

# Data Needs Analysis



## Scoping Study



KY 70, Hopkins County  
From US 41 to Seminary St  
Item No. 2-8634.00  
Prepared by :  
KYTC District 2 Planning



## I. PRELIMINARY PROJECT INFORMATION

County: Hopkins Item No.: 2-8634.00  
Route Number(s): KY 70 Road Name: Princeton Road  
Program No.: 84869 01D UPN: JL04 054 0070 018 - 019  
Federal Project No.: Type of Work: Major Widening

2012 Highway Plan Project Description:

Widen KY 70 (Princeton Rd) from US 41 to Seminary Street

Beginning MP: 18.412 Ending MP: 18.653 Project Length: 0.241

Functional Class.: ☒ Urban ☐ Rural State Class.: ☐ Primary ☒ Secondary

Route is on: ☐ NHS ☐ NN ☐ Ext Wt

MPO Area: Not Applicable

Truck Class.:

In TIP: ☐ Yes ☐ No

% Trucks: 13.5

ADT (current): 9544 2011

Terrain:

Access Control: ☐ None ☒ Permit ☐ Fully Controlled ☐ Partial Spacing:

Median Type: ☒ Undivided ☐ Divided (Type):

Existing Bike Accommodations:

Ped: ☒ Sidewalk

Posted Speed: ☒ 35 mph ☐ 45 mph ☐ 55 mph ☒ Other (Specify): 25

KYTC Guidelines Preliminarily Based on : 35 MPH Proposed Design Speed

### COMMON GEOMETRIC

#### Roadway Data:

#### EXISTING

#### PRACTICES\*

No. of Lanes	2	2
Lane Width	11	Min. 11 ft
Shoulder Width	1	Curbed
Max. Superelevation**	N/A	6%
Minimum Radius**	N/A	
Maximum Grade	4%	7%
Minimum Sight Dist.	N/A	250
Sidewalk Width(urban)	Sections of 4 ft	Min. 4 ft
Clear-zone***		

[Existing Rdwy. Plans available?](#)

☒ Yes ☐ No

Year of Plans: 1933, 1946

☒ [Traffic Forecast Requested](#)

Date Requested: 6/29/2012

☐ Mapping/Survey Requested

Date Requested:

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.\*: 054B00168N (Bridge #2)

Sufficiency Rating 35.9

Total Length 104 ft

Width, curb to curb 23.2 ft

Span Lengths 58.1 ft, 45.9 ft

Year Built 1935

Posted Weight Limit Open, no restriction

Structurally Deficient? No

Functionally Obsolete? Yes

[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 2010 General Assembly's Enacted Highway Plan. The 2012 General Assembly's Enacted Highway Plan failed to add any additional funding.	<i>Funding</i>	<i>Phase</i>	<i>Year</i>	<i>Amount</i>
	SB2	D	2011	\$400,000

### B. Project Status

Design funds for this project have been authorized. There is also currently a project on the Unscheduled Projects List (UPL) that calls for major widening from a proposed S.W. connector to US 41 in Madisonville (MP 16.453 to 18.653). That proposed project would include this entire widening and continue westerly past Seminary St.

### C. System Linkage

This segment of KY 70 connects the city of Madisonville to the community of Richland and other communities west of Madisonville. Residents also use this route to get to the community of Dawson Springs. It is classified as an Urban Arterial. The classification is not likely to change as a result of this project.

### D. Modal Interrelationships

There are no direct modal interrelationships which are affected by this project. Although the bridge (054B00168N) on the project is over a Class I railroad owned by CSX.

### E. Social Demands & Economic Development

There is no known future development that may affect this route. It is used primarily by residents in the Southern Madisonville area to connect to the westerly communities.

### F. Transportation Demand

The last actual traffic count for this study area was ADT of 9,544 in 2011. Traffic has remained overall consistent on this study area. This data and past years data can be seen in VI. Tables and Exhibits, Table 1.

