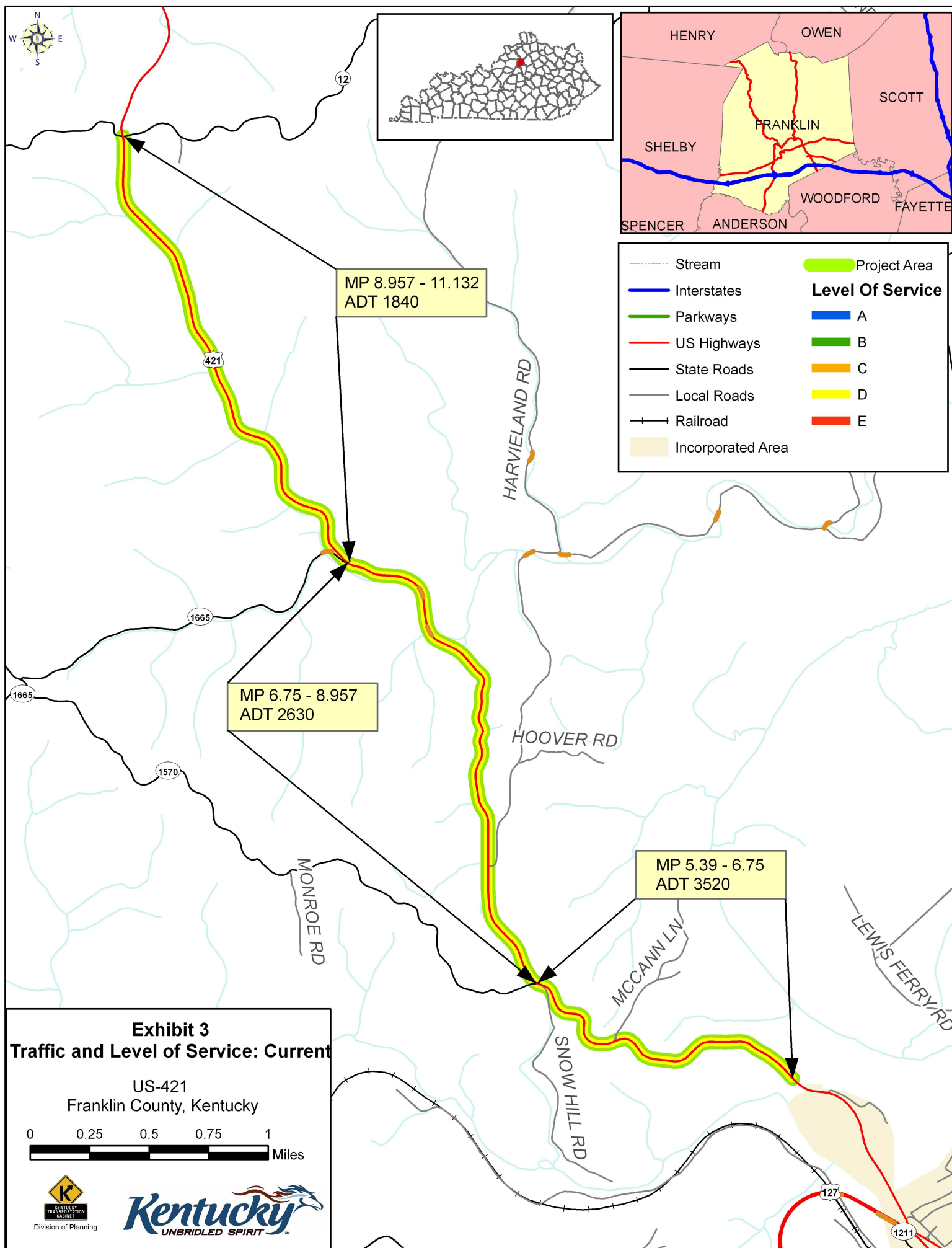


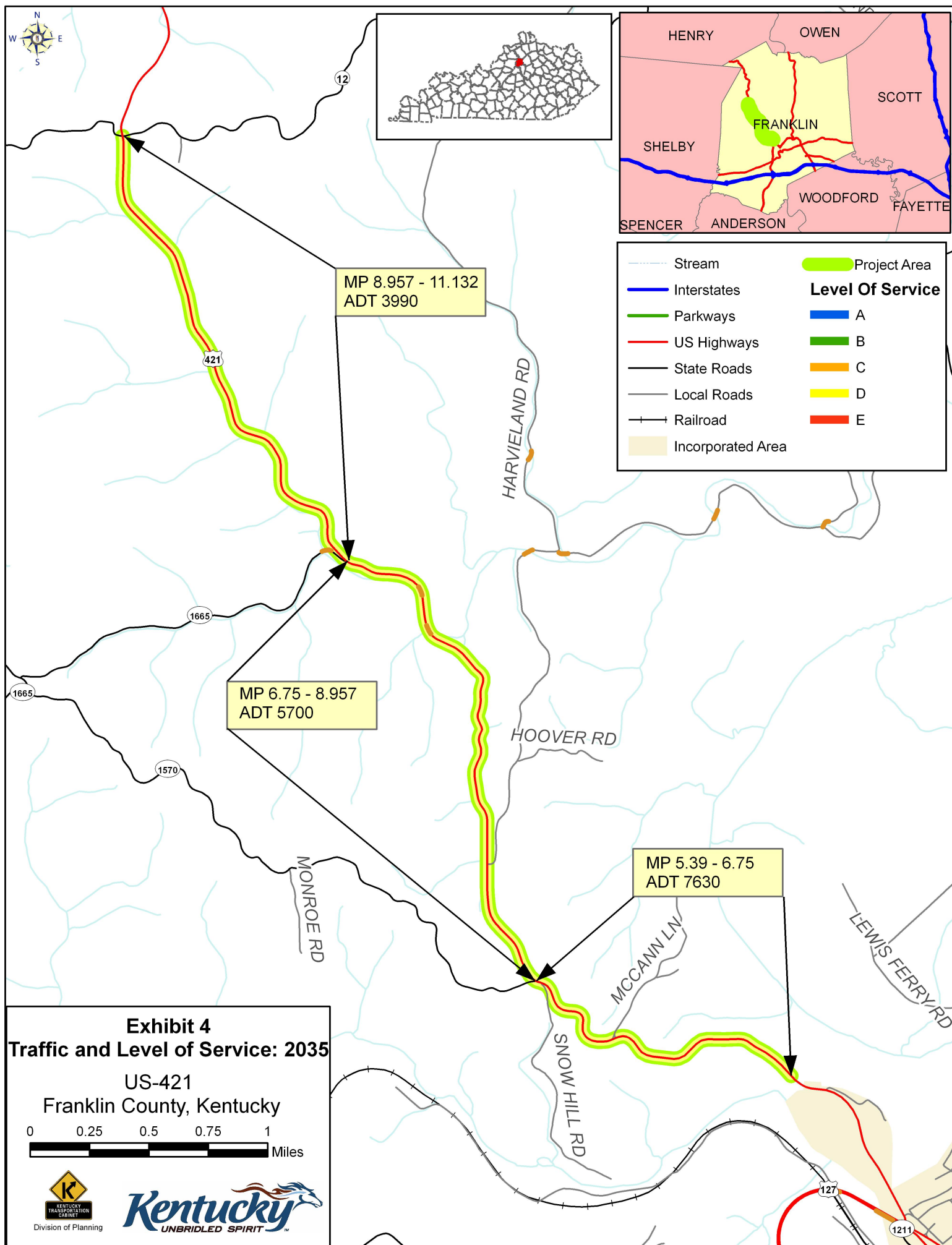
Kentucky
UNBRIDLED SPIRIT™

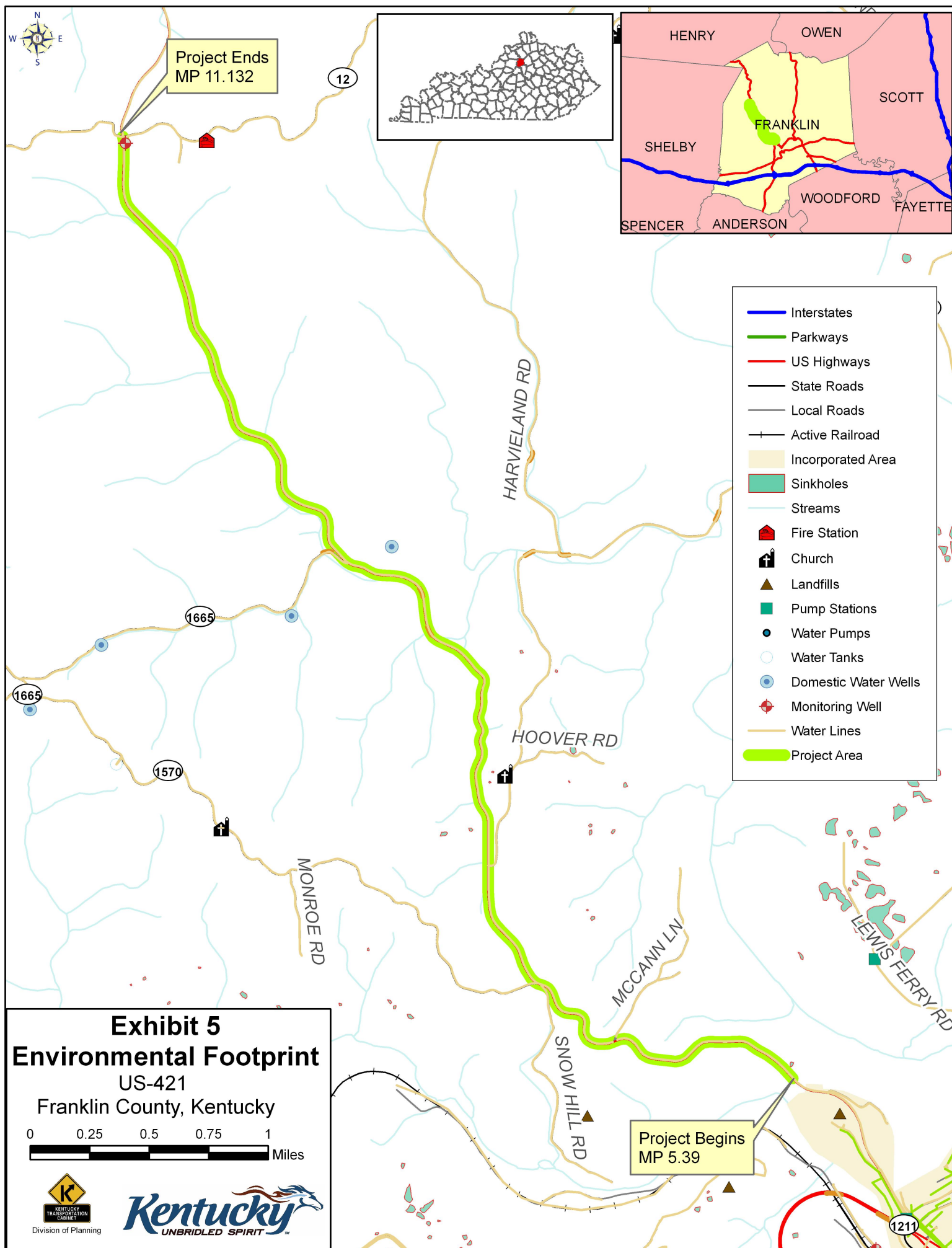
1570

MCCANN LN

Frankfort







APPENDIX C



Photo 1 - US 421 at mile point 5.500, looking north



Photo 2 – US 421 at mile point 5.750, looking north



Photo 3 - US 421 at mile point 6.200, looking north



Photo 4 - US 421 at McCann Lane, looking north



Photo 5 – US 421 approaching Snow Hill Road, looking north



Photo 6 - US 421 approaching KY 1570 at mile point 6.750, looking north



Photo 7 - US 421 at mile point 7.000, looking north



Photo 8 - US 421 at mile point 7.500, looking north



Photo 9 – US 421 at mile point 8.000, looking south



Photo 10 - US 421 at mile point 8.300, looking north



Photo 11 – US 421 at mile point 8.950, looking south



Photo 12 - US 421 approaching KY 1665 at mile point 9.000, looking north



Photo 13 – US 421 approaching KY 1665 at mile point 9.150, looking south



Photo 14 – US 421 at mile point 9.400, looking south



Photo 15 – US 421 at mile point 9.900, looking south



Photo 16 – US 421 at mile point 10.600, looking north



Photo 17 – US 421 at mile point 10.700, looking south



Photo 18 – US 421 approaching KY 12 at mile point 11.000, looking north



Photo 19 – US 421 approaching KY 12 at mile point 11.132, looking north



Photo 20 – US 421 at intersection with KY 12 at mile point 11.132, looking west

APPENDIX D

Meeting Minutes
Franklin County Item No. 5-8109.00
US 421 From Frankfort City Limits (also end of previous construction) to KY 12
10:00 a.m. E.S.T. January 20th, 2005

A project team meeting for the US 421 (Franklin County) programming study was held in the Transportation Cabinet Office Building, Room 506 on January 20th, 2005. Those attending the meeting were as follows:

Robert Farley	FHWA
Chris Phillips	District 5 – Planning
Greg Groves	District 5 – Pre-construction
Craig Myatt	District 5 – Maintenance
Gary Bunch	KYTC – Environmental Analysis
Ananias Calvin III	KYTC – Design
Daryl Greer	KYTC – Planning
Jim Wilson	KYTC – Planning
David Martin	KYTC – Planning
Robert Brown	KYTC – Planning

Jim Wilson began the meeting stating the purpose of the meeting was to assist in the development of a programming study on the segment of US 421 in Franklin County. At this point everyone at the meeting introduced themselves.

The project was discussed as outlined on the attached agenda with the observations and conclusions as noted.

2. Project Goals and Objectives

- a. Project Area - Discussion was held concerning the project area as currently standing and if the area should be expanded. Currently the area of the project is from the end of previous reconstruction (also stated as the city limits of Frankfort) to the intersection of US 421 with state route KY 12. There was discussion also about other logical termini for the project that included Harvieland Road, KY 1665 and New Castle in Henry County. The project team decided that there the most logical termini was KY 12 pending new information from future meetings with the local officials.
