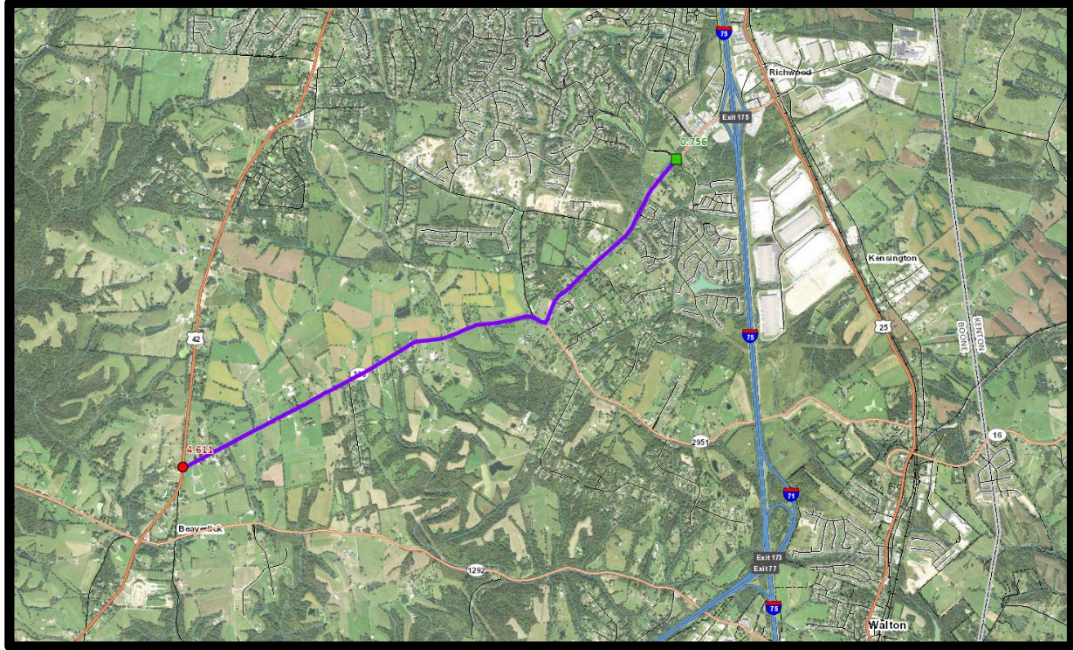


Data

Needs

Analysis



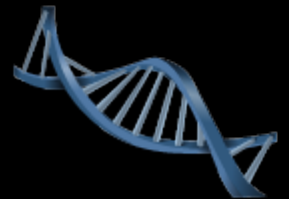
Scoping Study



Boone County
KY-338
From MP 0.756 to 4.611

Prepared by
KYTC District 6

April 2020



I. PRELIMINARY PROJECT INFORMATION			
<i>From Triple Crown Blvd/Grand National Blvd to KY-2951 (Chambers Road)</i>			
County:	Boone	Item No.:	06-113.00 (Recommended Plan)
Route Number(s):*	KY-338	Road Name:	Richwood Road
Program No.:		UPN:	FD52 08 338 000-005
Federal Project No.:		Type of Work:	RECONSTRUCTION
2020 Highway Plan Project Description:			
CONDUCT PLANNING STUDY TO EVALUATE OPTIONS FOR RECONSTRUCTING KY 338 (RICHWOOD ROAD) FROM TRIPLE CROWN BOULEVARD TO US 42.			
Beginning MP:	0.756	Ending MP:	2.09
		Project Length:	1.334
In TIP:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Reconcile Project Information in Clearview
State Class.:	<input type="checkbox"/> Primary <input checked="" type="checkbox"/> Secondary	Route is on:	<input type="checkbox"/> NHS <input type="checkbox"/> NN <input type="checkbox"/> Ext Wt
Functional Class.:	<input checked="" type="checkbox"/> Urban <input type="checkbox"/> Rural <input type="text" value="Collector"/>	Truck Class.:	<input type="text" value=""/> % Trucks: 11.737
MPO Area:	Cincinnati/Northern Kentucky (OKI)	Terrain:	Rolling
ADT (current):	3,221 2019		
Access Control:	<input type="checkbox"/> None <input checked="" type="checkbox"/> Permit <input type="checkbox"/> Fully Controlled <input type="checkbox"/> Partial Spacing: <input type="text" value=""/>		
Median Type:	<input checked="" type="checkbox"/> Undivided <input type="checkbox"/> Divided (Type): <input type="text" value=""/>		
Existing Bike Accommodations:	None	Ped:	<input type="checkbox"/> Sidewalk
Posted Speed:	<input type="checkbox"/> 35 mph <input checked="" type="checkbox"/> 45 mph <input type="checkbox"/> 55 mph <input type="checkbox"/> Other (Specify): <input type="text" value=""/>		
KYTC Guidelines Preliminarily Based on :		45 MPH Proposed Design Speed	
COMMON GEOMETRIC			
Roadway Data:	EXISTING	PRACTICES**	
No. of Lanes	2	3 to 5	Existing Rdwy. Plans available? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Year of Plans: <input type="text" value=""/>
Lane Width	9 ft	11 ft	
Shoulder Width	4 ft	8 ft	<input type="checkbox"/> Traffic Forecast Requested Date Requested: <input type="text" value=""/>
Max. Superelevation***	Unknown	6%	
Minimum Radius***	Unknown	587 ft	<input type="checkbox"/> Mapping/Survey Requested Date Requested: <input type="text" value=""/>
Maximum Grade	Unknown	7%	
Minimum Sight Dist.	Unknown	360 ft	Type: <input type="text" value=""/>
Sidewalk Width(urban)	Unknown	4-8 ft	
Clear-zone [†]	8 ft	20-25 ft	
Project Notes/Design Exceptions?	Used Urban Arterial Streets		
Bridge No.:#	008C00075N (on Agarwood Dr)		
Sufficiency Rating	100 (Good)		
Total Length	31.60 ft		
Width, curb to curb	25.70 ft		
Span Lengths	28.90 ft		
Year Built	2010		
Posted Weight Limit	N/A		
Structurally Deficient?	NO		
Functionally Obsolete?	NO		
Existing Bridge Type	County		
Existing Geotech Data Available? <input type="checkbox"/> Yes <input type="checkbox"/> No			
		Detour Length(s):	N/A
<p>*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.</p>			