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

### G. Capacity

Given the recent traffic counts, the capacity of the existing roadway is not currently an issue. It also doesn't appear that capacity will be an issue in the near future. The only capacity issues at times, is the congestion seen from eastbound vehicles stopped at the intersection with US 41, waiting for the traffic signal.

### H. Safety

#### Collision stats from S. Seminary (18.412) to Dozier Ave (15.574)

Collision locations can be seen in Exhibit 2. This included 0 fatality, 2 injury collisions, and 12 total collisions over a 3 year period from 2009-2011. This section's CRF = 0.994. Approximately half of the reported collisions were rear ends, and the other half angles. Most of the wrecks were centered around Seminary St. (MP 18.412).

#### Collision stats from Dozier Ave (15.574) to US 41 (18.653)

Collision locations can be seen in Exhibit 2. This included 0 fatalities, 2 injury collisions, and 17 total collisions over a 3 year period from 2009-2011. This section's CRF = 2.474. Approximately 2/3 of the collisions were rear ends, with angle collisions the second most common. Most of the wrecks were centered around Ima Dr. (MP 18.589) and US 41 (MP 18.653).

Collision data was obtained from the Kentucky State Police database for a three year period from January 1, 2009 to December 31, 2011.

### I. Roadway Deficiencies

This section of KY 70 has 11 ft lanes, and 1 ft shoulders. The biggest issue is that the bridge has a curb to curb width of 23.2 which is narrower than the approaching pavements. This bridge also has issues of concrete breaking off due to wear and tear, and overall traffic issues due to the narrow bridge.

The roadway crashes shows the need for a center turn lane to help alleviate the rear end crashes throughout this project. The roadway also alternates between curb and gutter and shoulders without a set typical section.

The sidewalk needs improvements as well, it starts and stops at various points on both the north and south side of this section of KY 70, none of which meets ADA regulations. The sidewalk doesn't have a path across the bridge, which forces walkers to enter traffic on the narrow bridge.

### Draft Purpose and Need Statement:

Need: KY 70 near Ima Dr and US 41 is congested at times, and also has a high collision rate with a CRF of 2.474. The road also has a narrow bridge which does not meet the needs of the community and needs to be replaced due to damage to the concrete and lack of sidewalks.

Purpose: **The purpose of this study is to address the congestion of KY 70 and improve the safety, mobility, and connectivity between Madisonville and the westerly communities.**

### III. PRELIMINARY ENVIRONMENTAL OVERVIEW

#### A. Air Quality

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

STIP Pg.##:

TIP Pg.##:

#### B. Archeology/Historic Resources

☐ Known Archeological or Historic Resources are present

None known

#### C. Threatened and Endangered Species

No potential habitat for threatened and endangered species present.

#### D. Hazardous Materials

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

Railway overpass will be widened to 4 lanes with sidewalks. Superstructure is concrete with no known hazardous materials used in original construction.

#### 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

No waterways, wetlands, ponds, or lakes present in immediate area surrounding project or within project area.

#### 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

Noise barrier houses would likely be removed on the south side of ROW due to a church and utilities, which would expose back of houses on street behind, but if speed is kept at 35, which is a lower noise level, then a noise study would not be needed.

#### G. Socioeconomic

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

Lower-middle class homes very close to road/ROW due to addition of lanes in past. Small church located at the corner of Seminary St. and KY 70. ( On northern side of KY 70)

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

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

None known

Anticipated Environmental Document:

