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Table 1: US 51 Highway Characteristics Data Summary

US 51 Study at Bardwell US 51 - HIS Data (MP 4.928 - 10.855)		
Roadway Facility Data	Functional Classification	Rural Principal Arterial
	State System Class	State Primary
	Facility Type	2 Lane Undivided Highway
	Average Right-of-Way Width (feet)	65 (MP 0-6.889) 50 (MP 6.889-8.049) 120 (MP 8.049-8.177) 60 (MP 8.177-9.867) 280 (MP 9.867-10.392) 60 (MP 10.392-11.228)
	Lane Width (feet)	11 (MP 0-12.527)
	Shoulder Width (feet)	3 (MP 1.448-7.975) 4 (MP 7.975-8.056) 10 (MP 8.059-8.177) 3 (MP 8.177-9.867) 8 (MP 9.867-10.392) 3 (MP 10.392-11.228)
	Shoulder Type	Stabilized, Paved w/Bituminous Material
	Percent Passing Sight Distance	30 (MP .996-10.725) 58 (MP 10.725-12.527)
	Type of Terrain	Rolling
	Coal Haul (Annual Tons)	0
	Scenic Byway System	1 (Great River Road)
	National Highway System	No
	National Truck Network	Yes (State Only Auth. Route)
	Defense Highway	2 (Hickman-FAP 94, FAP 94-Ballard)
	Extended Weight System	No
Truck Weight Class	AAA	
Volumes and Posted Speeds	Current Volume (Vehicles per Day)	2,590-5,620 (See Traffic Volume Figure)
	Speed Limit (Miles per Hour)	55 (MP 1.646-6.55) 45 (MP 6.55-6.846) 35 (MP 6.846-7.132) 25 (MP 7.132-7.573) 35 (MP 7.573-7.883) 45 (MP 7.883-8.068) 55 (MP 8.068-12.527)
Pavement and Structures	Surface Type	High Flexible
	Last Year Surfaced	1991 (MP 0-6.855) 1994 (MP 6.855-7.736) 1993 (MP 7.736-8.037) 1991 (MP 8.037-8.338) 1993 (MP 8.338-9.895) 1991 (MP 9.895-10.36) 1993 (MP 10.36-12.2)
	Number of Bridges	4

Source: KYTC Highway Information System Database (2002) and Field Views

Table 13: US 51 between Jennings Street and KY 123 Crash Details

Date & Time	Location	Severity	Type	Directional Analysis	Roadway Character	Roadway Conditions
10/27/1999 9:00	MP 7.366	Non-Injury	Collision with Other Motor Vehicle	Rear End - One Vehicle Stopped	Straight & Level	Dry
02/23/2000 20:32	MP 7.439	Non-Injury	Sideswipe, Opposite Direction	Opposite Direction - Both Vehicles Going Straight Ahead	Straight & Level	Wet
12/06/1999 15:00	MP 7.45	Non-Injury	Collision with Other Motor Vehicle	1 Vehicle Leaving Driveway (Including Business Entrance)	Straight & Grade	Dry
01/29/2001 11:22	MP 7.462	Non-Injury	Angle	1 Vehicle Entering/Leaving Entrance	Straight & Level	Wet
06/23/2000 15:25	MP 7.517	Non-Injury	Sideswipe, Opposite Direction	Opposite Direction - Both Vehicles Going Straight Ahead	Straight & Level	Dry
05/11/2000 14:24	MP 7.542	Non-Injury	Backing	1 Vehicle Parked Position (Not Parking Lot, Driveway)	Straight & Level	Dry
12/15/2000 13:51	MP 7.542	Non-Injury	Backing	Vehicle Backing	Straight & Level	Ice
05/28/1998 16:00	MP 7.559	Non-Injury	Collision with Other Motor Vehicle	Rear End - One Vehicle Stopped	Straight & Level	Dry
12/17/1998 14:00	MP 7.561	Non-Injury	Collision with Other Motor Vehicle	Rear End In Traffic Lanes - Both Vehicles Moving	Straight & Level	Dry
06/20/1999 18:00	MP 7.561	Injury	Collision with Other Motor Vehicle	Rear End - Both Vehicles Going Straight	Straight & Level	Dry
11/24/2000 22:40	MP 7.561	Non-Injury	Sideswipe, Opposite Direction	Sideswipe Collision - Opposite Direction	Curve & Hillcrest	Wet

