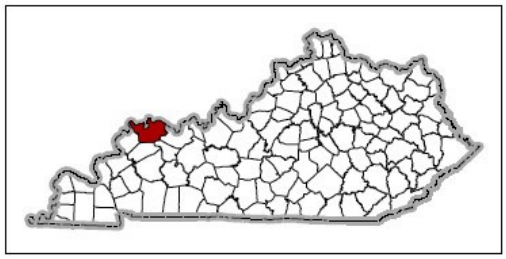
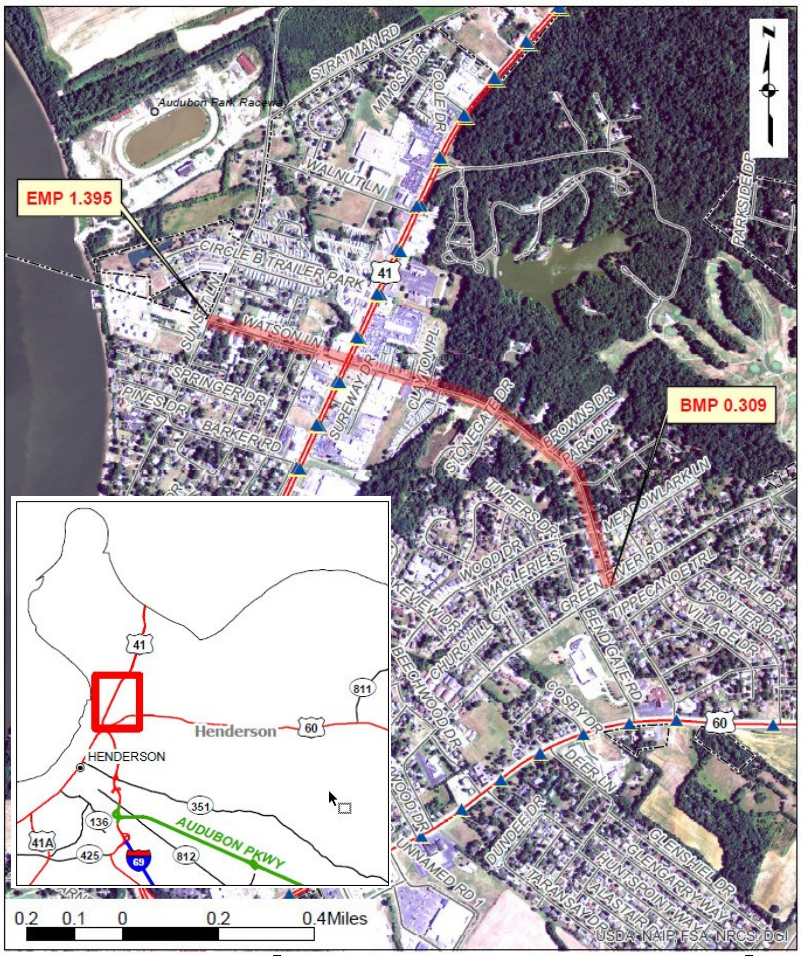
Data Needs Analysis





Scoping Study

Henderson County—CS1372

Improve Safety and Reduce Congestion on CS1372 - MP 0.309 to MP 1.395.

Item No. **2-383.00**

Prepared by
KYTC District 2
Planning July 2018

KENTUCKY TRANSPORTATION CABINET

100 KENTUCKY transportation CABINET kytc 1912-2012

I. PRELIMINARY PROJECT INFORMATION

County:	Henderson	**Item No.:**	2-383.00
Route Number(s):*	CS-1372	**Road Name:**	Watson Lane
Program No.:		**UPN:**	(Function) 051 1372 000-002
Federal Project No.:		**Type of Work:**	Reconstruction

2018-2020 **Highway Plan Project Description:**

Improve Safety and Reduce Congestion on CS-1372(Watson Lane)

Beginning MP: 0.309 **Ending MP:** 1.395 **Project Length:** 1.086

In TIP: ☑ Yes ☐ No — Reconcile Project Information in Clearview

State Class.: ☐ Primary ☐ Secondary **Route is on:** ☐ NHS ☐ NN ☐ Ext Wt

Functional Class.: ☑ Urban ☐ Rural Arterial **Truck Class.:** **% Trucks:** 0

MPO Area: Evansville/Henderson **Terrain:** Rolling

ADT (current): 6703 (2012)

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

Median Type: ☑ Undivided ☐ Divided (Type):

