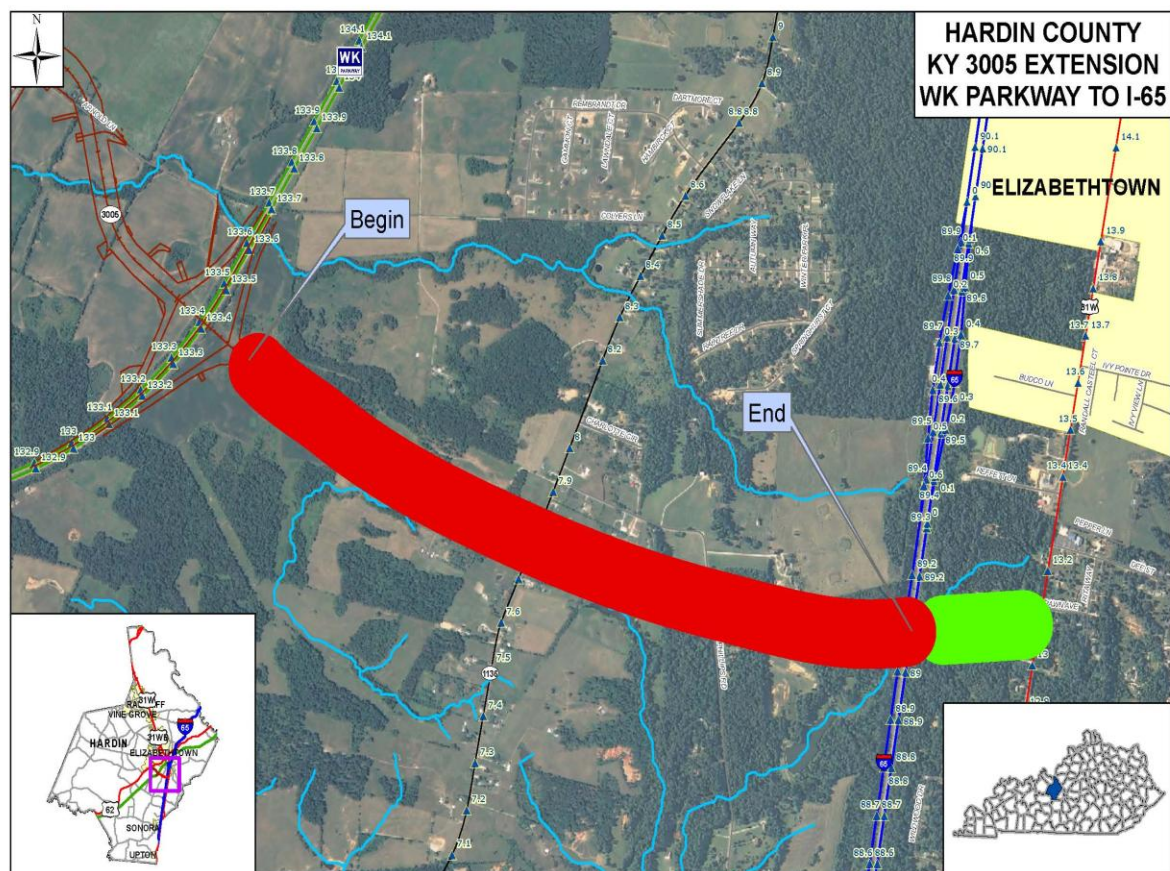
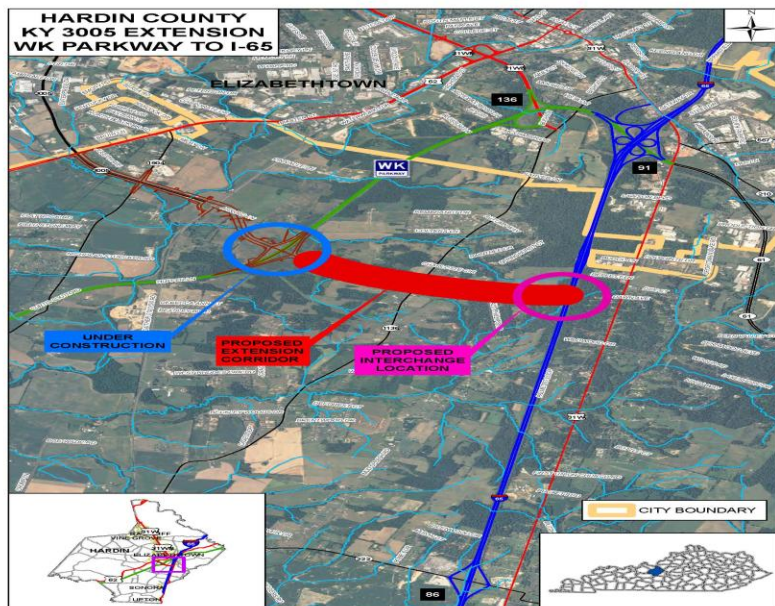