- b. Prior Reports - There was no previous work.
- c. Roadway Conditions - Gathered data about this project was discussed at this time.
 - i) Traffic data - Data shows a decline in the amount of traffic as traffic travels north toward Henry County. There is an ADT of approximately 4500 near the start of the project, and the ADT drops to approximately 1800 at the end of the project. Also noted in the meeting that using HIS

data, the ADT along the same route drops to approximately 800 in southern Henry County. The Level of Service (LOS) was also discussed at the meeting. It was noted that current LOS along the entire corridor is D. Also noted was the LOS was not projected to change through 2030 along any segment of the route.

Concerning truck traffic along the road, there was no truck percentage data found in HIS. There was discussion that trucks are probably traveling on KY 55 instead, because it has been improved.

- ii) Crash data - Crash data was discussed in terms of segment crash analysis and spot crash analysis. Tables and maps were distributed to those in attendance showing that the majority of the route had a Critical Rate Factor higher than 1.0 in the segment analysis. Two places were also noted where the critical rate in the spot crash analysis was greater than 1.0. One thing that was brought to the group's attention was the prevalence of wet road conditions at the majority of these accidents. Also noted were the absence of fatalities and the low number of accidents involving injuries and multiple vehicles.
- iii) Existing geometry - Two sets of handouts of pictures of the corridor were made available to show, in part, the geometry of the corridor in question. It was also noted that some attendees had recently driven at least part of the route. The road contains multiple curves, both horizontal and vertical, that do not meet the current geometric guidelines of the AASHTO Green Book. A list of all curves in question was distributed to those in attendance. A short discussion was held about the multiple S-curves along the route.
- iv) Other - Additional information discussed was the presence of two moderate to large culverts along the route that are designated as bridges in HIS.

