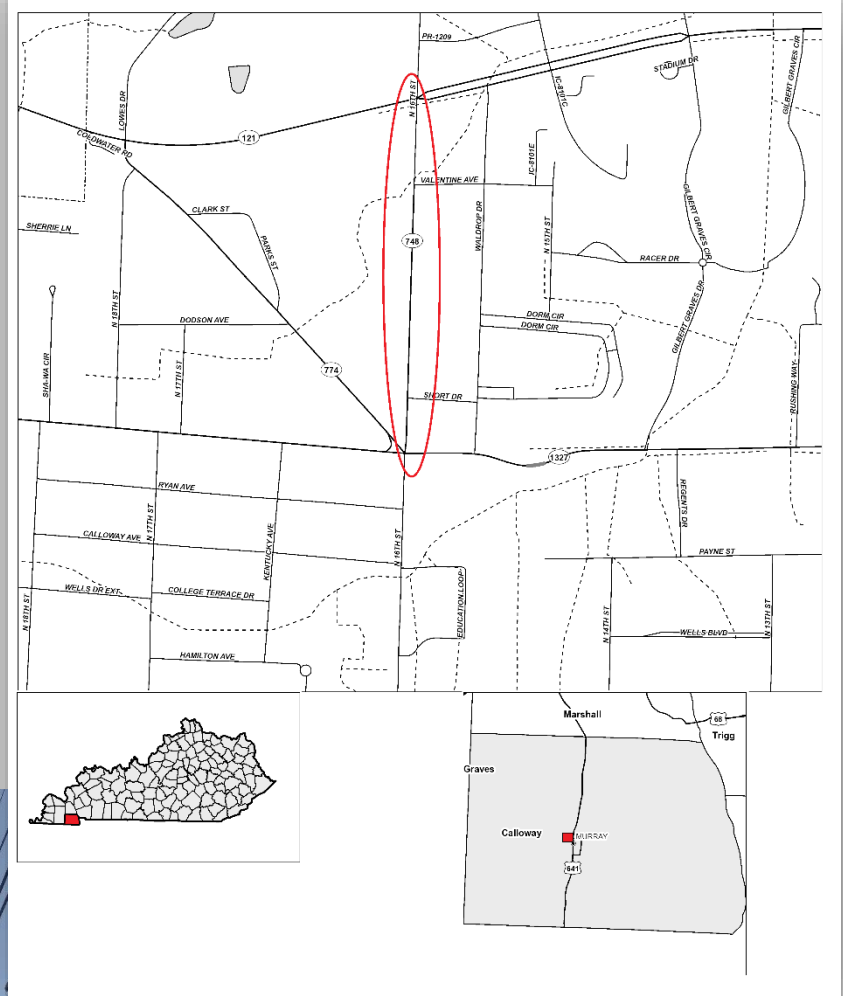


Data Needs Analysis

Scoping Study



KY 748 & CS 1047 (North
16th St), Calloway County
From KY 121 to KY 1327
(Chestnut St.)
Item No. 01-8952

Prepared by the KYTC
Division of Planning and
KYTC District 1

July 2021



KENTUCKY
TRANSPORTATION
CABINET

I. PRELIMINARY PROJECT INFORMATION

County:	Calloway	Item No.:	1-8952
Route Number(s):*	KY748, CS1047	Road Name:	N 16th Street
Program No.:		UPN:	(Function) 018 KY748 0-0.307
		UPN:	(Function) 018 CS1047 1.079-1.179
Federal Project No.:		Type of Work:	Roadway/Intersection improvement

(Year) **Highway Plan Project Description:**

Improve North 16th Street from Ky 1327 (5 points) to KY 121 (2020CCN)

Beginning MP: 0, 1.079 **Ending MP:** 0.307, 1.179 **Project Length:** 0.407

In TIP: Yes No

[Use PDP/CHAF to Verify Project Data](#)

State Class.: Primary Secondary

Route is on: NHS NN Ext Wt

Functional Class.: Urban Rural Local

Truck Class.: % Trucks: N/A

MPO Area: Not Applicable

Terrain: Rolling

ADT (current): 5611 2018

Access Control: None Permit Fully Controlled Partial Spacing:

Median Type: Undivided Divided (Type):

Existing Bike Accommodations: None **Ped:** Sidewalk

Posted Speed: 35 mph 45 mph 55 mph Other (Specify):

KYTC Guidelines Preliminarily Based on: 35 MPH Proposed Design Speed

COMMON GEOMETRIC

Roadway Data:	EXISTING	PRACTICES**	
No. of Lanes	2	2-4	Existing Rdwy. Plans available? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Year of Plans:
Lane Width	10'	10'-11'	
Shoulder Width	0	2'-4'	<input type="checkbox"/> Traffic Forecast Requested Date Requested:
Max. Superelevation***	N/A	4%	
Minimum Radius***	N/A	510'	<input type="checkbox"/> Mapping/Survey Requested Date Requested:
Maximum Grade	5%	<15%	
Minimum Sight Dist.	Clear	250'	Type:
Sidewalk Width(urban)	5'	4'-8'	
Clear-zone [†]	4'	7'-10'	

Project Notes/Design Exceptions? N/A

Bridge No.: [‡]	(Bridge #1)	(Bridge #2)	
Sufficiency Rating			Existing Geotech Data Available? <input type="checkbox"/> Yes <input type="checkbox"/> No
Total Length			
Width, curb to curb			Detour Length(s):
Span Lengths			
Year Built			
Posted Weight Limit			
Structurally Deficient?			
Functionally Obsolete?			
Existing Bridge Type			

*If more than one road is included in the project, include additional sheets.