I. PRELIMINARY PROJECT INFORMATION (cont.)

From KY-2951 (Chambers Road) to US-42

County:	Boone	Item No.:	06-113.00 (Recommended Plan)
Route Number(s):*	KY 338	Road Name:	Richwood Road
Program No.:		UPN:	(Function) 08 338 000-005
Federal Project No.:		Type of Work:	RECONSTRUCTION

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

CONDUCT PLANNING STUDY TO EVALUATE OPTIONS FOR RECONSTRUCTING KY 338 (RICHWOOD ROAD) FROM TRIPLE CROWN BOULEVARD TO US 42.

Beginning MP:	2.09	Ending MP:	4.613	Project Length:	2.523
In TIP:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Reconcile Project Information in Clearview			
State Class.:	<input type="checkbox"/> Primary <input checked="" type="checkbox"/> Secondary	Route is on:	<input type="checkbox"/> NHS <input type="checkbox"/> NN <input type="checkbox"/> Ext Wt		
Functional Class.:	<input type="checkbox"/> Urban <input checked="" type="checkbox"/> Rural Collector	Truck Class.:	<input type="checkbox"/> % Trucks:	11.737	
MPO Area:	Cincinnati/Northern Kentucky (OKI)	Terrain:	Rolling		
ADT (current):	2,163 2019	Access Control:	<input type="checkbox"/> None <input checked="" type="checkbox"/> Permit <input type="checkbox"/> Fully Controlled <input type="checkbox"/> Partial Spacing:		
Median Type:	<input checked="" type="checkbox"/> Undivided <input type="checkbox"/> Divided (Type):	Existing Bike Accommodations:	None		
Posted Speed:	<input type="checkbox"/> 35 mph <input type="checkbox"/> 45 mph <input checked="" type="checkbox"/> 55 mph <input type="checkbox"/> Other (Specify):	Ped:	<input type="checkbox"/> Sidewalk		
KYTC Guidelines Preliminarily Based on :	45 MPH Proposed Design Speed				

COMMON GEOMETRIC

Roadway Data:	EXISTING	PRACTICES**	
No. of Lanes	2	3 to 5	Existing Rdwy. Plans available?
Lane Width	9 ft	11 ft	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Shoulder Width	4 ft	8 ft	Year of Plans:
Max. Superelevation***	Unknown	6%	<input type="checkbox"/> Traffic Forecast Requested
Minimum Radius***	Unknown	587 ft	Date Requested:
Maximum Grade	Unknown	7%	<input type="checkbox"/> Mapping/Survey Requested
Minimum Sight Dist.	Unknown	360 ft	Date Requested:
Sidewalk Width(urban)	Unknown	4-8 ft	Type:
Clear-zone [†]	8 ft	20-25 ft	
Project Notes/Design Exceptions?	Used Urban Arterial Streets		

Bridge No.:#	008B00077N (KY-2951 Chambers Rd)	Existing Geotech Data Available?
Sufficiency Rating	90.1 (Fair)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Total Length	24.90 ft	
Width, curb to curb	29.20 ft	
Span Lengths	24.00 ft	
Year Built	1968	
Posted Weight Limit	N/A	Detour Length(s): 6.8 mi
Structurally Deficient?	No	
Functionally Obsolete?	No	
Existing Bridge Type	State	

*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

As of January 2020, a project which has been supported by Representative Sal Santoro is in the Recommended Six Year Highway Plan with the project description:conduct planning study to evaluate options for reconstructing KY 338 (Richwood Road) from Triple Crown Blvd to US 42. The amount of funding recommended is \$500,000 of federal funds. This project and its associated funding are subject to change once the Enacted Six Year Highway Plan is released, which is expected to be in April of 2020.