# Data Needs Analysis



## Scoping Study



KY 3005, Hardin County  
From WK Parkway to I-65  
Item No. 4-198.00

Prepared by KYTC  
District 4-Charlie Allen

June 2012



## I. PRELIMINARY PROJECT INFORMATION

County: Hardin Item No.: 4-198.00  
Route Number(s): KY 3005 Road Name: Ring Road  
Program No.: UPN: (Function) 47 3005 (MPs)  
Federal Project No.: Type of Work: PE & Environmental

2012 Highway Plan Project Description:

PRELIMINARY ENGINEERING FOR THE EXTENSION OF RING ROAD FROM THE WESTERN KENTUCKY PARKWAY TO I-65.

Beginning MP: Ending MP: Project Length: 2 miles

Functional Class.: ☒ Urban ☐ Rural  
Arterial  
MPO Area: Radcliff/E-town  
In TIP: ☒ Yes ☐ No  
ADT (current): N/A  
Access Control: ☐ None ☐ Permit ☐ Fully Controlled ☒ Partial Spacing:  
Median Type: ☐ Undivided ☒ Divided (Type): 28' depressed  
Existing Bike Accommodations: Shoulder Ped: ☐ Sidewalk  
Posted Speed: ☐ 35 mph ☐ 45 mph ☐ 55 mph ☐ Other (Specify):  
KYTC Guidelines Preliminarily Based on : 70 MPH Proposed Design Speed

State Class.: ☒ Primary ☐ Secondary  
Route is on: ☐ NHS ☐ NN ☐ Ext Wt  
Truck Class.: AAA  
% Trucks: 6.7  
Terrain: Rolling

### COMMON GEOMETRIC

Roadway Data:	EXISTING	PRACTICES*
No. of Lanes	4	4
Lane Width	12	12
Shoulder Width	10' left, 6' right	match
Max. Superelevation**	Field Measure	8%
Minimum Radius**	Field Measure	600
Maximum Grade	Field Measure	6%
Minimum Sight Dist.	Field Measure	495
Sidewalk Width(urban)	4'	5'
Clear-zone***	Field Measure	

[Existing Rdwy. Plans available?](#)

☐ Yes ☒ No

Year of Plans: new

☐ [Traffic Forecast Requested](#)

Date Requested:

☐ Mapping/Survey Requested

Date Requested:

Type:

Project Notes/Design Exceptions?:

\*Based on proposed Design Speed, \*\*AASHTO's A Policy on Geometric Design of Highways and Streets, \*\*\*AASHTO's Roadside Design Guide

Bridge No.\*: (Bridge #1) (Bridge #2)

Sufficiency Rating

Total Length

Width, curb to curb

Span Lengths

Year Built

Posted Weight Limit

Structurally Deficient?

Functionally Obsolete?

[Existing Geotech data available?](#)

☐ Yes ☒ No

\*If more than two bridges are located on the project, include additions sheets.

## II. PROJECT PURPOSE AND NEED

### A. Legislation

The following funding was listed in the 2012 General Assembly's Enacted Highway Plan.