The issue of maintenance was also a big concern. Though no data was available from maintenance from District 5 on flooding, there was the common knowledge of the large flood that affected much of the low-lying areas along this route recently. Maintenance had also stated that there have been problems keeping the ditches cleaned out, specifically on the left side of the road traveling northbound. Maintenance has also placed some gabion baskets at some locations to try to keep the road out of the streams. Specific problem locations along the road included near the intersection with KY 1665, where there is a known slip problem just north of this intersection. There were several cross drains, along the entire route, that are in bad condition because they are separating and filling up. Another maintenance issue brought forward is that there is a scheduled resurfacing of this road in Spring 2005.

- d) Identify additional information needed to document problems.
- i) Environmental Footprint - If the road is reconstructed, the consensus was that much of it would be on new location. An environmental footprint area approximately 2000 feet wide along the existing roadway will probably not be adequate. District 5 will review the topographic maps and suggest an area for the environmental footprint.
 - ii) Environmental Justice - There were no apparent minority groups or communities in the area in discussion. There is the probability of issues with low-income housing areas and family clusters. The decision was made to request an Environmental Justice Report from the Bluegrass Area Development District.
 - iii) Real Estate/Relocation Information - There could be some issues with replacement housing if a large number of displacements are required. Most of the houses along the route are on the top of the hills and next to the road. These issues become very important if the road is completely reconstructed.
 - iv) Utilities - There are common utilities along the route. These include water, electric, cable, etc, but no sewer. It was noted that there are some cell towers along the route. Other than the relocation costs, there are no other apparent unusual utility issues.
 - v) There are no apparent issues that could have ITS solutions for this corridor. Also there is little need for or issues concerning bikeways, pedestrians, access management, or freight along the road.
- e) Identify logical termini – Logical termini that would have to be used in the development of an environmental document in future phases of this project were discussed. There was a proposal by Robert Farley to extend the termini from KY 12 to New Castle in Henry County. If the road is going to be a total reconstruction, Harvieland Road, KY 1665, and KY 12 were discussed as other possible northern termini. There was not a definite conclusion made at the meeting, but further discussion will be held with stakeholders to help further define the purpose and need for the project. This may help clarify the project termini. This decision will also have to be made before any environmental document can be processed.