CE Level 1





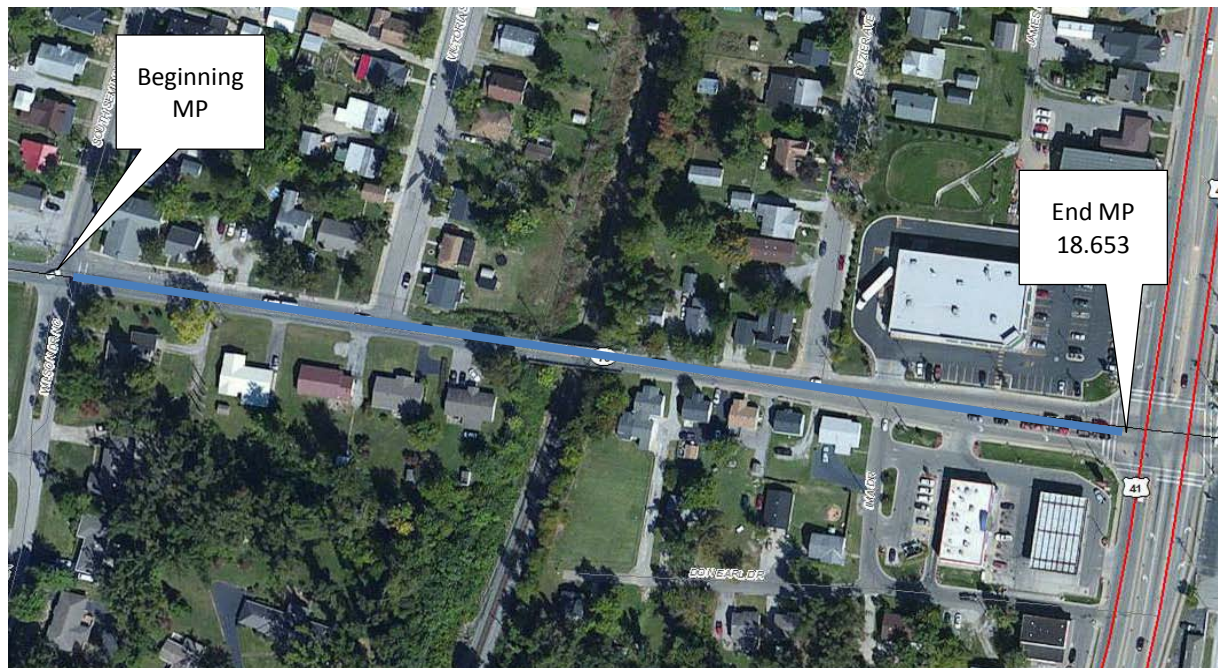
#### IV. POSSIBLE ALTERNATIVES

##### A. Alternative 1: No Build

This alternative should be carried forward, but does not address the needs identified.

##### B. Alternative 2

Widen KY 70 from 2 lanes to 5 lanes from S. Seminary (MP 18.412) to US 41 (MP 18.653). This widening would be done using an urban template with 4 thru lanes, a middle turn lane, curb and gutter, and sidewalk to address the congestion and safety issues in this section. Widening KY 70 to 5 lanes would also include widening the bridge (054B00168N) and include a sidewalk on the bridge. A sketch of the proposed alternative is below.



##### Planning Level Cost Estimate:

<u>Phase</u>	<u>Estimate</u>
Design	\$400,000
R/W	\$1,800,000
Utilities	\$650,000
Const	\$3,200,000
<b>Total</b>	<b>\$6,050,000</b>

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

##### B. Alternative #3

Widen KY 70 from 2 lanes to 3 lanes from S. Seminary (MP 18.412) to about MP 18.613, since the road from MP 18.613 to MP 18.653 is already 4 lanes at the intersection with US 41. This widening would be done using an urban template with 2 thru lanes, a middle turn lane, curb and gutter, and sidewalk to address the congestion and safety issues in this section. Widening KY 70 would also include widening the bridge (054B00168N) and include a sidewalk on the bridge. A sketch of the proposed alternative is below.



Planning Level Cost Estimate:

<u>Phase</u>	<u>Estimate</u>
Design	\$400,000
R/W	\$1,250,000
Utilities	\$550,000
Const	\$2,100,000
<b>Total</b>	<b>\$4,300,000</b>

#### V. Summary

This study is a Data Needs Analysis (DNA) of a roadway project for KY 70 in Hopkins County, Item Number 2-8634.00. Through analysis of the existing roadway geometrics, crash data, site visits, and discussions with the project team, several needs were identified within the project limits. The following were identified as project needs:

- KY 70 near Ima Dr and US 41 congested at times.
- There are collision patterns at intersections with Ima Dr. and US 41.
- The bridge on KY 70 needs a sidewalk, and is too narrow.

