

APPENDIX A

EXISTING CONDITIONS



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1.1 LANES

This appendix is intended to supplement the existing conditions chapter of the report by providing tabularized data for the study area. Lane widths throughout the study area are 12 feet wide. The number of lanes change from four to two at mile point 0.378 and from two to four at mile point 2.757. The lane information is shown in **Table 1**. Auxiliary lanes, such as turning lanes and truck climbing lanes, are present in some parts of the corridor. Three turning lanes exist in the eastern part of the study area and truck climbing lanes exist in the western part of the study area. Auxiliary lane information can be found in **Table 2**.

Table 1: Lane Widths and Numbers Along KY 90

Begin Milepoint	End Milepoint	Lane Width (feet)	Total Number of Lanes	Lanes in the Cardinal Direction	Lanes in the Non-Cardinal Direction
0.000	0.378	12	4	2	2
0.378	2.434	12	2	1	1
2.434	2.757	12	2 (divided)	1	1
2.757	3.061	12	4 (divided)	2	2

Table 2: Auxiliary Lane Types Along KY 90

Begin Milepoint	End Milepoint	Auxiliary Lane Width (feet)	Auxiliary Lane Type	Auxiliary Lane Offset (feet)	Auxiliary Pavement Type
0.000	0.112	12	Truck Climbing/Passing (Right Side)	None	Asphalt
0.000	0.378	12	Truck Climbing/Passing (Left Side)	None	Asphalt
2.757	2.852	12	Turning	None	Asphalt
2.852	2.936	12	Turning	None	Asphalt
3.006	3.061	12	Turning	None	Asphalt

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1.2 SHOULDERS

Shoulders separate traffic from roadside hazards like houses and trees and are considered a safety measure. Along KY 90, a 10-foot shoulder exists on the right side for the entirety of the corridor. The KYTC HIS and the field observations differed, so the field observations were taken as the existing shoulder width. **Table 3** below highlights shoulder types and locations.

Table 3: Shoulder Types Along KY 90

Begin Milepoint	End Milepoint	Shoulder Side	Shoulder Type	Highway Information System Shoulder Width (feet)	Surface Width (feet)	Field Observed Shoulder Width (feet)
0.000	4.136	Non-Cardinal Right	Asphalt	12	12	10
0.000	4.136	Cardinal Right	Asphalt	12	12	10
2.434	3.061	Cardinal Left	No Shoulders or Curbs Exist Along Median	0	0	0
2.434	3.061	Non-Cardinal Left	No Shoulders or Curbs Exist Along Median	0	0	0

1.3 MEDIANS

Medians separate opposing traffic and are considered a safety measure. Along KY 90, a median does not exist for most of the corridor. From mile point 2.434 to 3.050, a flush median of 15 feet exists. **Table 4** below highlights median types and locations.

Table 4: Median Types Along KY 90

Begin Milepoint	End Milepoint	Road Type	Median Type	Median Width (feet)	Barrier Type
0.000	2.434	Undivided Highway	None	0	None
2.434	2.757	Divided Highway	Flush	0-20	None
2.434	3.050	Divided Highway	Flush	15-20	None

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1.4 HORIZONTAL GEOMETRY

A relationship between the horizontal alignment of a roadway and operating speed is well established. Using the radius of curves along KY 90, the resulting design speed can be calculated using material from the American Association of State Highway and Transportation Officials (AASHTO) A Policy on Geometric Design (Green Book) (AASHTO 2018). All the horizontal curves meet design criteria for a 55-mph facility.

Table 5: Horizontal Geometry and Associated Design Speeds

Begin Milepoint	End Milepoint	Length (feet)	Curve Degree	Superelevation	Radius (feet)	Design Speed
0.000	2.800	14787	0	0%	0	55+
2.800	3.061	1183	2.4	5.3%	2297	55+

1.5 VERTICAL GEOMETRY

Using vertical curve data from KY 90, the resulting stopping sight distance for crest vertical curves and headlight sight distance for sag vertical curves can be calculated through Kentucky Transportation Cabinet (KYTC) HIS data and should meet the 495-foot sight distance requirement for a 55-mph facility per guidance from the AASHTO Green Book (AASHTO 2011). All of the vertical curves meet design criteria for a 55-mph facility.

Table 6: Vertical Geometry and Associated Stopping Distance

Begin Milepoint	End Milepoint	Length (ft)	Vertical Grade Type	Stopping Distance Type	G1 (%)	G2 (%)	Absolute Difference	Sight Distance Length (ft)
0.000	0.263	1388.64	Downhill		0.000		0	
0.263	0.359	506.88	Sag	Headlight Sight Distance	-0.697	0.721	1.418	878.2945392
0.359	1.026	3521.76	Uphill		0.000		0	
1.026	1.155	681.12	Crest	Stopping Sight Distance	0.407	-1.059	1.466	1001.314607
1.155	1.377	1172.16	Downhill		0.000		0	
1.377	1.983	3199.68	Downhill		0.000		0	
1.983	2.063	422.4	Sag	Headlight Sight Distance	-1.125	0.854	1.979	678.6795729
2.063	2.250	987.36	Uphill		0.000		0	

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Begin Milepoint	End Milepoint	Length (ft)	Vertical Grade Type	Stopping Distance Type	G1 (%)	G2 (%)	Absolute Difference	Sight Distance Length (ft)
2.250	2.334	443.52	Crest	Stopping Sight Distance	1.084	-1.463	2.546	613.1307884
2.334	2.727	2075.04	Downhill		0.000		0	
2.727	2.879	802.56	Sag	Headlight Sight Distance	-1.281	0.495	1.775	987.7915273
2.879	3.061	4118.4	Uphill		0.000		0	

1.6 INTERSECTIONS & ACCESS POINTS

Intersections and access points are located throughout the corridor. Access control is listed as “By Permit.” 95 access points are located along the KY 90 study area. Of the 95 access points, 12 are three legged intersections, five are four legged intersections, and the remaining 78 are private or commercial driveways. **Table 7** below highlights all the access points and the name of the intersection.

Table 7: Access Points and Intersections Along KY 90

Access Point Type	Name
Driveway	
Driveway	
Driveway	
Driveway	
Driveway	
Driveway	
Road	Old KY 90 Loop 3
Driveway	
Driveway	
Road	Forest Ridge Road
Driveway	
Driveway	
Road	Sycamore Drive
Driveway	
Road	Shaw Lane
Driveway	
Driveway	
Driveway	
Driveway	
Driveway	

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Driveway		Driveway	
Access Point Type	Name	Access Point Type	Name
Road	John Gover Lane	Driveway	
Driveway		Driveway	
Driveway		Driveway	Old Bronston School Road
Driveway		Driveway	
Driveway		Road	Park Drive
Road	Jacksboro Road	Driveway	
Road	Old KY 90 Loop 2	Driveway	
Driveway		Driveway	
Driveway		Road	Tucker Road
Driveway		Road	Old KY 90 Loop 2
Driveway		Driveway	
Driveway		Driveway	
Driveway		Driveway	
Driveway		Driveway	
Road	Hillview Ave	Driveway	
Driveway		Road	Old KY 90
Driveway		Road	Gibson Lane
Driveway		Driveway	
Driveway		Driveway	
Driveway		Driveway	
Driveway		Driveway	
Driveway		Road	Robins Nest Road
Road	Hillview Ave	Driveway	
Driveway		Road	KY 790
Driveway		Road	Cumberland Drive
Driveway	Driveway	Road	CR-1370D
Driveway		Road	Denny Lane