Other information about the termini included the fact that there is now another project scheduled in the SYP for a 1.5 mile section for design for the reconstruction of the road to Harvieland Road. The schedule is for design in 2008 (Item No. 5-374.00, \$650,000 Federal funds).

- f) Benefits of the proposed project - The benefits that were discussed for the road were: improved safety, improved geometrics, and reduced maintenance costs. Also discussed at this point was the question of whether a benefit/cost analysis for this study would include the benefit of crash reduction if a new roadway were built.
- g) Develop Goals and Objectives - Two goals were agreed upon for this project. The first goal was to improve safety along the route. The second goal was to eliminate geometric deficiencies to improve safety and reduce maintenance. When addressing the second goal, further questions were raised concerning future cost of maintenance along the route if the road is not improved.

3. Probable Design Criteria

- a) Functional Class - US 421 along the corridor in question is classified as a Rural Minor Arterial.
- b) ATD/DHV - The ADT was discussed earlier and ranges from approximately 4500 to 1800 decreasing as one travels northward.
- c) Design Speed - A design speed of 55mph was suggested. This is also the current posted speed limit along the corridor.
- d) Typical Section – For purposes of the study it will be assumed that the road will be constructed as a Super Two (two 12-foot lanes with 12 foot shoulders).
- e) Other Criteria – Due to the possibility of steep grades, there could be the need for truck climbing lanes. This issue will be investigated briefly as part of the study.

4. Agency Coordination Needs

In addition to those agencies in Franklin County that will be contacted normally, the county judge executive from Henry County will be contacted and then included in the agency coordination mailing list. All utilities involved will also be added to the list.

5. Public Involvement Needs

No public meetings are anticipated during this phase of the project.

6. Documentation/Reports

The project team did not know of any prior reports on the project.

District 5 will be assisting with the cost estimates if needed, taking into consideration the contingency factors to the costs.

Meeting Minutes
Franklin County Item No. 5-8109.00
US 421-Franklin County-Bald Knob Programming Study
Second Project Team Meeting – 10:00 a.m. E.S.T. on June 15, 2010

A second project team meeting for the US 421(Franklin County-Bald Knob) Programming Study was held in the Transportation Cabinet Office Building, Room 503 on June 15, 2010. The meeting began at 10:00 a.m. and ended at 12:30 p.m. The following people attended the meeting:

Brian Meade – District 5 Project Development
Dane Blackburn – District 5 Planning
Keith Damron – Central Office Planning
Steve Ross – Central Office Planning
Jill Asher – Central Office Planning
Tonya Higdon – Central Office Planning

After introductions were made, Tonya Higdon began the meeting by explaining that the most recent project team meeting for this US 421 study was been held in 2005, and that the purpose of the current meeting was to update everyone on the history of this project and to determine the future course for this study. The following items were discussed:

- The first project team meeting was held on January 20, 2005 and was followed with a first local officials meeting on April 1, 2005. Of those in attendance at either meeting, none of the KYTC staff are in the positions originally identified at that time and the many are retired. Julian Carroll still holds the position of State Senator representing Anderson, Franklin and Woodford Counties. Derrick Graham is the State Representative for District 57, which includes the portion of Franklin County containing this study area. The local government officials that attended the last meeting have since been replaced.
- Due in part to retirements and promotions, this study has since been handed down through several individuals before Tonya received in late March of 2010.
- Upon review of the draft report, no recommendations were identified. Tonya and fellow Division of Planning staff then performed a field visit and took photos to gain a greater understanding of the project in question.
- During this field visit, some maintenance issues were raised and brought to the attention of Chris Poe who is the Branch Manager of Project Development and Preservation for this area of District 5. Brian Meade then noted that he would check with Chris on the status of this request.

- A revised draft of this report was developed after the field visit to include a new section on additional information with added photographs and initial project recommendations. This draft was then presented to Tom Hall, Brian and Division of Planning staff in attendance for their review a few weeks prior to this meeting.
- The subject of a new item in the 2010 Highway Plan was then noted as being a part of this study area. This project is item number is 05-0374 and described in the Highway Plan as “Frankfort-Newcastle; Reconstruct US-421 from top of Bald Knob Hill at end of reconstructed section to Harvieland Road.” This project was identified to have SP funds with \$680,000 for design, \$ 2,810,000 for right of way, \$1,240,000 for utilities but no construction phase dollars were identified.
- Tonya proceeded to go over this draft report with all meeting attendees and discuss project specific information including describing the study area and areas of concern along this corridor. The major goal of this project is to improve sight distance along this route with particular attention being paid to the intersections of other routes with US 421 as several of these locations have high critical rate factors.
- The intersection of US 421 and KY 12 at mile point 11.132 was initially discussed. At this location, sight distance and access management were considered the main concerns. The recommendation for this location was to lay back the slope of the large earthen bank that can obstruct a motorist’s view from the east leg of the intersection with KY 12. Access management control could be addressed through defining the entrance to the convenient store and delineating between the roadway and their parking areas.
- The “Y” intersection of US 421 and KY 1665 at mile point 8.957 was reviewed next. Topographic and environmental concerns were the main limitations at this location as a stream branched just west of this intersection and multiple shoring efforts have been put into place to stabilize a portion of KY 1665. The Critical Rate Factor at this location was 3.18. Long term improvements at this location would involve addressing the “Y” intersection and the steep grades of the KY 1665 approach. A significant amount of earthwork would be required on either direction of the current US 421 alignment. However, by re-aligning US 421 eastward towards the hillside, environmental factors are more likely minimized at this location. This would also provide the KY 1665 approach to this intersection to become aligned near or at the same elevation with US 421. Other alternative routes may need to be considered at this location.
- The adjacent intersections of US 421 with KY 1570 and Snow Hill Road between mile points 6.500-6.750 were then considered. There is also has a high critical rate factor along this segment of roadway. This location has a similar concern with sight distance that could be improved by cutting back an earthen embankment located between KY 1570 and Snow Hill Road along the west side of US 421. Utilities should be considered for relocation as well. Extending the turn radius from US 421 (North leg) onto KY 1570 (West leg) is also a warranted improvement. Snow Hill Road has the added issue of a steep grade when approaching the intersection with US