Table 14: US 51 near Methodist Church Crash Details

Date & Time	Location	Severity	Type	Directional Analysis	Roadway Character	Roadway Conditions
03/14/2001 10:57	MP 7.000	Injury	Rear End	Rear End - One Vehicle Stopped	Straight & Grade	Dry
04/14/2001 9:45	MP 7.000	Non-Injury	Angle	1 Vehicle Entering/Leaving Entrance	Straight & Level	Dry
08/10/2000 12:10	MP 7.161	Non-Injury	Angle	Angle Collision – One Vehicle Turning Left	Straight & Grade	Dry
01/08/2000 1:50	MP 7.176	Non-Injury	Head On	Collision with Non-Fixed Object	Straight & Level	Dry
04/24/2000 15:34	MP 7.176	Non-Injury	Sideswipe, Opposite Direction	Sideswipe Collision – Opposite Direction	Curve & Level	Wet
12/20/2000 17:30	MP 7.177	Injury	Sideswipe, Same Direction	Sideswipe, Same Direction	Straight & Hillcrest	Dry

Table 15: US 51 near MP 5.5 Crash Details

Date & Time	Location	Severity	Type	Directional Analysis	Roadway Character	Roadway Conditions
06/21/1999 17:12	MP 5.500	Fatal	Non-Collision, Overturned	Overturned in Roadway	Curve and Level	Dry

Table 16: Carlisle County Employment by Major Industry (2000)

Carlisle County	Employment	Percent
Agriculture, Forestry & Fishing	25	2.9
Contract Construction	51	6.0
Manufacturing	132	15.4
Transportation and Public Utilities	14	1.6
Wholesale Trade	0	0.0
Retail Trade	164	19.2
Finance, Insurance and Real Estate	61	7.1
Services	143	16.7
State and Local Government	35	4.1
All Industries	855	100.0

Source: Kentucky Economic Development Information System

Table 17: Bardwell Area Major Manufacturers

Firm	Product(s)	Employees	Year Est.
Carlisle County News	Newspaper publishing	2	1894
Carlisle Manufacturing	Cultured marble sinks, panels, counter tops & products	4	1991
Ford Construction Co.	Ready-mixed concrete & livestock water tanks	5	1957
RBS China Inc.	Lamps (portable lighting)	40	1992

Source: Kentucky Economic Development Information System

Table 18: Carlisle County Commuting Patterns

	2000	%
Residents of Carlisle County		
Working and Residing In County	840	38.1
Commuting Out of County	1,362	61.9
Total Residents	2,202	100
Employees in Carlisle County		
Working and Residing In County	840	78.8
Commuting Into County	226	21.2
Total Employees	1,066	100

Source: Kentucky State Data Center

Table 19: Cultural Historic Overview Survey

Site No.	KHC Number	Description	Potentially Eligible For NRHP	Consultant Recommended Eligible For NRHP	Final Recommendation For NRHP
1	CEB-20	1½ story, T-plan house – vinyl siding, new porch, additions	Yes	No	1
2		1 story, 5 bay eave-oriented house – vinyl siding, new windows	No	No	No
3		1 story, T-plan house – reoriented to side, new windows	No	No	No
4		1 story, Southern Bungalow – vinyl siding, enclosed porch	No	No	No
5		1½ story, T-plan house – vinyl siding	No	No	No
6		1 story, 4 bay, saddlebag house – composite siding, rear addition	No	No	No
7		Church of Christ – brick, bricked-in openings, large side addition	No	No	No
8		1 story, hip-roof house with brick veneer	No	No	No
9		1½ story, 3 bay, house with front gable-oriented section	No	No	No
10		1½ story, T-plan house – asbestos siding, enclosed porch	No	No	No
11		1 story, hip-roof structure – enclosed porch with rusticated concrete block columns	No	No	No
12		1 story, 4 bay, eave-oriented house	No	No	No
13		Demolished – 1½ story American Bungalow	N/A	N/A	N/A
14	CEB-11	1½ story, 3 bay house with a cross gable – vinyl siding	Yes	Yes	Yes
15	CEB-21	1½ story, 3 bay, American Bungalow – weatherboard, original windows	Yes	Yes	Yes
16	CEB-22	2 story, 3 bay, brick commercial structure – brick detailing, cast iron storefront columns	Yes	No	No
17		1 story, brick commercial structure – new upper front section	No	No	No
18		1 story, 4 bay bungalow with partial recessed porch	No	No	No
19		1 story, 3 bay, brick commercial building	No	No	No
20	CEB-23	1 story, poured concrete, Spanish Revival office structure – concrete detailing – missing roof, windows, door	Yes	Yes	Yes
21		Bardwell Baptist Church – brick with large side additions	No	No	No
22	CEB-24	1½ story, 4 bay Tudor Revival – stone veneer, half-timbered gables – large handicap ramp on front	Yes	Yes	Yes
23		1 story, hip-roof bungalow	No	No	No
24		1 story, T-plan house – entry with sidelights and transom, new windows, new porch	No	No	No
25		1 story, T-plan house – aluminum siding, enclosed porch	No	No	No
26		1½ story, 3 bay house with a cross gable – vinyl siding	No	No	No
27	CEB-17	Demolished – First Christian Church of Bardwell (earlier)	N/A	N/A	N/A
28		1½ story, 3 bay house with front gable-oriented sections	No	No	No
29		1 story, 3 bay house – vinyl siding, original door	No	No	No
30		1 story, 3 bay, hip-roof bungalow	No	No	No
31	CEB-25	1½ story, 3 bay, brick Tudor Revival	Yes	No	No
32	CEB-5	First United Methodist Church	Yes	Yes	Yes