<i>Funding</i>	<i>Phase</i>	<i>Year</i>	<i>Amount</i>
SPP	DN	2014	\$1,500,000

### B. Project Status

Design funds for this project have been requested. There is currently a construction project to build Ring Road from Gaither Station Road to the WK Parkway (Item 4-7010.50) in the amount of \$13,123,215.06.

### C. System Linkage

This section of Ring Road (KY 3005) will continue the previous segment and provide a direct southern access point to I-65 therefore connecting the WK Parkway, the Industrial Park area along the south end of Ring Road and the western portion of US 62. This project could be extended further to US 31w and provide an alternate route during road closures.

### D. Modal Interrelationships

This section is not included in any published bike routes. There are no railroad, transit, riverport or freight networks associated with this new section.

### E. Social Demands & Economic Development

Major traffic generators in the area include the Elizabethtown Sports Park off of West Park Road that will open in 2012. The main entrance to this park will be at the Ring Road/West Park approach. Other generators include multiple factories along Ring and US 62. Central Hardin High School is also located just east on US 62. Other development areas are available along this corridor including an Industrial Park expansion that will have access to US 62 just west of Ring Road. Hardin County Planning shared their Economic, Zoning, and Housing Analysis and is available on the Division of Plannings website.

### F. Transportation Demand

The last actual traffic count for the section of Ring Road south of St. Johns road was in 9589 in 2010. The traffic has only increase slightly since 2004 when the count was 9420.

## II. PROJECT PURPOSE AND NEED (cont.)

### G. Capacity

There are not any significant congestion issues on the portion of Ring Road south of St. Johns. The VSF is very low at around 0.25. A traffic forecast will be required for this portion of roadway. None of the adjacent roadways have capacity issues currently.

### H. Safety

The CRF for the section of Ring Road south of St. Johns road is around 1.643. The majority of the accidents were at the intersections with US 62, St. Johns Road and Peterson Drive. Other adjacent routes with high CRF include US 62 from KY 3005 (MP 14.580) to Corporate Drive (MP 15.561) with a factor of 0.988. I-65 has a high CRF from MP 90.257 to 91.257 with a factor of 1.558.

### I. Roadway Deficiencies

This is a new route so the primary focus will be to determine number of lanes, access restrictions, shoulder widths and other design criteria based on some preliminary modeling. The overall adequacy rating on I-65 and US 31 w in the study area are deficient. The number of lanes on I-65 and the shoulder widths on US 31w are the primary areas of concern.

Consultants shall be required to develop an Interstate Justification Study . The IJS fulfills the requirement by the FHWA that seeks an evaluation of impacts for all new requests for interstate access.

The existing southbound weigh station would have to be relocated and the functional classification of the Interstate would have to be changed to Urban to meet the 1 mile interchange spacing requirement.

### Draft Purpose and Need Statement:

Need: Ring Road (KY 3005) is currently being extended to the WK Parkway. The 1987 Planning Study recommended this roadway be extended on to I-65 and beyond to US 31w. This would complete the final section of this project. Needs include connectivity for freight, mobility, and relief on I-65 during accidents.

Purpose: The purpose of this study is to improve the connectivity and mobility between I-65 and US 31w to the south and east of Elizabethtown and to US 62 and I-65 north of town.

### III. PRELIMINARY ENVIRONMENTAL OVERVIEW

#### A. Air Quality

Project is in: ☒ Attainment area ☐ Nonattainment or Maintenance Area ☐ PM 2.5 County

STIP Pg.#:

TIP Pg.#:

The project will be added to the STIP and TIP when the documents are updated to include

#### B. Archeology/Historic Resources

☒ Known Archeological or Historic Resources are present

The Hagan House and Farm are on the National Register of Historic Places (**Environmental Map located on Division of Plannings website**). It is located North of where the interchange with the WK Parkway crosses. This will be either an EA or a CEIII project and will need a full baseline and effects analysis for historic resources and a Phase I Arch survey on the preferred alignment.