Existing Bike Accommodations: Shared Lane **Ped:** ☐ Sidewalk

Posted Speed: ☐ 35 mph ☐ 45 mph ☐ 55 mph ☑ Other (Specify): 30 mph

KYTC Guidelines Preliminarily Based on : **30** **MPH Proposed Design Speed**

Roadway Data:	**EXISTING**	**COMMON GEOMETRIC PRACTICES****
No. of Lanes	2	2 Min.
Lane Width	9'-10'	11'-12'
Shoulder Width	0'- 4'	N/A
Max. Superelevation***		4-6%
Minimum Radius***		
Maximum Grade		9%
Minimum Sight Dist.		200
Sidewalk Width(urban)	4' (partial length)	4-8
Clear-zone†		

Existing Rdwy. Plans available? ☐ Yes ☑ No

Year of Plans:

☐ Traffic Forecast Requested

Date Requested:

☐ Mapping/Survey Requested

Date Requested:

Type:

Project Notes/Design Exceptions? TWTL, curb and gutter/with sidewalks, right turn lanes

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 Bridge Type		

Existing Geotech Data Available? ☐ Yes ☑ No

Detour Length(s):

*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

The adjacent shown funding was approved as part of the 2018 General Assembly's enacted Highway Plan. Only design funding is available in the current biennium.

Funding	*Phase*	*Year*	*Amount*
SPP	D	2019	$400,000
SPP	R	2020	$1,400,000
SPP	U	2021	$1,400,000
SPP	C	2022	$5,000,000

B. Project Status

This project was identified and added to the UPL in 2008. A part of this project was completed as an ARRA (American Recovery & Reinvestment Act) project. The completed section was the eastbound approach from just west of North Elm Street to the intersection with US 41. A section of this project was identified in a 2015 US 41 Traffic and Access Management Study. This project was a priority for the District and received boost points to get a final SHIFT score of 68.8. The MPO approved adding this project to the TIP at their July 12, 2018 meeting. Currently there are no authorizations for this project.

C. System Linkage

This project has termini at Green River Road and Sunset Lane, with the intersection of US 41 between. Although it is not a part of this project, a portion of Watson Lane extends from Green River Road to US 60. Watson Lane is the shortest route for the motorist on US 60 East and Green River Road to the business district of US 41. The same motorist are also accessing the shortest route to Evansville, Indiana via US 41.

D. Modal Interrelationships

Currently, shared lanes are the only bicycle accommodations. There is a small section of sidewalk approximately 0.26 miles in length that connects a few houses. This route is predominantly residential, bike and pedestrian improvements should be considered in this project. The 2013 Greater Henderson Bicycle and Pedestrian plan has bike lanes being add to Watson lane along the project route, and several of the roads around it will have bicycle facilities. There are no railroad, river ports or airports directly associated with this route, yet Watson Lane from US 41 to Sunset Lane is a truck route.

E. Social Demands & Economic Development

Watson Lane is predominantly residential, serves as a major connection for residents in the area to access businesses and restaurants on US 41, and provides access to US 60 for retail and dining. Watson Lane is fully developed with primarily residential housing. No major economic development is expected along this project corridor.

II. PROJECT PURPOSE AND NEED (cont.)

F. Transportation Demand

See traffic history in Exhibits below. Watson Lane is a local cut through alternate to US 41. North Elm street runs parallel to US 41 on the west side and is used to access US 41 via Watson Lane. The eastbound approach was improved a few years ago as an ARRA project. Travelers use Watson Lane on the east side to access US 60 as an alternate to US 41.

G. Capacity

Watson Lane has an ADT of 6,703 along the project limits. The mixing of local residential traffic and significant thru-traffic creates safety issues for traffic that is turning or entering/exiting the roadway to entrances. The US 41 Study shows that the intersection of US 41 and Watson Lane operates at a Level of Service E in the morning and a Level of service F in the afternoon. There are currently no calculations for the LOS on the mainline of project route. The US 41 Traffic and Access Management Study found that there were significant delays during the peak hours for for westbound vehicles turning right from Watson Lane on to US 41.

H. Safety

This 1.089 mile roadway has numerous driveways and entrances. There were 48 Crashes on this project from May 1, 2013 to May 1, 2017. This includes 6 at the intersection with Green River Road. Over half of these crashes were rear end and angle crashes, 9 of which were weather related and involved wet pavement. The CRF is 0.81.

I. Roadway Deficiencies

This roadway is a narrow two lane road with no shoulders and does not meet the current standards for an Urban Arterial roadway.

III. PRELIMINARY ENVIRONMENTAL OVERVIEW

A. Air Quality

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

STIP Pg.#: In Progress **TIP Pg.#:**

The project is in an attainment county. Any MSAT Effect?

B. Archeology/Historic Resources

☑ Known Archeological or Historic Resources are present

There are no known archaeological sites in close proximity to the project area but it cannot be determined if there will be impacts until alternates are established. If water permit needed for Audubon Park Creek, then clearance of historic will be needed. Further study and coordination will be required during Phase I design to determine any potential impacts to historic areas.