421. The study recommended further review of the most appropriate connection of Snow Hill Road to US 421 during Phase 1 Design. Since Snow Hill Road is on a steep grade, the approach with the least variation to the intersection with US 421 would be preferred. An environmental review should be performed in concert with this design review to identify the overall best location for a new tie-in or revised tie-in to US 421.

- Another area of concern was recognized between mile points 10.600 to 10.700 as this location had a high critical rate factor. This is the only straight and open segment on the north side of the study area route where passing is permitted. Upon review of the crash data previously collected from the state police collision database, no one particular type of crash was most frequent in occurrence at this location. As such, no specific cause could be identified.
- When comparing the current conditions of this project area with that originally identified back in 2005, rock slides no longer appear to be an issue. No indication of further damage to roadway was apparent after repaving occurred throughout this study area later that year in 2005.
- Further discussion by the attendees of previous and current conditions of the study lead to the conclusion by Brian that this study should be published “As Is”. References should be made throughout the study to any updates from the current draft. This will help identify different dates for any further data collected and/or analyzed.
- More recent crash data shall be collected at those spots and segments originally identified to have high Critical Rate Factors for comparison purposes.
- Actual crash reports will be pulled at these locations. Keith Damron and Steve Ross are looking into getting passwords for the corridor team members.
- The most important part of this study is to make sure that project goals get addressed.
- A “First Look Study” for the new project identified will be performed.
- Brian will ask Jason H. to look into potential Highways Safety Improvement Projects (HSIP) during a road audit. He considers this study helpful with that process.
- The district will be responsible for providing preliminary cost estimates on any programmable project identified in this study.
- The project schedule was then discussed before beginning the field visit. Tonya will develop and distribute meeting minutes. This project will then move forward with another Project Team Meeting to include district representatives from various divisions as they pertain to potential programmable projects. Eventually, another local officials meeting should be held to discuss the findings of the study.

Meeting Minutes
Franklin County Item No. 5-0374.00
US 421-Frankfort-Newcastle Pre-design Scoping Study
First Project Team Meeting &
Franklin County Item No. 5-8109.00
US 421-Franklin County-Bald Knob Programming Study
Third Project Team Meeting – 10:00 a.m. E.S.T. on July 30, 2010

The third project team meeting for the US 421(Franklin County-Bald Knob) Programming Study and first project team meeting for US 421 Pre-design Scoping Study was held in the Transportation Cabinet Office Building, Room 512 on July 30, 2010. The meeting began at 10:00 a.m. and ended at 12:45 p.m. The following people attended the meeting:

Brian Meade – District 5 Project Development
Cathy Cornish – District 5 Utilities
Dane Blackburn – District 5 Planning
Greg Garner – District 5 Project Delivery & Preservation
Robert (Bob) Farley – Central Office Design
Ron Matar – Central Office Design Drainage
Tala Quinio – District 5 Design
Tom Hall – District 5 Planning
Keith Damron – Central Office Planning
Steve Ross – Central Office Planning
Jill Asher – Central Office Planning
Sreenu Gutti – Central Office Planning
Tonya Higdon – Central Office Planning

Tonya Higdon began the meeting by thanking everyone for taking the time to attend. She noted this meeting would serve a dual purpose as both the 3rd Project Team Meeting for the Programming Study and as the 1st Project Team Meeting of the Pre-design Scoping Study for the project Identified in the 2010-2012 Kentucky Highway Plan under Item # 05-0374.00. The reason both are being combined in this meeting is due to Item # 05-374.00, forthwith known as the “New Project”, being within the study termini of this US-421 Programming Study.

After introductions were made, the purpose of a Pre-design Scoping Study was explained by Tonya to those in attendance. This study follows the Federal Highway Administration (FHWA) Nine elements towards developing a purpose and need statement. These elements are intended to be a guide and are usually not all inclusive. The information collected through the review of these nine steps will help us also identify alternatives and all are welcome at this stage. Keith Damron noted that representative cost estimates would also be needed from District-5 to provide more accurate information on these studies. Keith further stated that this would even apply to those projects with SP funds and that districts should put together a plan on which studies to do next. Brian Meade followed by asking if the districts need to request design funds to do the pre-design

US 421- Franklin Co.– Bald Knob Programming Study-3rd P.T. Meeting Min. Item # 05-8109.00&
US 421-Franklin Co.-Newcastle-Pre-design Scoping Study-1st P.T. Meeting Min. Item # 05-0374.00
July 30, 2010

scoping studies. Keith replied, Yes, further stating the request should be somewhere between \$5,000-\$10,000, unless a forecast is needed. Modeling can be done in the beginning or later. Central Office Planning will work with the districts and the districts will request that Central Office Planning send in the final request to for authorization.

Tonya continued by discussing the current Legislation for the new project to consist of SP funds and stated there is no date or dollar amount defined for construction of this project. Tom Hall then asked, “Where did the Legislation cost estimates come from?” No one was sure and Tom noted it was likely from him at a per mile cost. Keith asked if a Project Identification Form (PIF) had been created for this project. Tonya noted she had looked a while back with no luck. She will check again to see if the estimate came from the PIF and if a construction cost was assigned.