#### C. Threatened and Endangered Species

There is suitable forested habitat available within the project area. A Biological Baseline and Assessment will be required. Impacts can be mitigated through a Conservation MOA.

#### D. Hazardous Materials

☐ Potentially Contaminated Sites are present ☐ Potential Bridge or Structure Demolition

The area is mostly agricultural and residential. No Hazardous Materials are expected on this project.

#### E. Permitting

Check all that may apply: ☒ Waters of the US ☐ MS4 area ☐ Floodplain Impacts ☐ Navigable Waters of the US Impacts

Are 401/404 Permits likely to be required? ☒ Yes ☐ No Impacts to: ☐ Wetlands ☒ Stream/Lake/Pond

☐ ACE LON ☒ ACE NW ☐ ACE IP ☐ DOW IWQC ☐ Special Use Waters

There is at least one jurisdictional water within the project area. Depending on the impacts this will require a NW14 permit and if impacts are less than 300' can be satisfied with an ACE LON

#### F. Noise

Are existing or planned noise sensitive receptors adjacent to the proposed project? ☒ Yes ☐ No

Is this considered a "Type I Project" according to the [KYTC Noise Analysis and Abatement Policy?](#) ☒ Yes ☐ No

There are numerous residences throughout the project area that could be impacted by additional noise. This is a Type I project because it is new alignment. Noise analysis will be required.

#### G. Socioeconomic

Check all that may apply: ☐ Low Income/Minority Populations affected ☒ Relocations ☐ Local Land Use Plan available

There are likely to be relocations as a part of this project.

#### H. Section 4(f) or 6(f) Resources

The following are present on the project: ☐ Section 4(f) Resources ☐ Section 6(f) Resources

The Hagan House is on the National Register of Historic Places and includes the farm as well.

Anticipated Environmental Document:

CE Level 3



## IV. POSSIBLE ALTERNATIVES

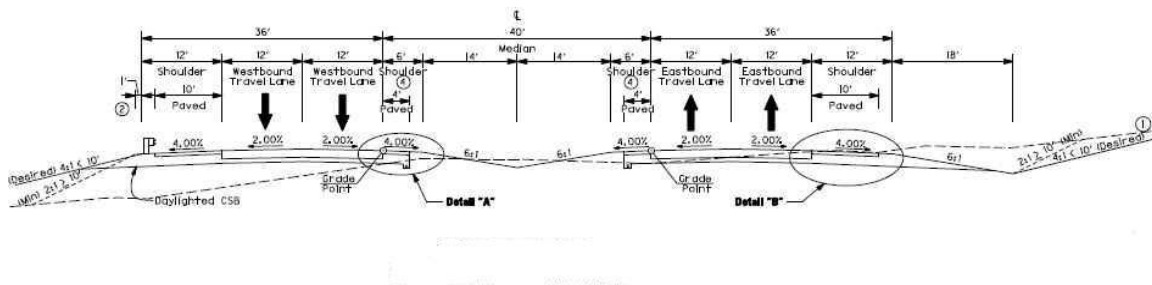
### A. Alternative 1: No Build

This alternative should be carried forward, but does not address the needs identified. The IJS shall address necessary improvements to the existing network, KY 1136 and the WKP @ I-65 interchange.

### B. Alternative 2

4 lane divided highway from WK Parkway to I-65 - 6 to 10 shoulders - New I-65 interchange would be 1.5 miles from the nearest interchange - Truck Weight Station would have to be moved South - At grade crossing of KY 1136 (New Glendale Road) - Match the existing typical section of the adjacent section that is under construction.