<i>Funding</i>	<i>Phase</i>	<i>Year</i>	<i>Amount</i>
	P		
	D		
	R		
	U		
	C		

B. Project Status

Local legislators have asked the Kentucky Transportation Cabinet to investigate the feasibility of reconstructing KY-338 from the intersection with Triple Crown Blvd/Grand National Blvd to US-42 with the intention of improving connectivity between US-42 and Interstate 71/75. From 2020 to 2022, KYTC will reconstruct the urban stretch of KY-338 in the vicinity of I-71/75 (Item No. 6-18.00) — including a new double crossover diamond interchange. The new road will have multiple lanes, sidewalks, shared use paths, and curb/gutter. The project begins immediately to the west of the Triple Crown Blvd/Grand National Blvd intersection (where a two-lane roundabout will be constructed) and ties in to Shorland Drive (mile point 0.0) in the industrial park. Access control through the reconstructed area is either full or partially controlled. Another component of the project is to provide grade-separaiaon at the intersection of KY-338 and US-25 with a single-point urban interchange. KY-338 will go under both US-25 and Cincinnati, New Orleans and Texas Pacific Railway.

Existing CHAF ID 20110123 encompasses a portion of this corridor and has the following description: improve safety & mobility, and address geometric deficiencies along KY 338 (Richwood Rd.) from Hicks Pike to Triple Crown Boulevard. In the 2020 SHIFT cycle, this project had a score of 30.2 and was sponsored by OKI MPO.

C. System Linkage

KY-338 is a meandering state highway going through Boone County, approximately 32.3 miles long. It starts in the central east portion of the county (Richwood), goes due west towards the Ohio River, then turns northward, passing through the county seat (Burlington) and terminating in an area called Idlewild. KY-338 has several major intersections with US-25, an interchange with I-71/75, intersections with US-42, KY-536, KY-18, before finally tying in with KY-20. Just east of US-25, KY-338 has an existing at-grade rail crossing with Cincinnati, New Orleans and Texas Pacific Railway (which is operated by Norfolk Southern Railroad).

Across the 32-mile corridor, the character of the road varies from industrial, to very commercial, to suburban and rural. In the Richwood area at the I-71/75 interchange, KY-338 serves as an urban minor arterial to KY-2951 (Chambers Road); moving westward to US-42 it changes to rural major collector. West of US-42 it changes again, to rural minor collector, back to an urban major collector and then back a rural minor collector.

Whether urban or rural, KY-338 is largely a two-lane road with narrow shoulders. In the area of Richwood and I-71/75, KY-338 expands to include a continuous turning lane or dedicated left or right turn lanes. Throughout the length of the corridor the terrain is rolling which results in numerous vertical and horizontal curves.

II. PROJECT PURPOSE AND NEED (cont.)

D. Modal Interrelationships

For KY-338 from US-42 to Triple Crown Blvd/Grand National Blvd, the truck volume is 11.737%. While development in this area is largely residential, this segment of KY-338 is affected by the spillover of trucks from nearby commercial entities, industrial parks and warehouses, and access to I-71/75.

As mentioned above, the reconstruction of the interstate interchange includes pedestrian facilities. With a combination of sidewalks and shared-use paths, pedestrians will be connected to Triple Crown/Grand National (with their pedestrian facilities) on the west to Shorland Dr on the east.

The OKI Northern Kentucky Bike Route Guide evaluates regional and local roads for bicyclists where area cyclists contributed to content. For KY-338 from US-42 to Hicks Pk, the corridor is identified as an “alternative” route. From Hicks Pike to I-71/75, presently, the corridor is identified as “not recommended”. However, with the reconstruction of KY-338 from Triple Crown Blvd to Shorland Dr including the provision of shared-use paths, this evaluation is expected to change. Both Hicks Pk and KY-2951 (Chambers Rd), primary approach roads to KY-338, are identified as “recommended routes”.

Presently, the Transit Authority of Northern Kentucky (TANK) only provides service to KY-338 on the east side of I-71/75, running an express route from Walton, KY along US-25 northward to KY-536 and then to I-71/75. It is known that the industrial/distribution growth is a changing dynamic. Previously, the aforementioned express route took morning commuters to Covington and Cincinnati; returning them in the evening. With so much job creation in Richwood, this has the potential of affecting their operations. Employees are coming from Covington southward as well as from Grant and Owen Counties. However, TANK is actively re-evaluating system needs and current proposals show this route no longer existing once the system redesign is implemented. These changes, if approved as proposed, are expected to go into effect in late 2020.