¹ KHC disagreed with the recommendation of not eligible for Site 1. KHC was concerned about potential impacts to the site and as a result, further discussion was held regarding the site's eligibility status. However, no additional analysis or documentation was produced because the recommended alternatives are not expected to impact the site.

Site Number	KHC Number	Description	Potentially Eligible For NRHP	Consultant Recommended Eligible For NRHP	Final Recommendation For NRHP
33		Commercial/industrial building clad in corrugated tin	No	No	No
34	(CEB-7)	2 story, 5 bay, brick commercial building – new storefront	No	No	No
35	(CEB-7)	2 story, 3 bay, brick commercial building – new storefront	No	No	No
36	CEB-6	City Hall – new brick veneer, mansard roof	No	No	No
37	CEB-26 (CEB-7)	1 story, 8 bay, brick 20 th century commercial building – cast iron columns (Mesker plate)	Yes	No	2**
38	(CEB-7)	1 story, 3 bay, brick 20 th century commercial building	No	No	No
39	(CEB-7)	2 story, 5 bay, brick commercial building – new storefront, bricked-in windows	No	No	No
40	(CEB-7)	2 story, 4 bay brick 20 th century commercial building	No	No	No
41	(CEB-7)	1 story, brick 20 th century commercial building	No	No	No
42	(CEB-7)	2 story, 2 bay commercial building – upper story clad, new storefront	No	No	No
43	CEB-27 (CEB-7)	2 story, 9 bay brick commercial block – brick detailing, center original storefront	Yes	Yes	Yes
44	(CEB-7)	2 story, 3 bay brick commercial building – storefront clad, balcony removed	No	No	No
45	CEB-28 (CEB-7)	2 story, 3 bay, rusticated concrete block façade – First National Bank building	Yes	Yes	Yes
46	(CEB-7)	2 story, 3 bay, brick commercial building – new storefront	No	No	No
47	(CEB-7)	2 story, 3 bay, brick commercial building – cast iron columns, new storefront	No	No	No
48	CEB-4	Demolished – Railroad depot	N/A	N/A	N/A
49		2 story, 3 bay, eave-oriented house – aluminum siding	No	No	No
50		1 story, 5 bay, saddlebag house – 3 bay enclosed porch	No	No	No
51		1 story, frame commercial/industrial structure – partially demolished (brick section?)	No	No	No
52		1½ story, cross plan house – aluminum siding	No	No	No
53		1½ story, 3 bay Tudor Revival house – front sloped gable section	No	No	No
54		1½ story, 3 bay house with large shed-roof dormer	No	No	No
55		2 story, 3 bay, hip-roof house – large side addition	No	No	No
56		1½ story, 3 bay, saddlebag house – new carport	No	No	No
57		1 story, 3 bay, house with pyramidal roof – recessed full porch	No	No	No
58		2 story, 3 bay, gable-oriented house – rear addition	No	No	No
59		1½ story, American Bungalow – gable-roof dormer	No	No	No
60	CEB-29	2 story, brick, T-plan house – fishscale shingles in gables	Yes	Yes	Yes
61		1 story, 4 bay, saddlebag house – aluminum siding	No	No	No
62		Roselawn Cemetery	No	No	No
63		Bardwell Cemetery	No	No	No
64		1 story, asymmetrically massed cottage – hip-roof	No	No	No
65		1 story, 3 bay, hip-roof house with recessed central porch	No	No	No

² The Kentucky Heritage Council disagreed with the recommendation of not eligible for Site 37. However, since the recommended alternatives are not expected to impact the site, no further analysis or documentation was produced.