## TYPICAL SECTIONS RING ROAD (KY 3005) MAINLINE



### Planning Level Cost Estimate:

A 24" gas main is located just to the east of I-65 near the proposed ramp location. A new 24" water line is currently being installed that will run along Overall-Phillips Road and may require encasement or relocation. See Exhibit #3

Phase	Estimate
Design	\$1,500,000
R/W	\$5,000,000
Utilities	\$1,500,000
Const	\$26,000,000
<b>Total</b>	<b>\$34,000,000</b>

#### IV. POSSIBLE ALTERNATIVES (cont.)

##### B. Alternative #3

Same as Alternate #2 except this project would extend Ring Road onto US 31w which is an additional 1400' approximately.



Planning Level Cost Estimate:

The 24" gas main and 24" water line could be impacted by the extension onto US 31w. See Exhibit #3

Phase	Estimate
Design	\$1,700,000
R/W	\$6,000,000
Utilities	\$1,500,000
Const	\$29,000,000
<b>Total</b>	<b>\$38,200,000</b>

#### V. Summary

This is a Data Needs Analysis (DNA) of a roadway project for the KY 3005 corridor in Hardin County, Item Number 4-198.00. The is a new alignment that will extend Ring Road from the WK Parkway ramp that is currently under construction and create a new interchange at I-65 approximately 1.5 miles south of the nearest interchange. There are several needs identified with this study including 1) Trucks hauling freight would have a more direct access to industrial sites in and around Elizabethtown. 2) Ring Road would connect I-65 to the South of Elizabethtown to I-65 on the North side of town while also connecting major routes just as US 62, US 31w, St. Johns Road, E2RC and KY 251. 3) Provide an alternate route during times of Interstate closures.

Consultants shall be required to develop an Interstate Justification Study . The IJS fulfills the requirement by the FHWA that seeks an evaluation of impacts for all new requests for interstate access.  
The existing southbound weigh station would have to be relocated and the functional classification of the Interstate would need to be changed to urban after the interchange is constructed.

Included in the alternatives were a no build recommendation, a extension to I-65 and an extension to US 31w , Alt #2 and #3 include a new I-65 interchange. Design funds have been programmed.

Alt #	Description	D (\$)(Fund)	R (\$)(Fund)	U (\$)(Fund)	C (\$)(Fund)	Total (\$mil)
1	No Build	-	-	-	-	-
2	Ring Road Extension to I-65	1,500,000	5,000,000	1,500,000	26,000,000	34,000,000
3	Ring Road Extension to US 31w	1,700,000	6,000,000	1,500,000	29,000,000	38,200,000
-	Current Hwy Plan Estimated Cost	1,500,000				
-	Current Pre-Con Estimated Cost					