The purpose of this study is to address the congestion of KY 70 and improve the safety, mobility, and connectivity between Madisonville and the westerly communities.

Included in the alternates was a no build, a 3 lane, and 5 lane alternatives. After review of the data and discussion at the project team meeting it was determined that Alternative #3, widening of Ky 70 to a 3 lane from MP 18.412 to MP 18.613 would best address the purpose and need for the project.



### V. Summary (cont.)

Alt #	Description	D (\$) <a href="#">SB2</a>	R (\$) <a href="#">(Fund)</a>	U (\$) <a href="#">(Fund)</a>	C (\$) <a href="#">(Fund)</a>	Total (\$mil)
1	No Build	-	-	-	-	-
2	KY 70 Widening to 5 Lanes	400,000				400,000
3	Ky 70 Widening to 3 Lanes	400,000				400,000
-	Current Hwy Plan Estimated Cost	400,000				400,000
-	Current Pre-Con Estimated Cost	Authorized				

### VI. Tables and Exhibits



Exhibit 1: Project Location Map

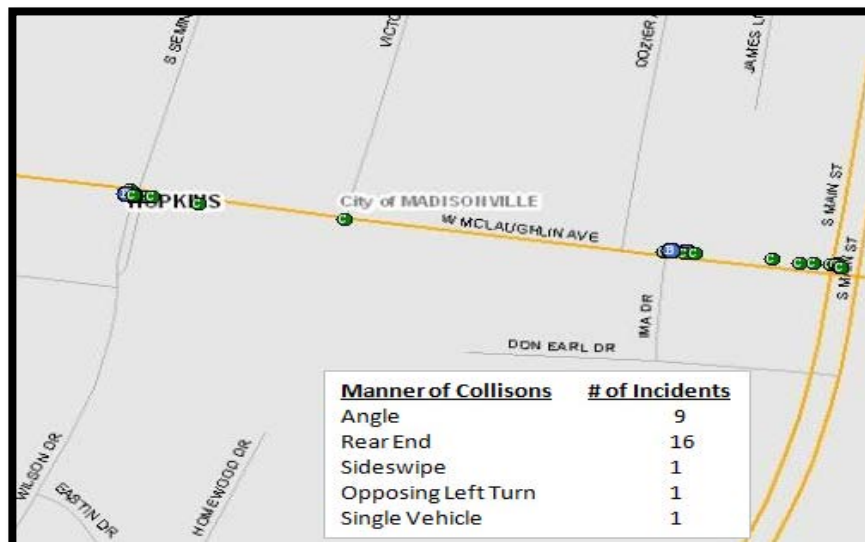
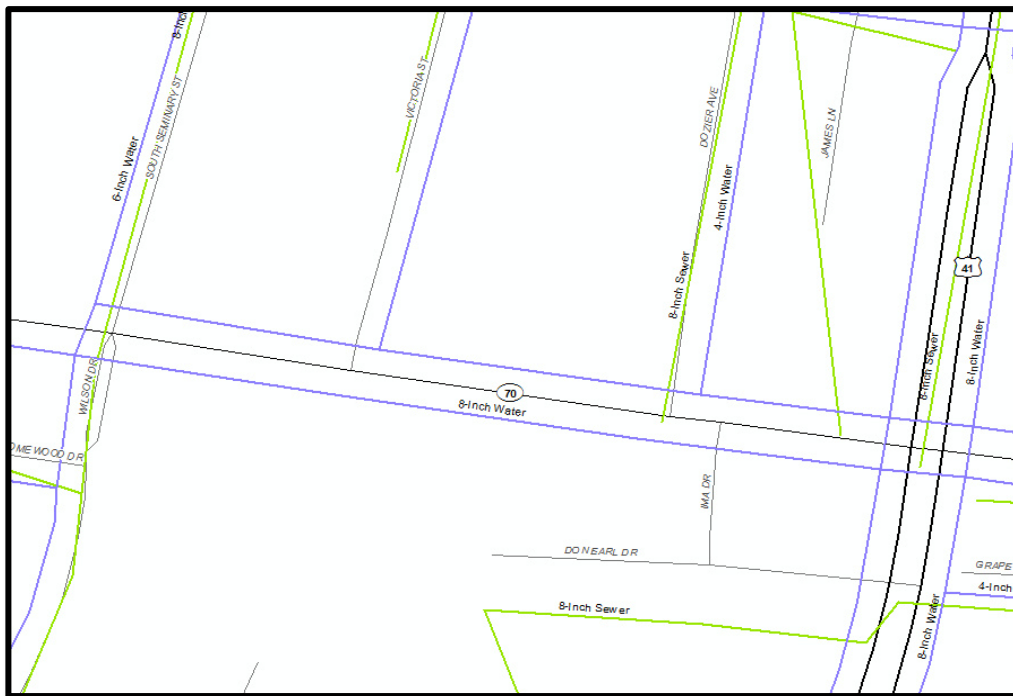