C. Threatened and Endangered Species

IPaC shows no critical habitat located along Watson Lane. However, any tree removal will need to be paid for by mitigation fees depending on time of tree removal.

D. Hazardous Materials

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

There are no known hazardous material sites in close proximity to the project area.

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

A FEMA named creek, Audubon Park Creek, crosses and runs through ditch along Watson Ln SE of US41, crosses underground of businesses on US41 resurfaces away from Watson to north. Disturbance of the creek is an issue even with state-funded projects

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

The project`s residential areas will not be affected in the long term, only during construction.

G. Socioeconomic

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

There are no socioeconomic factors.

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

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

A section of Audubon State Park borders Watson Lane and any area outside of right-of-way along this section needs to be avoided, regardless of funding.

Anticipated Environmental Document: None (Completely State funded)

IV. PROJECT NEED, PURPOSE & SCOPE

A. Need:

There are significant delays during the peak hours for westbound vehicles turning right from Watson Lane on to US 41. This roadway is a narrow two lane road with no shoulders and does not meet the current geometric standards.

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B. Purpose:

The purpose of the project is to improve the connection between US 60 and US 41, reduce congestion on Watson Lane, and improved safety and travel time.

C. Scope:

The scope of this project is to upgrade the existing roadway to meet the current geometric standards of a urban arterial and provide a better connection between two major US routes and improve and reduce the traffic backup at the intersection of Watson Lane and US 41. A combination of Two-Way Turn Lane, right turn lanes, and some curb & gutter for the commercial section would provide safety and relieve congestion along the route.

V. PROJECT ESTIMATE & METHODOLOGY

Estimate Methodology:

This estimate was based on similar projects such as item 2-712.00 which was another project completed in Henderson a few years ago. That was a basis for the estimate, however, the construction costs are anticipated to be more per mile than this project because of the terrain. The right of way costs were based on the assumption that little or no impact will be made on John James Audubon State Park which is adjacent to a portion of this route.

Current Estimate

Phase	Estimate
Planning	
Design	400,000
R/W	1,400,000
Utilities	1,400,000
Const	5,000,000
Total	**8,200,000**

VI. UTILITIES POTENTIALLY AFFECTED - CONTACT INFORMATION

Henderson Municipal Power and Light
Contact: Steve Smith
100 Fifth Street, PO Box 8
Henderson, KY 42420
270-826-2726

Henderson Gas Department
Contact: Owen Reeves
1133 Fifth Street
Henderson, KY 42420
270-831-1200

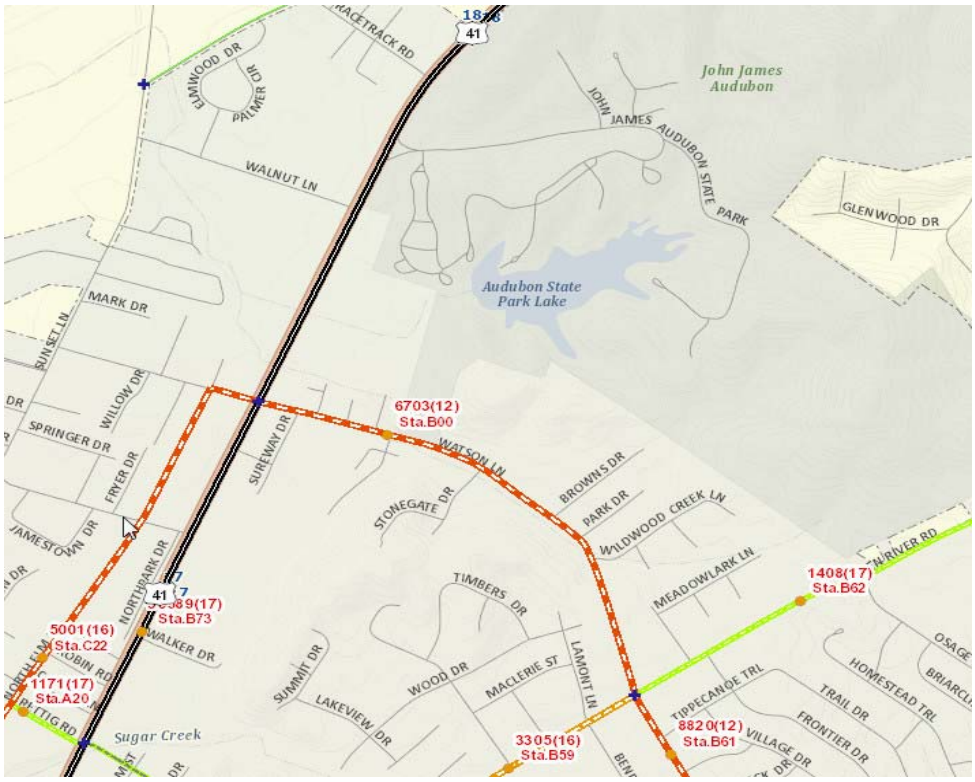
Henderson Water and Sewer Facilities
Contact: Bob Gish
111 Fifth Street
Henderson, KY 42420
270-826-2421