Table 21: Threatened or Endangered Species

Common Name	Scientific Name	Status
Indiana bat	<i>Myotis sodalis</i>	Federally endangered, state endangered
Interior least tern	<i>Sterna antillarum athalassos</i>	Federally endangered, state endangered
Hooded merganser	<i>Lophodytes cucullatus</i>	State endangered
Spotted sandpiper	<i>Actitis macularia</i>	State endangered
Cypress minnow	<i>Hybognathus hayi</i>	State endangered
Alabama shad	<i>Alosa alabamae</i>	State endangered
Evening bat	<i>Nycticeius humeralis</i>	State threatened
Yellow-crowned night-heron	<i>Nyctanassa violaceus</i>	State threatened
Common moorhen	<i>Gallinula chloropus</i>	State threatened
Least bittern	<i>Ixobrychus exilis</i>	State threatened
Spotted sunfish	<i>Lepomis punctatus</i>	State threatened
Taillight shiner	<i>Notropis maculatus</i>	State threatened

Source: Kentucky Fish and Wildlife Information Systems

Table 22: Level 1 Evaluation Matrix

Alt. No.	Description	Implementation / Construction Feasibility	Project Goals	Community Impacts	Environmental Impacts	Public Support	Advance to Level 2
1	No Build	Good	Poor	Fair	Good	Fair	Yes
2	Spot Improvements	Good	Fair	Fair	Good	Good	Yes
3	Reconstruct Existing US 51 as two-lane highway	Fair	Good	Good	Good	Good	Yes
4A	Southern Realignment of US 51 - Option A	Fair	Good	Good	Fair	Fair	Yes
4B	Southern Realignment of US 51 - Option B	Fair	Good	Fair	Good	Fair	Yes
5A	Eastern Bypass - Option A	Good	Fair	Fair	Poor	Poor	Yes
5B	Eastern Bypass - Option B	Fair	Fair	Poor	Poor	Poor	No
6	Western Bypass	Poor	Fair	Fair	Fair	Poor	No
7	One-way Street Option (using Front Street)	Fair	Fair	Fair	Good	Poor	No