**Based on proposed Design Speed

***AASHTO's A Policy on Geometric Design of Highways and Streets

+AASHTO's Roadside Design Guide

#If more than two bridges are located on the project, include additional sheets.

II. PROJECT PURPOSE AND NEED

A. Legislation

<i>Funding</i>	<i>Phase</i>	<i>Year</i>	<i>Amount</i>
SPP	D	2021	\$420,000
SPP	R	2022	\$2,210,000
SPP	U	2024	\$2,170,000
SPP	C	2026	\$3,380,000

B. Project Status

Design funds have been requested and the project is being advertised in August 2021

C. System Linkage

This is a local route used to connect Murray State University with the community via cars and sidewalks.

D. Modal Interrelationships

This route does not provide direct access to a multi modal facility such as a riverport, airport or rail facility.

E. Social Demands & Economic Development

The improved connection will promote safer walkability, bicycling and access to/from and through Murray State University.

II. PROJECT PURPOSE AND NEED (cont.)

F. Transportation Demand

The most recent CTS counts on this road are from 2015 which had 5828 ADT and 2018 which had 5611 ADT. While this is not a significant decrease, there was major road construction that widened the adjacent KY 121 to a four lane facility. This likely deterred people from traveling this corridor.

G. Capacity

There is congestion through this corridor. There are residents on the west side and Murray State University and university parking on the east side. To the north is more residential and commercial areas, and this road is used as a direct route to the heart of the university. The traffic signal at the south end of the road experiences high volumes of congestion where the 5-2 lane roads that intersect.

H. Safety

5 years of crash data showed 78 collisions, 6 resulted injuries. 3 concentrations of clusters appear on the map: the northern intersection (KY 121 & 16th Street), the intersection with Valentine St, and at the southern intersection with Chestnut/College Farm/Coldwater (5-points). Other various locations along the corridor also experience crash clusters.

I. Roadway Deficiencies

Portions of the road has a narrow clear zone and there is not a paved nor earthen shoulder. The southern intersection has a precarious skew angle.

III. PRELIMINARY ENVIRONMENTAL OVERVIEW

A. Air Quality

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

STIP Pg.#: not in current book

TIP Pg.#:

B. Archeology/Historic Resources

Known Archeological or Historic Resources are present

None known at the present time.

C. Threatened and Endangered Species

Potential for bat habitat to be affected.

D. Hazardous Materials

Potentially Contaminated Sites are present Potential Bridge or Structure Demolition

In a Memo dated 1/15/2015 concerning the 5-point area, the businesses and former businesses were examined and it was determined that all USTs were removed from former businesses and issued NFA letters. The project could potentially affect underground waste oil tank pits at 2 locations. The remainder of the corridor has not been examined for contamination, but minimal to none is expected.

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

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 [KYTC Noise Analysis and Abatement Policy?](#) Yes No

G. Socioeconomic

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

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

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

[Anticipated Environmental Document:](#)

CE Level 1



IV. PROJECT NEED, PURPOSE & SCOPE

A. Need:

This short route, KY748 and CS1047, serves as a direct connector to and from Murray State University. It is a daily commuting route for local residents and students. The campus and city are a pro walk/bike community, and the potential for improvements on this route would be compatible with a multimodal vision. North 16th Street provides commuters with an alternate route for the primary routes in the area, US 641 and KY 80. North 16th Street's limited geometrics and having an ADT of 5611 with heavy peak hour movements, the route becomes very congested and difficult to maneuver.

B. Purpose:

The purpose of this project is to improve safety, mobility and traffic flow as well as facilitate bicycle and pedestrian movements to and from the campus. Project goals include the potential to enhance the visual aesthetics of this alternate route to Murray State University.

C. Scope:

The scope should include improvements to the road approach and intersection at Chestnut street (5-Points), including possible reconstruction of the traffic signal. A 3-lane corridor with a possible bike lane as an alternative for the entire corridor. Improvements at the KY 121 intersection may also be warranted.

V. PROJECT ESTIMATE & METHODOLOGY

Estimate Methodology:	Current Estimate	
Based on similar projects	<u>Phase</u>	<u>Estimate</u>
	Planning	
	Design	\$750,000.00
	R/W	\$2,210,000.00
	Utilities	\$2,170,000.00
	Const	\$3,380,000.00
	Total	\$8,510,000.00

VI. UTILITIES POTENTIALLY AFFECTED - CONTACT INFORMATION

Company Name -	City of Murray Public Works
Contact -	Thomas Kutcher
Address -	200 Andrus Drive, Murray, KY 42071
Phone No. -	270-762-0336
Company Name -	Murray Electric System
Contact -	Terry McCallon
Address -	401 Olive Street, Murray, KY 42071
Phone No. -	270-753-5312
Company Name -	Murray Electric System
Contact -	Chad Lawson, Communications Manager
Address -	401 Olive Street, Murray, KY 42071
Phone No. -	270-753-5312
Company Name -	Spectrum Cable
Contact -	Michael Lyons
Address -	P.O. Box 658, 515 Double Springs Rd, Bowling Green, KY 42003
Phone No. -	812-202-0135
Company Name -	AT&T
Contact -	Amanda Berkley
Address -	810 Kentucky Avenue, Paducah, KY 42003
Phone No. -	270-444-5047
Company Name -	
Contact -	
Address -	
Phone No. -	

VII. TABLES AND EXHIBITS



Exhibit A - Crash Map

VII. TABLES AND EXHIBITS (cont.)