Due to the majority of the current project team being unfamiliar with either project, the meeting continued with the history of the US-421 Programming Study, under Item # 05-8109.00 as well as its connection to Item # 05-0374.00. The progression of both projects was discussed as follows:

- The US-421 Programming Study under Item # 05-8109.00 was identified under the 2002 Kentucky Six-year Highway Plan (FY 2003-2008) and will be known as the “Original Project or Programming Study” throughout the remaining presentation.
- The 1st Project Team Meeting and 1st Local Officials Meeting took place in 2005. Of those in attendance at either meeting, none of the KYTC staff are in the positions originally identified at that time and many are retired. Julian Carroll still holds the position of State Senator representing Anderson, Franklin and Woodford Counties. Derrick Graham is the State Representative for District 57, which includes the portion of Franklin County containing this study area. The local government officials that attended the last meeting have since been replaced.
- Due in part to retirements and promotions, this study has since been reassigned through several project managers before the current Corridor Team received it in late March of 2010.
- The draft report provided no recommendations.
- During a field visit, some maintenance issues were raised and brought to the attention of Brian and Chris Poe, who is the Branch Manager of Project Development and Preservation for District 5. As requested, Brian and Chris both followed up with these requests and it appears that all five locations of interest are being addressed in some form or fashion.
- A revised draft of this report was developed after the field visit to include a new section on additional information and project recommendations.

- The General Assembly approved the 2010-2012 Kentucky Highway Plan in May of 2010 and included Item # 05-0374.00. This project is within the original programming study and runs from the southernmost termini of both projects at MP 5.390 to MP 7.309 at Harvieland Road. Tonya noted that MP 5.390 is the end point of the last improvements to this portion of US-421.
- The 2nd Project Team Meeting for the US-421 Programming Study was held in June 2010 for the purpose of determining the future course of this study and how to proceed with the new project. This meeting concluded that the draft study should remain “As Is” with any references to further data collected and/or analyzed being incorporated into the draft report. Item # 05-0374.00 should have a “1st Look/Pre-design Scoping” Study completed.
- The new project has yet to have design funds authorized and the design year is scheduled for 2010.
- Tonya proceeded to go over the Original Project’s draft report with all meeting attendees and discuss project specific information including describing the study area and areas of concern along this corridor including those locations with high Critical Rate Factors (CRF). The major goal of this project, as identified in the 2nd Project Team Meeting, was to reduce crashes along the corridor by improving sight distance along this route. Particular attention should be paid to the intersections of other routes with US-421 as several are within high CRF areas and have geometric deficiencies. Draft recommendations for four particular intersections with US-421 were discussed to include: Snow Hill Road, KY 1570, KY 1665 and KY 12. Tonya requested any further insight from the group on these locations. The project team noted that they did not want to address any area that did not indicate a problem either through public involvement or collisions.

The focus of the presentation was then redirected to primarily address the new project identified by Item # 05-0374.00 with the remainder of the presentation focusing primarily around the remaining nine points to be addressed in developing a purpose and need statement.

- System linkage was reviewed and Tom inquired if the project area was in the urban boundary of Frankfort as it will impact the design? Tonya did not think so but will double check.
- Roadway classifications were discussed with the higher identified truck percentage coming from the HPMS database.
- Modal relationships were also examined and Tom wondered if the Bluegrass Area Development District (BGADD) should attend these meetings. Jill Asher noted that all Area Development Districts (ADD) are on our future lists but this meeting had already been scheduled before the ADDs were incorporated into Pre-Design Scoping Meetings.
- Social demands and economic development were considered.

- Traffic demands, roadway deficiencies and crash data were discussed through the remaining presentation in three separate sections. These sections were broken out due to the need to cover current data for both the Original and New Projects, associated change in Average Daily Traffic (ADT) at each Section as well as to improve the overall level of detail in each slide image.
- Traffic demands may have dropped since Bob Farley pointed out that the Bald Knob School is no longer apart of the project area on KY12. The school closed in 2004, which was after the US-421 Programming Study was originally requested as part of the 2002 Kentucky Highway Plan.
- During the Roadway Deficiencies review, it was noted that all sections did not meet current design standards and that the geometrics of the roadway was a significant issue. However, the two bridges/concrete culverts located in Section 2 had high sufficiency rating.
- Capacity was identified through volume to service flow ratio (VSF), Adequacy Rating and Future ADTs for each section. All sections were found to have a low VSF of 0.25 but with an Adequacy rating of 10.04%,
- Environmental Considerations were discussed from MP 5.390 to MP 11.132 at KY 12 to include two locations for possible Underground Storage Tanks (UST) at MP 6.740 and MP 11.100. The project team inquired if an Environmental Overview had been performed? An Environmental Footprint was provided for this meeting. Keith noted that he will be sending out an example environmental study needed to each District Environmental Coordinator.
- Safety was the next element of the purpose and need statement presented. The new crash data being utilized was from the time frame of January 1, 2007 through December 31, 2009. Crash locations were discussed for each of the three separate sections of the corridor to include manner of collision and type of collision. Mapping was provided to show individual crash areas and locations of high CRFs along the corridor.
- Utilities were also reviewed throughout each of the three corridor sections previously defined. Water lines and meters, overhead electric lines and power poles including telephone and cable were identified throughout all three sections. An electric transmission line was also shown in the database crossing US-421 near MP 6.990. Tonya then asked Cathy if she could get a copy of all the utility names in the study area as well as a contact person and associated telephone number for each. Cathy agreed and asked Tonya to send her a PDF copy of the utility maps via email to give to the utility companies.

After each section was reviewed individually, the project team reviewed photos and video footage of driving each section from both a northbound and southbound perspective. Upon completion of the video on each section, possible options for that particular section were discussed. These options were initially presented as follows to start discussion for all of the sections:

Section ()

- A. No Build-Wait and see what happens under current conditions
- B. Improve roadway to current design standards
- C. Improve roadway at high segment and/or spot CRF areas
- D. Improve the most critical design areas
- E. Other ideas?

Of these options, each section was discussed in greater detail more specifically regarding geometric concerns with the associated intersections along that particular section of roadway as well as noting those specific segments and spots along each section with high CRF.