Table 23: Level 2 Traffic Operations and Environment Evaluation Matrix

Alternative	Description	Traffic Operations					Environment							
		Traffic Benefits	Average Daily Traffic on US 51		Truck Traffic Benefits on US 51	Vehicle / Pedestrian / Bicycle Safety Benefits	Natural Environment					Human Environment		
			2002 ADT	2030 ADT			No. of Streams Impacted	Wetlands Impacted (Based on NWI Mapping)	Floodplain Impacts (Acres)	Threatened and Endangered Species	Other	No. of National Register Sites or Potentially Eligible Sites that May be Impacted	Potential Agricultural District / Farmland Impacts	Potential HAZMAT Sites
Alternative 1	Do Nothing	None	2,800 - 5,600	4,200 - 8,500	None (Maintains Current Volume Through Town)	None	0	0	0	None	--	0	None	0
Alternative 2A US 51 at US 62	Sidewalk / Curb & Gutter Reconstruction, Provide Adequate Turning Radii, Construct Left-Turn Lanes, Install Actuated Signal	Medium	5,500	8,350	Medium (Increased Turning Radii, Traffic Signal, Turn Lanes Benefit Turning Trucks)	Medium (Improves Safety for Turning Vehicles)	0	0	0	None Likely	--	0	None	0-2
Alternative 2B US 51 at Jennings Street	Remove Traffic Signal, Re-stripe Intersection	Medium	5,300	8,100	Medium (Eliminates Unnecessary Stop)	Low (Eliminates Unwarranted Signal)	0	0	0	None Likely	--	N/A	None	0
Alternative 2C US 51 at KY 123	Provide Adequate Turning Radii	Low	4,800	7,300	Medium (Increased Turning Radii)	Low (Reduces Crossover into Opposing Travel Lanes)	0	0	0	None Likely	--	0	None	0
Alternative 2D US 51 at Curve by Methodist Church	Realign Roadway to Reduce Curve, Widen Lanes and Shoulder	Low	4,200	6,400	High (Mitigates Current Problems With Hill and Curve)	Medium (Improves Curve and Hill, Wider Lanes)	0	0	0	None Likely	--	2 Sites	None	0
Alternative 3 Reconstruct US 51	Reconstruct US 51 North of Town to KY 1181 With Spot Improvements to Hills and Curves South of Town and Alternative 2 Improvements	High	2,800 - 5,600	4,200 - 8,500	High (See Above Items)	High (Improves Curve and Hill, Wider Lanes, Better Traffic Control)	0	0	0	None Likely	Increased Runoff	6 - 7 Sites	None	0-7
Alternative 4A US 51 Realignment West of Church	New US 51 Highway From West of Methodist Church to Between KY 1181 and KY 1377 in South, and Alternative 2A, 2B, 2C and 3 Improvements North of Realignment	High	3,200 - Realignment 400 - 1,200 Old US 51	4,900 - Realignment 600 - 1,800 Old US 51	High (Bypasses Sharp Curve and Hill)	High (Eliminates Curve and Hill, Wider Lanes, Better Traffic Control)	Crosses 2 Streams, Relocate 2700' Stream (2 Culverts Needed)	Potential Impacts to 1-2 Farm Ponds	2900' - 7 Acres	Potential Habitat Impacts Related to Stream, Farm Pond, and Floodplain Areas	Increased Runoff	5 - 6 Sites, May Also Impact 1 or More Unmarked Cemetery Sites	Bisects One Agricultural District, May Split One or More Farms	0-7
Alternative 4B US 51 Realignment East of Church	New US 51 Highway From East of Methodist Church to Between KY 1181 and KY 1377 in South, and Alternative 2A, 2B, 2C and 3 Improvements North of Realignment	High	3,200 - Realignment 400 - 1,200 Old US 51	4,900 - Realignment 600 - 1,800 Old US 51	High (Bypasses Sharp Curve and Hill)	High (Eliminates Curve and Hill, Wider Lanes, Better Traffic Control)	Crosses 0 - 2 New Streams	Potential Impacts to 1-2 Farm Ponds	< 5 Acres	Expect Minimal Habitat Impacts	Increased Runoff	5 - 6 Sites	Bisects One Agricultural District, May Split One or More Farms	0-7
Alternative 5A Eastern Bypass	New 2-Lane Highway From the Curve Just North of the Bardwell Cemetery, North to KY 123 and US 62, and then Northwest to the Current US 51 Alignment North of Town	High	800 - 1,200 on Bypass 3,100 - 4,200 on Current US 51	1,400 - 1,900 on Bypass 4,800 - 7,100 on Current US 51	High (Bypasses Sharp Curve, Hill, and High Crash Area on US 51, Diverts Trucks Around Town)	High (Eliminates Curve and Hill, Wider Lanes, Diverts Trucks, Reduces Traffic in Town)	2 New Stream Crossings (1 Major Stream Crossing)	Potential Impacts to 1-4 Farm Ponds and 1 Natural Wetland Area	700' < 2 Acres	Impacts to Potential Bat Habitat, Potential Impacts Related to Stream, Farm Pond, Wetland and Floodplain Areas	Increased Runoff (Most of Any Alternative)	Possible Impact to Known Archeological Site, May Impact Unmarked African-American Cemetery	Crosses a Portion of One Agricultural District, May Split One or More Farms	0