Exhibit 2: Collision Locations



## VI. Tables and Exhibits (cont.)



Utilities Affected:

<p>City of Madisonville Power 609 McCoy Ave. Madisonville, KY 42431 Jim Asbury</p>	<p>Atmos Energy 3275 Highland Pointe Dr. Owensboro, KY 42303 Jim Capps</p>
<p>City of Madisonville Water and Sewer 67 N. Main St. Madisonville, KY 42431</p>	<p>ATT 305 S. Main St. Madisonville, KY 42431 Mike Wilson</p>
<p>Kentucky Utilities 195 Hubert Reid Rd. Earlington, KY 42410 Terry Moore</p>	<p>CSX Transportation URS Corporation One Indiana Square Suite 2100 Indianapolis, IN 46204 Larry Shaw</p>

**Exhibit 3: Utilities Map and Contacts**

## VI. Tables and Exhibits (cont.)

### Tables

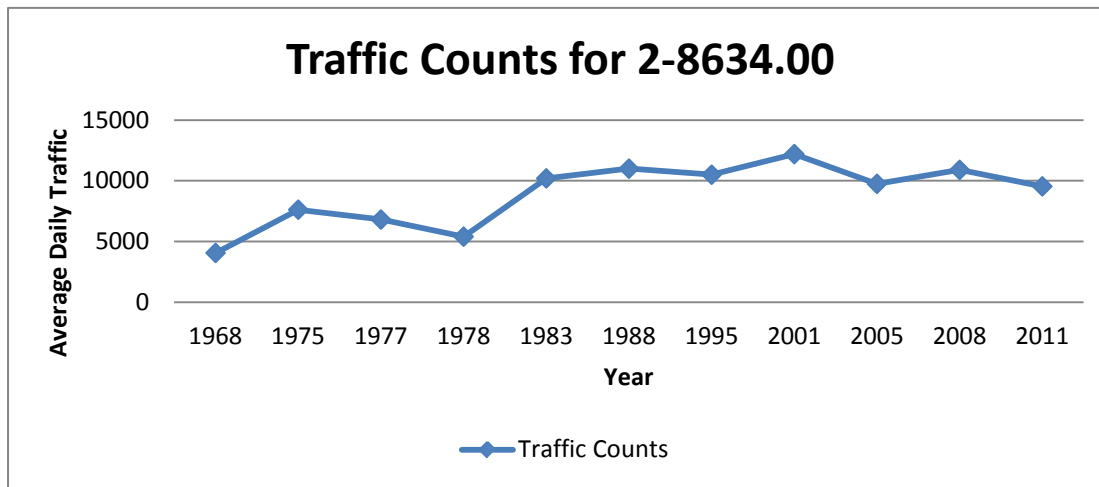


Table 1: Traffic Counts