VI. Tables and Exhibits

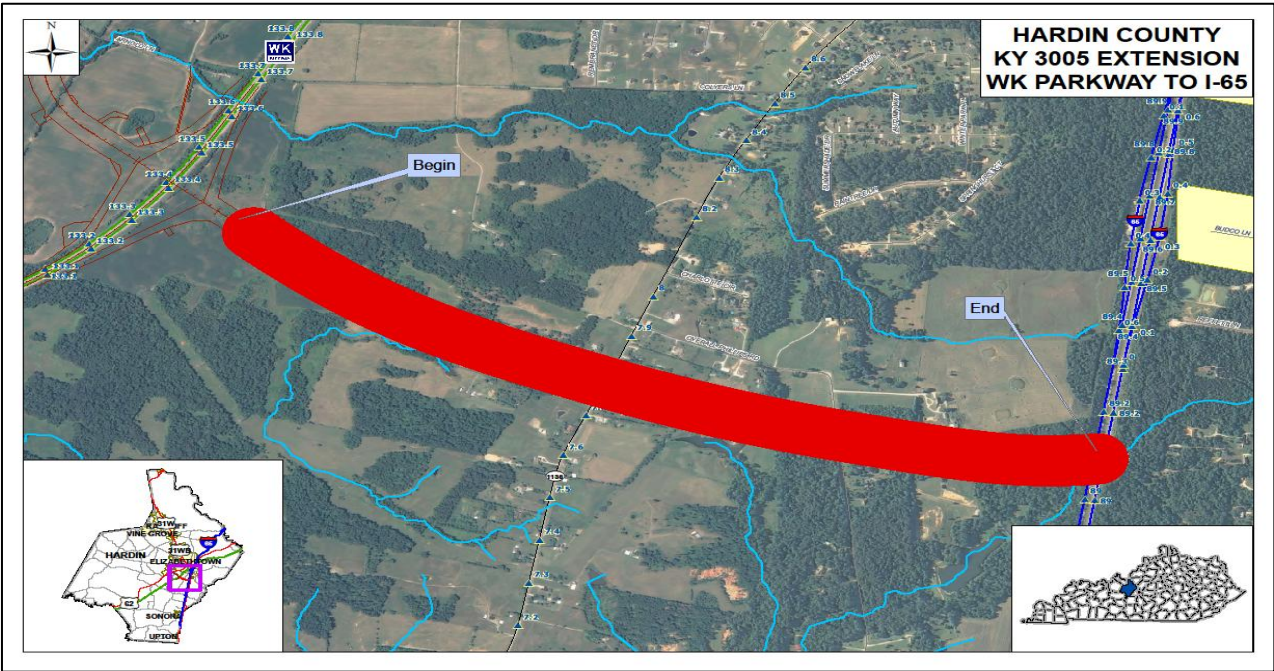


Exhibit 1: Project Location Map

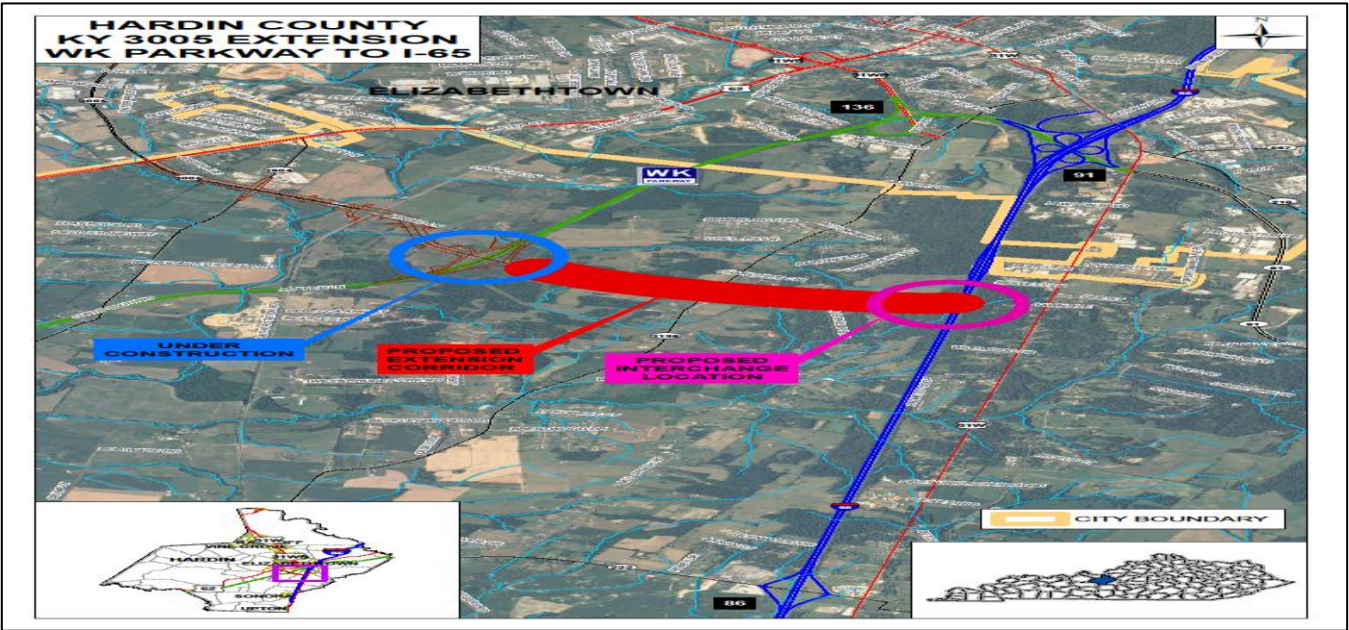