Table 24: Level 2 Community and Implementation / Construction Evaluation Matrix

Alternative	Description	Community				Public Support	Implementation / Construction				
		Economic Development Impacts	Buildings Impacted (Homes, Businesses, Other)	Community Impacts	Community Character		Construction Feasibility	Construction Length (Miles)	New ROW Required (Acres)	Potential Utility Impacts	Cost Estimate* (Total)
Alternative 1	Do Nothing	None	0	Fair	Poor	43%	Good	0	0	Good	N/A
Alternative 2A US 51 at US 62	Sidewalk / Curb & Gutter Reconstruction, Provide Adequate Turning Radii, Construct Left-Turn Lanes, Install Actuated Signal	None	0	Fair (Access Impacts)	Fair	43%	Good	N/A	< 1	Fair	Low-Medium
Alternative 2B US 51 at Jennings Street	Remove Traffic Signal, Re-stripe Intersection	None	0	Good	Fair	40%	Good	N/A	N/A	Good	Low
Alternative 2C US 51 at KY 123	Provide Adequate Turning Radii	None	0	Good	Fair	10%	Good	N/A	< 1	Good	Low
Alternative 2D US 51 at Curve by Methodist Church	Realign Roadway to Reduce Curve, Widen Lanes and Shoulder	None	2 Homes	Good	Fair	N/A	Good	0.5	<5	Poor	Low-High
Alternative 3 Reconstruct US 51	Reconstruct US 51 North of Town to KY 1181 With Spot Improvements to Hills and Curves South of Town and Alternative 2 Improvements	Good for Current Businesses, Poor for New Development	2 Homes	Good (Traffic Issues in Town During Construction)	Good (Streetscape Improvements)	37%	Poor	2.8	10	Poor	Medium - High
Alternative 4A US 51 Realignment West of Church	New US 51 Highway From West of Methodist Church to Between KY 1181 and KY 1377 in South, and Alternative 2A, 2B, 2C and 3 Improvements North of Realignment	Good for Current Businesses, Fair for New Development	1 - 2 Homes 1 - 2 Barns / Outbuildings	Good (Traffic Issues in Town During Construction)	Good	20%	Poor	Bypass - 1.5 Total - 2.0	35	Poor	High
Alternative 4B US 51 Realignment East of Church	New US 51 Highway From East of Methodist Church to Between KY 1181 and KY 1377 in South, and Alternative 2A, 2B, 2C and 3 Improvements North of Realignment	Good for Current Businesses, Fair for New Development	1 - 2 Homes, 0 - 1 Businesses, County Maintenance Outbuildings	Good (Traffic Issues in Town During Construction)	Good	20%	Poor	Bypass - 1.3 Total - 1.7	30	Poor	Medium-High
Alternative 5A Eastern Bypass	New 2-Lane Highway From the Curve Just North of the Bardwell Cemetery, North to KY 123 and US 62, and then Northwest to the Current US 51 Alignment North of Town	Poor for Current Businesses, Fair for New Development	0 - 3 Homes	Good (Alignment will Avoid Local Park)	Fair (Community Bypassed)	17% supported 27% opposed	Good	Bypass - 2.0 Total - 3.3	45	Good	High

*Cost estimate excludes bridges at railroad crossings, purchase or relocation of any property, environmental work, relocation of utilities

Table 25: Level 3 Traffic Operations Evaluation Matrix

Alternative	Description	Average Daily Traffic (ADT) on US 51 in Town		Level of Service (LOS)*		Truck Traffic Benefits	Estimated 2030 Truck Volumes (Trucks per Day)	Vehicle / Pedestrian / Bicycle Safety Benefits
		2002	2030	2002	2030			
Alternative 1	Do Nothing	2,800-5,600	4,200-8,500	C	C	None (Maintains Current Volume Through Town)	700 - 980	None
Alternative 2A US 51 at US 62	Sidewalk / Curb & Gutter Reconstruction, Provide Adequate Turning Radii, Construct Left-Turn Lanes, Install Actuated Signal	5,500	8,350	A/B	C	Medium (Increased Turning Radii, Traffic Signal, Turn Lanes Benefit Turning Trucks)	980	Medium (Improves Safety for Turning Vehicles)
Alternative 2B US 51 at Jennings Street	Remove Traffic Signal, Re-stripe Intersection	5,300	8,100	B	A/C	Medium (Eliminates Unnecessary Stop)	730	Low (Eliminates Unwarranted Signal)
Alternative 2C US 51 at KY 123	Provide Adequate Turning Radii	4,800	7,300	A/B	C (Assuming Signal is Installed in 2020 - Otherwise A/C/F)	Medium (Increased Turning Radii)	730	Low (Reduces Crossover into Opposing Travel Lanes)
Alternative 2D Curve US 51 at Curve by Methodist Church	Realign Roadway to Reduce Curve, Widen Lanes and Shoulder	4,200	6,400	N/A	N/A	High (Mitigates Current Problems With Curve)	700	Medium (Improves Curve, Wider Lanes)
Alternative 2D Hill US 51 at Hill by Methodist Church	Reduce Grade (Steepness) of Hill, Widen Lanes and Shoulder	3,500	5,300	N/A	N/A	High (Mitigates Current Problems With Hill)	740	Medium (Improves Hill, Wider Lanes)
Alternative 3 Reconstruct US 51	Reconstruct US 51 North of Town to KY 1181 With Spot Improvements to Hills and Curves South of Town and Alternative 2 Improvements	2,800-5,600	4,200-8,500	C	C	High (See Above Items)	700 - 980	High (Improves Curve and Hill, Wider Lanes, Better Traffic Control)
Alternative 4B US 51 Realignment	New US 51 Highway From Methodist Church to Between KY 1181 and KY 1377 in South, and Alternative 2A, 2B, 2C and 3 Improvements North of Realignment	3,200 - Realignment 400 - 1,200 - Old US 51	4,900 - Realignment 600 - 1,800 - Old US 51	C - Realignment C - Old US 51	C - Realignment C - Old US 51	High (Bypasses Sharp Curve and Hill)	690 - Realignment 50 - Old US 51	High (Eliminates Curve and Hill, Wider Lanes, Better Traffic Control)