AT&T
Contact: Glenn Shane
120 Clark Street
Henderson, KY 42420
270-831-3025

Spectrum
Contact: Mike Wisotzkey
30 Oakdale Street
Madisonville, KY 42431
270-619-2429

VII. TABLES AND EXHIBITS

Traffic Count Map



Traffic Count History

Historical Traffic Volume Summary

Station Details:

Sta ID:	051B00
Sta Type:	Full Coverage
Map:	MapIt
District:	2
County:	Henderson
Route:	051-CS-1372 -000
Route Desc:	WATSON LN

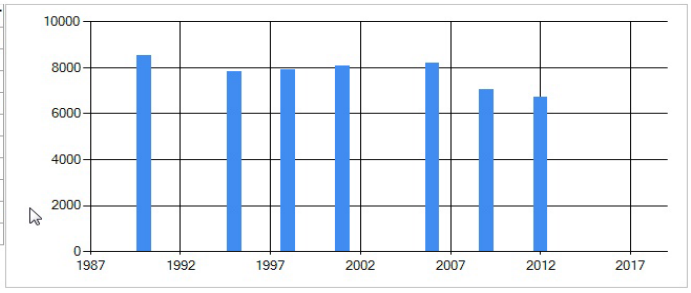
Begin MP:	0.3090
Begin Desc:	GREEN RIVER ROAD
End Mp:	1.1630
End Desc:	NORTH ELM STREET
Impact Year:	
Year Added:	

Newest Count:

AADT:	6703
Year:	2012
% Single:	
% Combo:	
K Factor:	9.50
D Factor:	

Definitions:
Sta. ID - Three digit county number + station number
MP - milepoint
Impact Year – year of significant change to traffic pattern within station segment
AADT – Annual Average Daily Traffic – the annualized average 24-hour volume of vehicles on a segment of roadway
% Single – single unit truck volume as a percentage of the AADT
% Combo – combination truck volume as a percentage of the AADT
K Factor – peak hour volume as a percentage of the AADT
D Factor – percentage of peak hour volume flowing in the peak direction

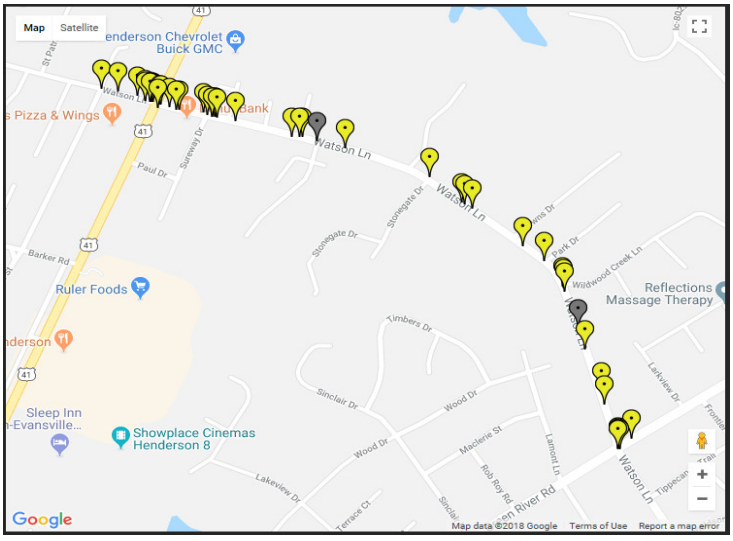
Year	AADT	Year	AADT	Year	AADT
2018		2008		1998	7920
2017		2007		1997	
2016		2006	8210	1996	
2015		2005		1995	7850
2014		2004		1994	
2013		2003		1993	
2012	6703	2002		1992	
2011		2001	8060	1991	
2010		2000		1990	8550
2009	7070	1999		1989	



VII. TABLES AND EXHIBITS (cont.)

Vicinity

Crash Locations



Type of Collision	Number	Percentage
ANGLE	9	19
BACKING	6	12.5
OPPOSING LEFT TURN	1	2
REAR END	17	35.5
SIDESWIPE-OPPOSITE DIRECTION	1	2
SIDESWIPE-SAME DIRECTION	2	4
SINGLE VEHICLE	12	25