E. Social Demands & Economic Development

Boone County is attractive to freight logistics and distribution industries, due to its proximity to major interstates, the Cincinnati-Northern Kentucky International Airport, rail yards and ports that allow freight distribution on a local, regional, national, and global scale. With an estimated 1.1% growth rate over the past year, Boone County is the fastest growing county in the OKI region and one of the fastest growing areas in the Commonwealth of Kentucky. Per Boone County Planning, the regional area of this corridor is planned to be residential suburban density growth. There is active housing construction occurring in this area. Boone County is constructing a new elementary school in the Steeplechase community. With rapid industrial growth expected to continue along US-25 and further commercial development near the interstate interchange, the symbiotic relationship to housing poses this corridor for rapid growth as well.

Along KY-338 lies Big Bone Lick State Park, approximately three miles west of the US-42/KY-338 intersection. The park is also a U.S. National Natural Landmark and an official Lewis and Clark Heritage Trail Site, bringing tourism to the area. It offers camping, hiking and discovery trails, a bison herd, orienteering, birding, and other state park amenities.

F. Transportation Demand

There are two count stations on this portion of KY-338. The first is Station 008282, which is a volume count at mile point 1.700 between Schmidt Ln and Agarwood Dr. This station had an AADT of 3,221 in 2019, which is consistent with counts over the course of the past decade-plus. Counts have varied minimally from this volume over that timeframe.

The second count station is Station 008284, which is a classification count at mile point 3.700 between Arbor Run Dr and US-42. This station had a count of 2,163 AADT in 2019, with 11.737% being truck traffic. Again, these volumes have been fairly consistent over the course of the past decade-plus.

It is reasonable to expect traffic volumes to increase in the near future given the amount of growth in the area. With that being said, a traffic forecast is recommended for this segment in order to ascertain a more definitive analysis.

II. PROJECT PURPOSE AND NEED (cont.)

G. Capacity

This portion of US-25 has two through-lanes, providing adequate capacity to handle current traffic volume. However, the projected growth in the area is expected to increase traffic volumes in the very near future. As noted in Section F above, a traffic forecast is recommended for this segment.

H. Safety

From the intersection with Triple Crown Blvd/Grand National Blvd to mile point 4.613 at the intersection with US-42, KY-338 experienced 84 crashes in the five-year period beginning January 5, 2015. Of those crashes, one resulted in a fatality, 11 resulted in injury, and 73 resulted in property-damage only. There is a heavy concentration of crashes at the intersection of KY-338 with Hicks Pk, a county route which serves major residential neighborhoods in the area. Other high crash areas include KY-338 at the intersections with other neighborhood streets along the route. The Critical Rate Factor (CRF) is 0.90 for the segment between Triple Crown Blvd/Grand National Blvd (mile point 0.756) and KY-2951 (mile point 2.090); for the segment between KY-2951 (mile point 2.090) and US-42 (mile point 4.613), the CRF is 0.68.

Another metric, Excess Expected Crashes (EEC), can be used as a better predictor of safety issues than CRF. The segment of KY-338 from mile points 2.796 - 4.554 raises the most concern along the corridor. EEC values along this segment range from 4.15 - 8.64. Another location of concern is the intersection of KY-338 with Hicks Pk, where there exists an EEC value of 3.54. This safety data is valuable at the planning level as a way to identify potential problem areas; however, more in-depth safety analysis is recommended for this segment during Phase 1 Design.

I. Roadway Deficiencies

Shoulders along this section of KY-338 are minimal and travel lane widths are narrow. The typical section for KY-338 in this area is 9' driving lanes with 1' paved shoulders. Additional 3' earthen shoulders appear sporadically throughout the study area. The route follows rolling terrain and, thus, sight distance is limited in some areas, causing hidden entrances and blind spots. There are two narrow culverts along the route, with guardrail close to the edge of the traveled way. The paved shoulders are degrading along some portions of the roadway, with asphalt chipping away along the edges.

III. PRELIMINARY ENVIRONMENTAL OVERVIEW

A. Air Quality

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

STIP Pg.#:

TIP Pg.#:

Boone is in maintenance for Ozone in 2015 8-hr std. OKI TIP must meet transportation conformity.

B. Archeology/Historic Resources

Known Archeological or Historic Resources are present

There are multiple residences and farms along this stretch of roadway that are potentially eligible properties. The Richwood Presbyterian Church (1834) and cemetery at the intersection of Chambers and KY-338 are highly likely to be determined eligible for the National Register and the boundary could include the loose rock wall that surrounds the cemetery to the current KY 338 ROW line. The Maplewood Arch, site 15BE483, was listed in 2000 and is located west of the Richwood Presbyterian Church on property formerly owned by Archibald Gaines. Hughes Chapel Cemetery lies at the northeast quadrant of the US-42/KY-338 intersection which is another potential historic resource and should be avoided.