*Alternatives 2A-2C Intersection LOS; Alternatives 1, 3, and 4B Two-Lane Highway LOS

Table 26: Level 3 Environment Evaluation Matrix

Alternative	Description	Natural Environment				Human Environment		
		No. of Streams Impacted	Wetlands Impacted (Based on NWI Mapping)	Floodplain Impacts (Acres)	Threatened and Endangered Species	No. of National Register Sites or Potentially Eligible Sites that May be Impacted	Potential Agricultural District / Farmland Impacts	Potential HAZMAT Sites
Alternative 1	Do Nothing	0	0	0	None	0	None	0
Alternative 2A US 51 at US 62	Sidewalk / Curb & Gutter Reconstruction, Provide Adequate Turning Radii, Construct Left-Turn Lanes, Install Actuated Signal	0	0	0	None Likely	0	None	0 - 2
Alternative 2B US 51 at Jennings Street	Remove Traffic Signal, Re-stripe Intersection	0	0	0	None Likely	N/A	None	0
Alternative 2C US 51 at KY 123	Provide Adequate Turning Radii	0	0	0	None Likely	0	None	0
Alternative 2D Curve US 51 at Curve by Methodist Church	Realign Roadway to Reduce Curve, Widen Lanes and Shoulder	0	0	0	None Likely	1 Site (First United Methodist Church)	None	0
Alternative 2D Hill US 51 at Hill by Methodist Church	Reduce Grade (Steepness) of Hill, Widen Lanes and Shoulder	0	0	0	None Likely	1 Site (T-Plan House)	None	0
Alternative 3 Reconstruct US 51	Reconstruct US 51 North of Town to KY 1181 With Spot Improvements to Hills and Curves South of Town and Alternative 2 Improvements	0	0	0	None Likely	6 - 7 Sites	None	0 - 7
Alternative 4B US 51 Realignment	New US 51 Highway From Methodist Church to Between KY 1181 and KY 1377 in South, and Alternative 2A, 2B, 2C and 3 Improvements North of Realignment	Crosses 0 - 2 New Streams	Potential Impacts to 1 -2 Farm Ponds	<5 acres	Expect Minimal Habitat Impacts	5 - 6 Sites	Bisects One Agricultural District, May Split One or More Farms	0 - 7

Table 27: Level 3 Community Evaluation Matrix

Alternative	Description	Economic Development Impacts	Buildings / Property Impacts (Homes, Bus., Other)	Community Impacts	Community Character	Public Support		
						Comment Form Responses From Public Meeting #1	Average Alternative Rating From Public Meeting #2 (1 - 5 with 1 = Poor and 5 = Good)	
Alternative 1	Do Nothing	None	0	Fair	No Benefit	43% of Comment Form Respondents Believed Doing Nothing Would Have No Significant Neg. Impacts; However, 57% Believed Doing Nothing Would Result in Negative Traffic and Safety Impacts	1.7	
Alternative 2A US 51 at US 62	Sidewalk / Curb & Gutter Reconstruction, Provide Adequate Turning Radii, Construct Left-Turn Lanes, Install Actuated Signal	None	0	Fair (Access Impacts)	Benefit at Intersection Only	Local Residents, Community Leaders, and Truck Drivers Supported Improvements (43% Support Based on Comment Forms)	Overall, Spot Improvements Were Supported by 50% of Comment Form Respondents	4.3
Alternative 2B US 51 at Jennings Street	Remove Traffic Signal, Re-stripe Intersection	None	0	Good	Benefit at Intersection Only	Appears to be Broad Local Support (40% Support Based on Comment Forms)		4.2
Alternative 2C US 51 at KY 123	Provide Adequate Turning Radii	None	0	Good	Benefit at Intersection Only	Alternative has Some Local Support (10% Support Based on Comment Forms)		4.5
Alternative 2D Curve US 51 at Curve by Methodist Church	Realign Roadway to Reduce Curve, Widen Lanes and Shoulder	None	2 Homes	Good	Benefit at Curve Only	Local Residents and Community Leaders Acknowledged Problems at this Location; Extent of Support Improvement is Unknown		3.6
Alternative 2D Hill US 51 at Hill by Methodist Church	Reduce Grade (Steepness) of Hill, Widen Lanes and Shoulder	None	Possible Business, Residential and Community Facility Impacts	Good	Benefit at Hill Only	Local Residents and Community Leaders Acknowledged Problems at this Location; Extent of Support Improvement is Unknown		3.7
Alternative 3 Reconstruct US 51	Reconstruct US 51 North of Town to KY 1181 With Spot Improvements to Hills and Curves South of Town and Alternative 2 Improvements	No Existing Businesses Bypassed / Community Enhanced	2 Homes, Possible Business and Community Facility Impacts	Good (Traffic Issues in Town During Construction)	Enhances Aesthetics in Town Including Repaired / New Sidewalks	Many Community Leaders and Residents Supported Upgrading the Existing Highway (37% Support Based on Comment Form Respondents)	3.0	
Alternative 4B US 51 Realignment	New US 51 Highway From Methodist Church to Between KY 1181 and KY 1377 in South, and Alternative 2A, 2B, 2C and 3 Improvements North of Realignment	Businesses in Town Not Bypassed, Businesses Located Between Methodist Church and KY 1181 / KY 1377 Bypassed / Community Enhanced	1 - 2 Homes, 0 - 1 Businesses, County Maintenance, Outbuildings	Good (Traffic Issues in Town During Construction)	Benefits Similar to Alts. 2A, 2B, 2C, and 3	Some Community Leaders and Residents Supported or Were Open to the Possibility of Realigning US 51 (20% Support Based on Comment Form Respondents)	2.9	