The project team then brainstormed relative idea. Keith noted the plan calls for reconstruction and asked if we want to look at this? Brian stated that the cost for improvements will be outrageous given the number of hills and cut and fill required. Keith agreed the cost per mile will be high and thought \$6.5-7 Million per mile for construction costs. Keith agreed and said the ROW will also be costly. Bob noted that spot improvements along this route may not be an option as the entire route has geometric deficiencies, and by fixing one area, we may just move the problem on to another location. Keith asked if we should do a Road Audit. Keith and Brian both agreed that the areas of concern could be addressed throughout the project with HSIP money but consideration must be given to the cost/benefit ratio. Brian did not think this project would have previously qualified for HES money to address geometric problems. He thought we should be able to do with state funds only. The New Project is just short of 2 miles and begins from MP 5.390 at end of reconstruction to MP 7.309 at Harvieland Road.

The project team concluded that the study should have the long-term solution be a total reconstruction with some interim solutions. This total reconstruction will likely not follow the current center line due to the large number of curves with geometric deficiencies. Keith asked to consider reconstruction for both a new alignment and that following the centerline of the roadway as much as possible. Keith and Bob agreed that the reconstruction should be implemented in sections with cost estimates for each of the sections (i.e. Phase I cost separate from Phase II costs).

The project team noted if spot improvements are considered as part of the interim solutions, they should probably be associated with problem intersections. These intersections are more specific to each of the three sections. Also, the project team looked into providing other practical solutions in an attempt to improve safety until an adequate amount of dollars can be provided. The project team agreed that the “Y” intersection with KY 1665 is an issue with significant geometric concerns. Keith asked Greg Garner to check with Jon Wilcoxson to see where this portion of US-421 was on the

Pavement Rehabilitation List. Brian noted that he could find out. Jill offered to check her most recent list as well. Brian considered most spot improvements to be maintenance related and a systematic approach would be needed for the future. The short-term maintenance solutions would include consideration for the following:

- Rumble strips,
- Lay back slopes,
- Delineator posts,
- Clearing trees,
- Raised pavement markers, and
- Tire grip.

Due to geometric limitations, rumble strips may not be doable as the roadway is not wide enough to include and raised pavement markers are no longer allowed on 2 lane roads. It was also mentioned that tire grip may no longer be allowed.

The final options for this project are summarized as follows:

- A. No Build
- B. Improve roadway through practical solutions following the centerline of the roadway
- C. Improve roadway through reconstruction to current design standards with preliminary line and grade but will divide up into sections
- D. Improve roadway through intersection and spot improvements, which may require phasing

Once all three sections of the roadway were reviewed individually, the meeting preceded with a summary review of the Original Project termini verses the New Project termini. The Purpose and Need Checklist was discussed once again as an essential aspect in developing a Purpose and Need Statement for the New Project. The draft Purpose and Need Statement was then presented to the project team for review and discussion.

The draft Purpose and Need Statement was provided as follows:

“US-421 provides a direct connection from the Milton-Madison Bridge and Interstate 71 to the City of Frankfort. Existing conditions need improvement to enhance safety and mobility for the purpose of reducing crashes along this corridor. These improvements should accommodate social demands for retail and recreational opportunities.”

The revised Purpose and Need Statement was concluded as follows:

“Existing conditions along US-421 need improvement to address geometric deficiencies and safety concerns for the purpose of reducing crashes along this corridor. These improvements should also enhance interregional mobility and economic development with US-421 being a direct connection from the Milton-Madison Bridge and Interstate 71 to the City of Frankfort.”

Upon completion of the Purpose and Need Statement, Tonya noted she will review notes from this meeting and provide minutes to all who attended as well as the maps requested by Cathy.

The project team then proceeded to gather for a field visit along US-421 to help the team members become more familiar with the site and more clearly understand the concerns along this corridor.

APPENDIX E

Local Officials Meeting Minutes

US 421 Programming Study, Item No. 5-8109.00

1:00 p.m. EST, April 1st, 2005

A Local Officials meeting for the US 421 (Franklin County) Programming Study was held in the Capitol Annex, 4th Floor Conference Room on April 1st, 2005. Those attending the meeting were as follows:

Julian Carroll	State Senator – District 7
Derrick Graham	State Representative – District 57
Bob Roach	Franklin County Judge Executive
Howard Dawson	Franklin County Fiscal Court
Lambert Moore	Franklin County Fiscal Court
Jewel Johnson	Representative Graham - LRC
Jim Wilson	KYTC – Planning
David Martin	KYTC – Planning
Joe Tucker	KYTC – Planning

David Martin began the meeting stating the purpose of the meeting was to receive feedback and local direction in the development of the programming study. This study will look at the segment of US 421 (Bald Knob Road) in Franklin County from the terminus of the new construction to KY 12 (Flat Creek Road).

Representative Graham noted that the road needed to be expanded to improve driving conditions for those travelling the road. The road users are mainly comprised of commuters and state employees. It was also noted that road improvements may add some economic development opportunities along the corridor. Rep. Graham described it as the most substandard arterial and weakest link coming into Frankfort. Complete reconstruction of this segment was emphasized by the local officials as the option that would be best for resolving the issues along this segment.

Meeting minutes from the Initial Project Team Meeting on January 20th, 2005 were handed out to all attendees.

The project was further discussed as outlined on the attached agenda with the observations and conclusions as noted.

2. Project Issues, Goals and Objectives

- a. **Project Issues and Purpose** - Issues identified were the current substandard conditions of the roadway; curves, mainly horizontal; sight distance at various intersections; rockslides and continuous maintenance; flooding and drainage problems; culverts washing out along with the creek washing out the roadway, and overall stability problems from the hilly terrain. The main purpose for this project was indicated to be safety related for those travelling the road and to construct an improved roadway into the city of Frankfort from the northern part of the county and adjacent northern counties.
- b. **Project Goals** - Goals for the project were noted as safety and reduced maintenance and associated costs. More discussion on this will develop as the study progresses. A brief discussion was given on the road building phases and timetables to inform the officials on the transportation road building process.
- c. **Logical Termini** - In the long range, US 421 should be evaluated to the north into Henry County. This study, however, would end at KY 12 and local efforts should continue to see that further phases are prioritized for inclusion into the Six-Year Plan (6YP). KY 12 is the logical terminus for this project as outlined in the current 6YP. This study will develop phase costs and priorities for sections that can be improved.