C. Threatened and Endangered Species

The species that could potentially be impacted in this area are Running Buffalo Clover, Indiana Bat and Northern Long Eared Bat. Mitigation for Bat impacts to suitable trees would require use of Imperiled Bat Programmatic MOA and payment into the mitigation fund.

D. Hazardous Materials

Potentially Contaminated Sites are present Potential Bridge or Structure Demolition

No known contaminated sites are in project area. Depending on final project design a Phase 1 ESA may be required to verify.

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

Mud Lick Creek and two unnamed tributaries exist within the project area and would likely be impacted with any culvert extensions, particularly around the intersection of Chambers and KY-338. Depending on pipe length, this could be insignificant.

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

If additional lanes are added, then a detailed noise study would be required due to residences and church.

G. Socioeconomic

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

Depending on final design, there may be socioeconomic impacts through a major widening or realignment. Further work would need to be done in the design process.

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

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

As detailed above, there is the potential for several properties to be determined listed and eligible for the NR, 4(f) resources. Any widening in the area around the Richwood Presbyterian Church could be difficult without impacting 4(f) resources.

Anticipated Environmental Document:

CE Level 3

IV. PROJECT SCOPING, NEEDS & PURPOSE

A. Scoping & Need:

KY-338 is a meandering 32-mile corridor that travels throughout much of Boone County and is very pristine especially from US-42 to KY-2951, Chambers Road. Typically, it is a windy 2-lane road with narrow lanes and narrow shoulders, connecting rural areas to suburban areas to commercial and industrial/distribution areas. Within a portion of the proposed project, rural farms are being converted residential subdivisions. Three miles to the west of this section of KY-338 is the Big Bone Licks State Park and just over a mile to the east of the section is the I-71/75 interstate interchange which is currently being reconstructed. Reconstruction includes sidewalks and/or shared use paths. The scenic areas of central and western Boone County entice bicyclists through the area as identified on OKI's Northern Kentucky Bicyclists Guide.

Due to a combination of a windy road following rolling terrain and 11.737% truck volume, the section experiences a high number of crashes. There have been 84 crashes, including 11 injury crashes and 1 fatality, in this 3.87 mile section of road over the last five years. This region of Boone County has been rapidly growing and the growth is expected to continue. The growth will be both residential and industrial/distribution. Boone County is constructing a new elementary school in the Steeplechase subdivision, a neighborhood situated at the east terminus of the project.

There are numerous potential impacts to cultural historic and biologic resources within this 3.87-mile corridor; to meet the needs of the growing community, especially connectivity to I-71/75, consideration to minimize environmental impacts are such that two concepts are being proposed. As identified, Concept 1 would solely follow KY-338 from US-42 to Triple Crown Blvd/Grand National Blvd. A second alternative, Concept 2, could follow KY-338 from Triple Crown Blvd/Grand National Blvd to its intersection with Hicks Pk; then follow Hicks Pk to US-42. Both projects are expected to be Categorical Exclusion 3 environmental documents. It is expected that the public will want to be actively engaged due to potential impacts to the pristine expanse between US-42 and KY-2951. It is also expected that the public will be engaged due to impacts to high-end residential properties which abut Hicks Pk and the close adjacency of New Haven Elementary School, situated near the northwest end of Hicks Pk.

Overhead utilities run parallel to and with minimal offset from the highway for both KY-338 and Hicks Pk. Near the intersection of Hicks Pk and KY-338 there is an electrical substation. Given topography at the intersection, this could be affected in either concept. Both sanitary sewers — including a new pump station — and gas facilities have recently been provided/upgraded along the corridor. The new pump station is located on the south side of KY-338, approximately 0.5 to 1 mile west of KY-2951. There is a new gas pedestal located on the north side of KY-338 approximately 0.25 mile west of KY-2951.

To develop the cost estimates, it is assumed for both concepts that an urban five-lane, curb/gutter with sidewalks/shared use paths will be provided. However, given the largely unspoiled surroundings, current low traffic volumes, and assessment of a traffic forecast, it is possible that improving regional connectivity might be accomplished with a smaller typical section.

Cost estimates provided in Section V, below, are divided into the two sections and reflect the respective complexities as discussed herein. During the course of this DNA study, identification of effective potential low cost improvements were not identified.

B. Draft Project Purpose:

The purpose of this project is to improve regional connectivity accounting for growth and safety while minimizing impacts to the surrounding area. Improvements to safety shall reflect improved sight distances as can be effected by roadway geometry: at intersections and for horizontal and vertical curves. The project shall address meeting the multimodes of pedestrians, bicyclists, transit, and freight.

V. PROJECT ESTIMATE & METHODOLOGY

Concept 1

Reconstruct KY-338 from the intersection of Triple Crown Blvd/Grand National Blvd to KY-2951 (Chambers Rd) and then from KY-2951 to US-42, from a two-lane rural section to a five-lane urban section with curb, gutter, and sidewalks. The length of this reconstruction is approximately 3.87 miles.