Table 28: Level 3 Implementation / Construction Evaluation Matrix

Alternative	Description	Construction Length (Miles)*	Constructability Issues	New ROW Required (Acres)	Design Estimate	Right-of-Way Estimate	Utilities Estimate	Construction Cost Estimate**	Total Cost Estimate (including Design, ROW, Utilities, and Construction Cost)
Alternative 1	Do Nothing	0	None	0	N/A	N/A	N/A	N / A	N/A
Alternative 2A US 51 at US 62	Sidewalk / Curb & Gutter Reconstruction, Provide Adequate Turning Radii, Construct Left-Turn Lanes, Install Actuated Signal	N / A	Utility Pole Needs to be Relocated	< 1	\$100,000	\$400,000	\$400,000	\$800,000	\$1,700,000
Alternative 2B US 51 at Jennings Street	Remove Traffic Signal, Re-stripe Intersection	N / A	None	N / A	\$1,000	N/A	N/A	\$12,000	\$13,000
Alternative 2C US 51 at KY 123	Provide Adequate Turning Radii	N / A	None	< 1	\$4,000	\$100,000	\$40,000	\$30,000	\$180,000
Alternative 2D Curve US 51 at Curve by Methodist Church	Realign Roadway to Reduce Curve, Widen Lanes and Shoulder	0.2	Constrained by Limited ROW	< 2	\$60,000	\$600,000	\$300,000	\$500,000	\$1,500,000
Alternative 2D Hill US 51 at Hill by Methodist Church	Reduce Grade (Steepness) of Hill, Widen Lanes and Shoulder	0.3	Constrained by Limited ROW	< 3	\$100,000	\$1,300,000	\$700,000	\$900,000	\$3,000,000
Alternative 3 Reconstruct US 51	Reconstruct US 51 North of Town to Southern End of 2D, and Alternative 2 Improvements	1.3	Constrained by Limited ROW and Utilities, Traffic Maintenance Issues During Construction	10	\$400,000	\$2,400,000	\$2,100,000	\$3,600,000	\$8,500,000
	Reconstruct US 51 From 2D to Study Area Boundary	1.5			\$300,000	\$900,000	\$1,600,000	\$2,100,000	\$4,900,000
Alternative 4B US 51 Realignment	Improvements to US 51 From US 62 to Realignment	0.9	Constrained by Limited ROW and Utilities, Traffic Maintenance Issues During Construction	30	\$300,000	\$500,000	\$900,000	\$2,400,000	\$4,100,000
	New US 51 Highway From Methodist Church to Between KY 1181 and KY 1377	1.1			\$300,000	\$1,900,000	\$400,000	\$2,400,000	\$5,000,000
	Improvements to US 51 From Realignment to Study Area Boundary in the South	0.9			\$200,000	\$500,000	\$900,000	\$1,400,000	\$3,000,000

* Includes crossroads.

**Construction cost only, excludes mitigation costs. Improvements to existing highways assumed to include a combination of overlay and new construction.