Exhibit 2: IJS Study Area



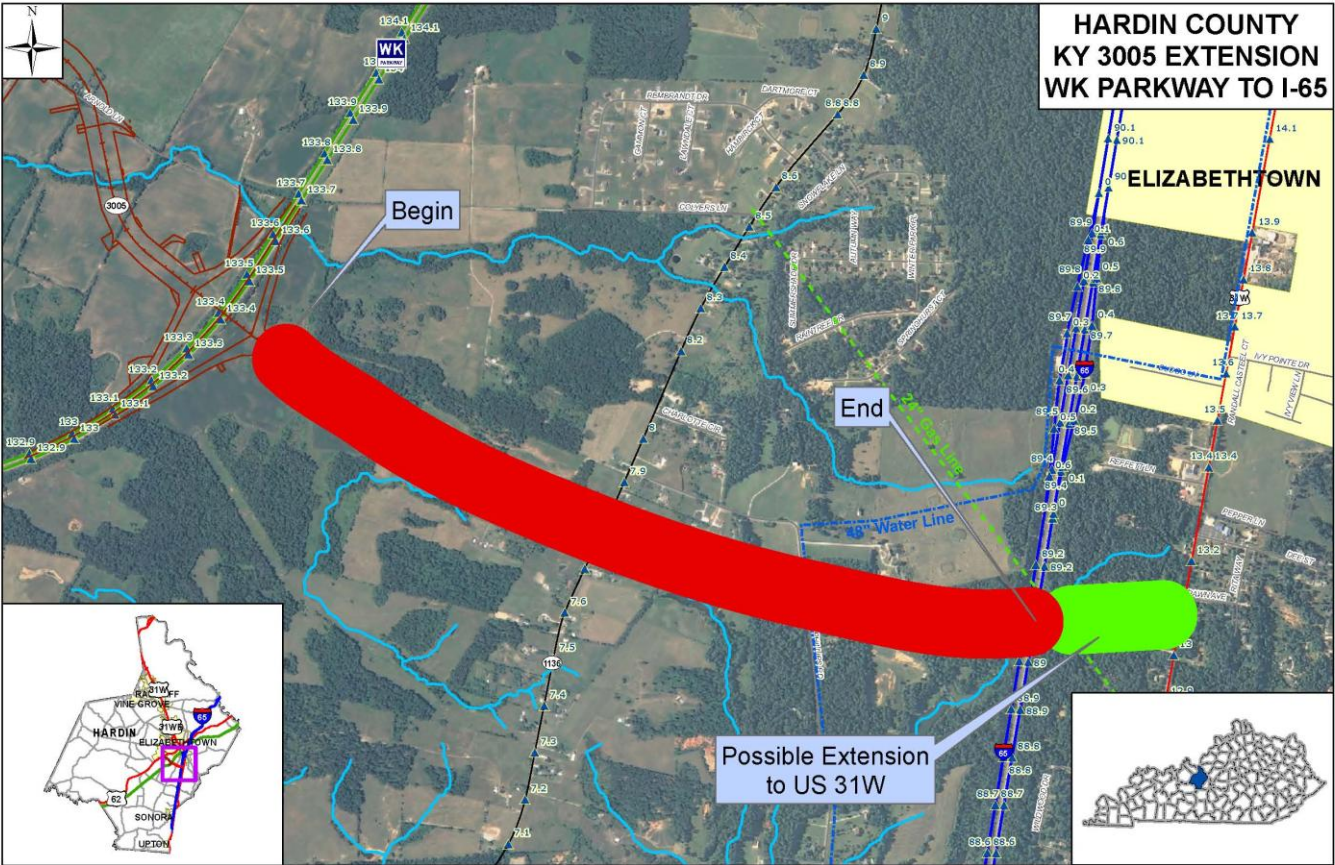


Exhibit 3: Utility Impacts Exhibit