Estimate Methodology:

Estimate was based on reconstructing KY-338 from a two-lane rural typical section to a five-lane urban typical section with curb, gutter, and sidewalks. Right of Way and Utility costs are based on recent similar projects in the vicinity of the project area.

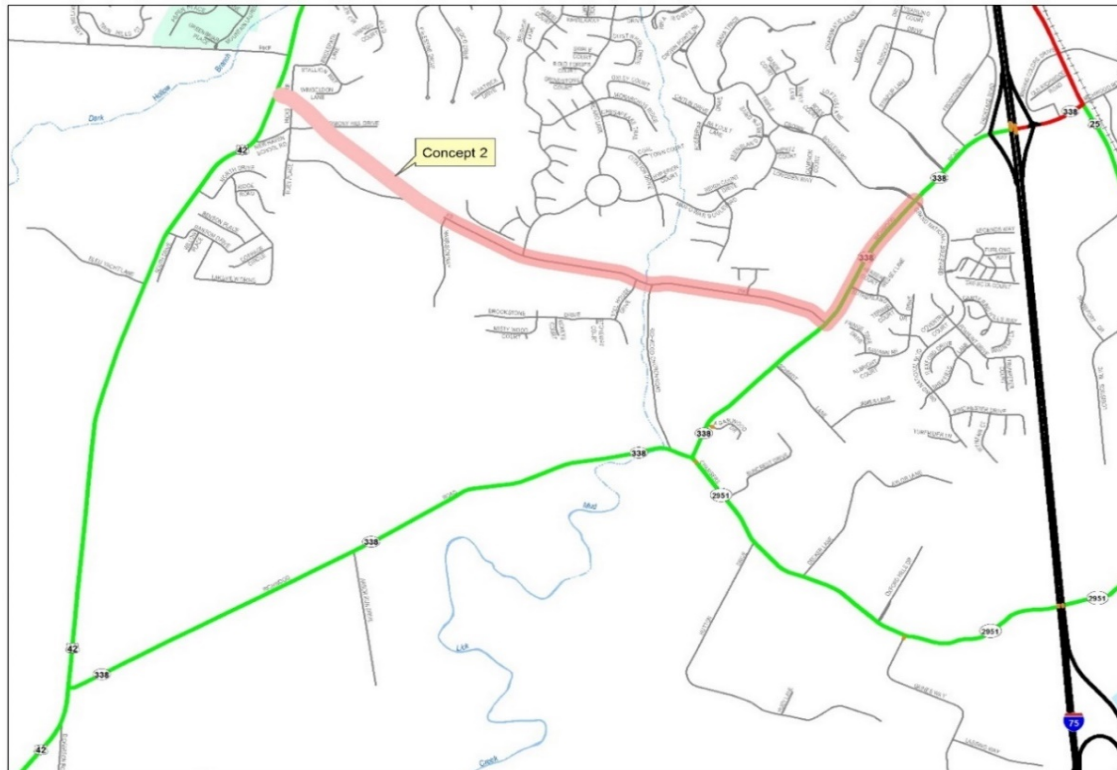
Current Estimate

<u>Phase</u>	<u>Estimate</u>
Planning	
Design	\$6,970,000
R/W	\$25,550,000
Utilities	\$5,810,000
Const	\$46,440,000
Total	\$84,770,000

V. PROJECT ESTIMATE & METHODOLOGY (cont.)

Concept 2

An alternative to widening KY-338 from Triple Crown Blvd/Grand National Blvd all the way to US-42 would be to reconstruct KY-338 from Triple Crown Blvd/Grand National Blvd to Hicks Pike and then reconstruct Hicks Pk from the intersection with KY-338 to US-42. The reconstruction of Hicks Pk is a potential project identified as a need in Boone County's Transportation Plan, which was completed in January 2018. This concept would fit the purpose and need of the project, which is to improve connectivity between US-42 and I-71/75, and is expected to be a more cost-effective option. This concept would reduce the length of necessary reconstruction from the 3.87 miles proposed in Concept 1 (above) to approximately 2.93 miles, almost one full mile.



Estimate Methodology:

Estimate was based on reconstructing the proposed route from a two-lane rural typical section to a five-lane urban typical section with curb, gutter, and sidewalks. Right of Way and Utility costs are based on recent similar projects in the area.