It was noted that another project, Item No. 5-374.00, overlays this study from the end of new construction, MP 5.809, to Harvieland Road, MP 7.309. This project is federally funded for design in FY 2007. The monies allocated for this phase are \$650,000.

Senator Carroll provided the attendees a pending 6YP to review the project status and associated costs. Additional monies would be required for Phase I Design and Environmental for the entire section to KY 12. This information will be provided to Senator Carroll and Rep. Graham.

Mr. Moore inquired about the status of a slide repair project on KY 1005 in Franklin County. The Division of Planning will look into this and respond to Mr. Moore.

- d. **Project Area** - Discussion was held concerning the project area as currently described and if the area should be expanded. With a new alignment being proposed, the Environmental Overview would need to encompass a larger area to include various corridor options. The Division of Planning will conduct another windshield survey to review the area. Environmental concerns will be prevalent with the existing roadway following the creek bed.

It was explained that a proposed highway configuration could be two 12-foot lanes with full 10 to 12 foot shoulders and a possible truck/passing lane where needed and feasible.

- e. **Project Benefits** - Numerous benefits were mentioned in the progression of this highway project. Those included safety improvements and possible reduction in the number of crashes, a quicker and safer route for commuters and other traffic from the north to get into Frankfort, and to promote economic development. This project is envisioned to resemble the US 127 reconstruction towards Owenton and spur similar development.
- f. **Prior Reports** - The Division of Planning has no record of any other planning studies done on this segment of road. However, the plans for the new section already constructed showed the reconstruction to the top of the hill and approximately only half of the hill portion was constructed. KYTC will check on the old plans and resolve this issue.
- g. **Roadway Conditions**

- i) **Traffic Data** - David Martin handed out a packet of exhibits with a fact sheet showing the current roadway conditions. This data shows a steady decline in the amount of traffic travelling north toward Henry County. There is an average daily traffic (ADT) of approximately 4500 vehicles per day near the start of the project, and the ADT drops to approximately 1800 at the end of the project. It was also mentioned at the meeting that using HIS data the ADT along the same route drops to approximately 800 in southern Henry County beyond the KY 12 intersection. This indicates that the majority of the traffic turns east or west going towards Baghdad and/or Shelbyville.

The Level of Service (LOS) was also discussed at the meeting. It was noted that current LOS along the entire corridor is D. Also noted was the LOS was not projected to change through 2030 along any segment of the route. This LOS is most likely attributed to “percent time following” and not volume, which is indicative of the curvy sections of roadway.

Concerning truck traffic along the road, there was no truck percentage data found in HIS. There was discussion that trucks are probably traveling on KY 55 instead, because it has been improved recently. Numerous officials indicated that a truck lane would be very beneficial at various locations for ease of flow.

- ii) **Crash Data** - Crash data was discussed in terms of segment crash analysis and spot crash analysis. The Vehicle Crash Information, Exhibit 4, showed that the majority of the route had a Critical Rate Factor higher than 1.0 in the segment analysis. Two places were also noted where the critical rate in the spot crash analysis was greater than 1.0. One thing that was brought to the group's attention was the prevalence of wet road conditions at the majority of these accidents. Also noted were the absence of fatalities and the low number of accidents involving injuries and multiple vehicles. Mr. Moore indicated that there was a fatality on US 421 north of KY 12 a few years ago near Lebanon Ridge Road.
- iii) **Other** - Two sets of handouts of pictures of the corridor were made available to show the geometry of the corridor in question. There were discussions about the various intersections and past flooding problems that have impacted the roadway. The road contains multiple curves, both horizontal and vertical, that do not meet the current geometric guidelines of the AASHTO Green Book.

Rep. Graham indicated that the Bald Knob Elementary School is no longer operating and presently vacant. School traffic, mainly buses, is a major issue because of the long bus ride and dangerous road. It was thought that more buses travel US 421 now since the Bald Knob Elementary School is closed and those students now attend Westridge Elementary School.

- h. **Additional Information** - The issue of maintenance was also a big concern. There was common knowledge of the large flood that affected much of the low-lying areas along this route in August of 2003. KYTC Division of Maintenance has previously stated that there have been numerous problems with maintenance along the roadway. Specific problem locations along the road include the intersection with KY 1665, where there is a known slip problem just north of this intersection. There were several cross drains, along the entire route, that are in bad condition because they are separating and filling up.

It was noted that there have been several improvements to the road and that two of these were at bridge locations possibly as long as 25 years ago.

It was mentioned that existing businesses would not like a relocated roadway if it moves the traffic away from their businesses.

3. Agency Coordination

In addition to those agencies in Franklin County that will be contacted normally, the Henry County Judge Executive and other officials (including the senator and

representative in that area) will be included in the agency coordination mailing list for their comments and input. Additionally, all utilities impacted will also be added to the list. Mr. Dawson indicated there are not many utilities along the roadway except for a 4-inch water line and that no gas lines are present. It was also mentioned that there are several cell towers and a radio station tower located along the ridge.

4. Public Involvement

No public meetings are anticipated during this phase of the project. However, there will be a public meeting(s) if this project moves into the design phase. This will provide ample opportunity for the public to provide their input and comments on this project.

5. Documentation / Reports

The Division of Planning did not know of any prior reports on the project. However, there was mention from local officials of an old study and KYTC will review their files.

6. Follow Up Actions

- The Division of Planning will provide to Senator Julian Carroll the amount of funds required for Phase I Design and Environmental for the entire project segment.
- The Division of Planning will check on the status of the rockslide project, Item No. 5-5009.00, on KY 1005 and respond back to Mr. Lambert Moore.