Current Estimate

Phase	Estimate
Planning	
Design	\$5,280,000
R/W	\$19,340,000
Utilities	\$4,400,000
Const	\$35,160,000
Total	\$64,180,000

VI. UTILITIES POTENTIALLY AFFECTED - CONTACT INFORMATION

Company Name - Duke Energy (Electric)
Contact - Nick Melillo
Address - 2010 Dana Ave, Cincinnati OH 45207
Phone No. - (513) 458-3825

Company Name - Duke Energy (Gas)
Contact - Gerry Helm
Address - 1262 Cox Ave, Erlanger KY 41018
Phone No. - (513) 397-7165

Company Name - Charter/Spectrum
Contact - Joseph Angel
Address - 10920 Kenwood Rd, Blue Ash OH 45242
Phone No. - (513) 233-5705

Company Name - Cincinnati Bell
Contact - Breck Cowan
Address - 221 East Fourth St, Ste 700 Building 121-900, Cincinnati OH 45202
Phone No. - (513) 565-7187

Company Name - Boone County Water District
Contact - Mike Rouse
Address - 2475 Burlington Pk, Burlington KY 41005
Phone No. - (859) 586-7270

Company Name - Sanitation District No. 1
Contact - Andy Aman
Address - 1045 Eaton Dr, Fort Wright KY 41017
Phone No. - (859) 578-6880

Company Name - Owen Electric Cooperative
Contact - Lucas McNally
Address - 8205 Highway 127 North, P.O. Box 400, Owenton KY 40359
Phone No. - (502) 563-3494

VII. TABLES AND EXHIBITS

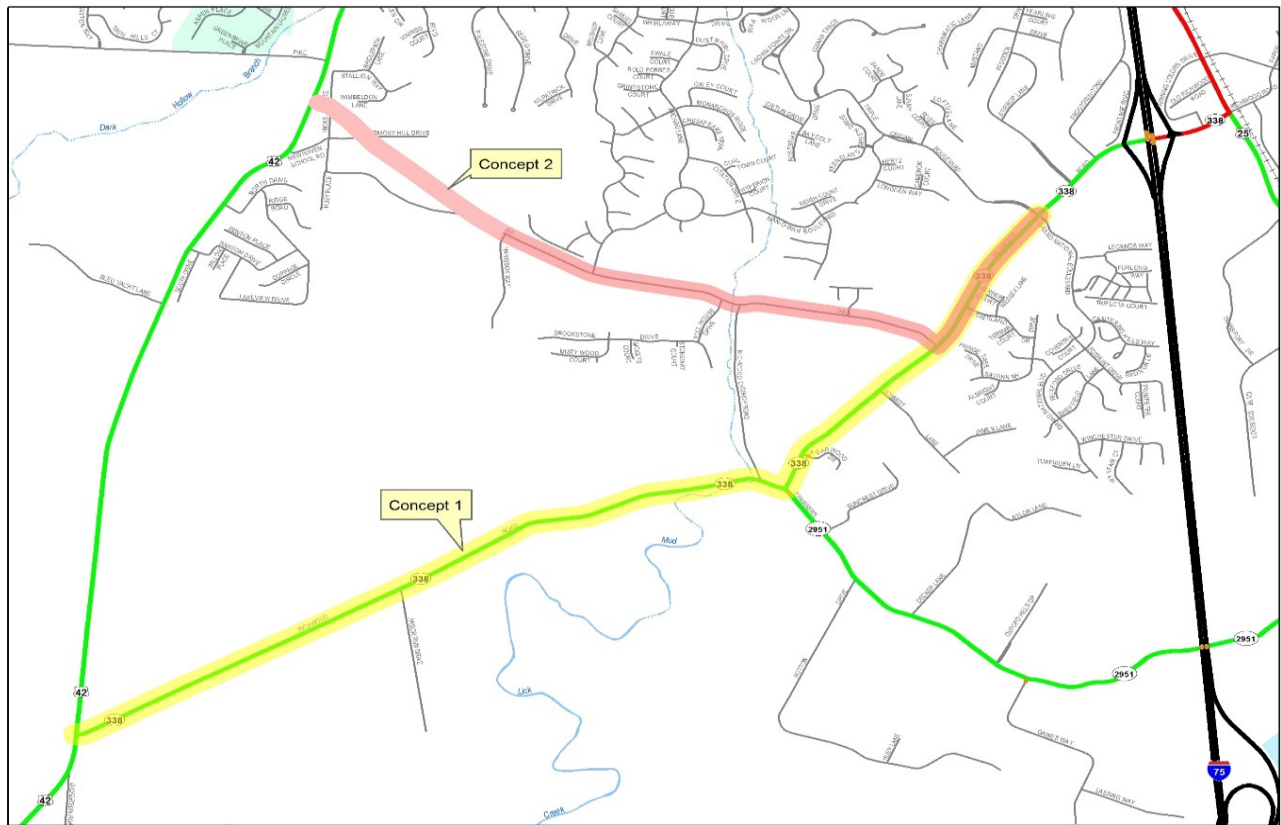


Exhibit 1: Project Location Map

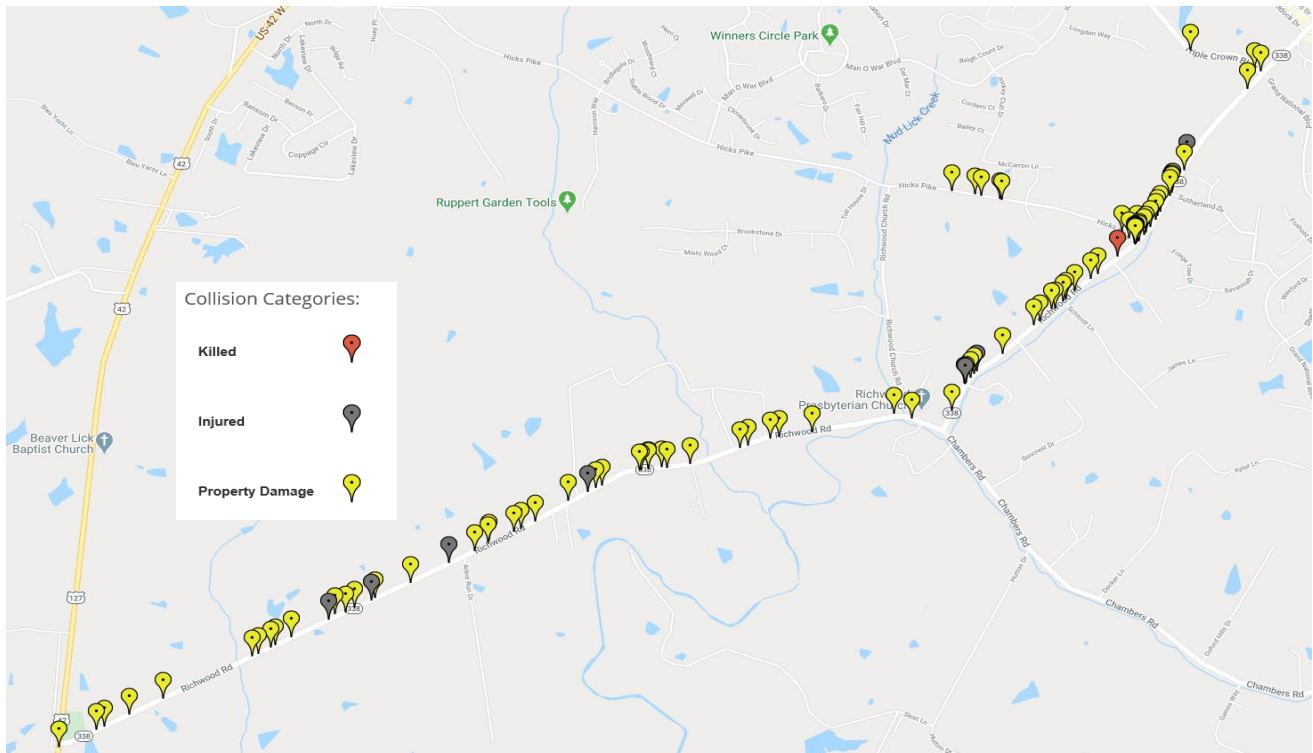


Exhibit 2: Crash Location Map Showing Crashes over a Five-Year Period Beginning January 5, 2015

VII. TABLES AND EXHIBITS (cont.)



Exhibit 3: View from Intersection of Triple Crown Blvd/Grand National Blvd/KY-338 (Richwood Rd)



Exhibit 4: New Commercial Entrance near Mile Point 0.9

VII. TABLES AND EXHIBITS (cont.)



Exhibit 5: KY-338 Possible Sight Distance Issue at the Intersection with Sutherland Dr on Left



Exhibit 6: Culvert near Mile Point 1.3

VII. TABLES AND EXHIBITS (cont.)



Exhibit 7: KY-338 Intersection with Hicks Pk on Right



Exhibit 8: KY-338 Intersection with Schmidt Ln on Left

VII. TABLES AND EXHIBITS (cont.)



Exhibit 9: KY-338 Intersection with Agarwood Dr on Left



Exhibit 10: KY-338 Intersection with KY-2951 (Chambers Rd). Historic Cemetery Behind Wall on Right

VII. TABLES AND EXHIBITS (cont.)



Exhibit 11: View of Richwood Road Facing West from Intersection with KY-2951 (Chambers Rd)



Exhibit 12: View of Blind Entrance on Richwood Rd near Mile Point 2.5

VII. TABLES AND EXHIBITS (cont.)



Exhibit 13: View of Narrow Bridge/Culvert and Sharp Curve on Richwood Rd near Mile Point 2.7



Exhibit 14: Hicks Pk Facing North near Intersection with KY-338

VII. TABLES AND EXHIBITS (cont.)



Exhibit 15: Hicks Pk Facing West at Culvert Between Richwood Church Rd and Toll House Rd



Exhibit 16: Hicks Pk Facing Northwest at Intersection with Man O War Blvd

VII. TABLES AND EXHIBITS (cont.)



Exhibit 17: Hicks Pk Facing Northwest Just Past Intersection with Harrison Way and Bridlegate Dr



Exhibit 18: Hicks Pk Facing North at Intersection with New Haven School Rd