



Appendix G - Engineering Cost Estimates



KY 9 (AA Highway) Construction Cost Estimate

2 lane section to 4 lane section with median
24' salvagable
Need 14' median, 24' for 2 lanes, 24' for 2 shoulders = 62' additional

3 lane section to 4 lane section with median
36' salvagable
Need 14' median, 12' for 1 lane, 24' for 2 shoulders = 50' additional

4 lane section to 4 lane section with median
48' salvagable
Need 14' median, 24' for 2 shoulders = 38' additional

Item	Cost/Unit	Unit	Mountable Median Quantity (Access by Permit)	Mountable Median Costs (Access by Permit)	Depressed Median Quantity (Partially Controlled)	Depressed Median Costs (Partially Controlled)	Median Barrier Quantity (Fully Controlled)	Median Barrier Costs (Fully Controlled)
Pavement								
10" DGA Base								
2 lane section	\$15.19	TON	351,366	\$5,337,250	362,700	\$5,509,413	425,040	\$6,456,352
3 lane section	\$15.19	TON	185,533	\$2,818,246	192,954	\$2,930,971	237,280	\$3,604,282
4 lane section	\$15.19	TON	3,076	\$46,724	3,238	\$49,185	4,128	\$62,712
6" Asph. Base								
2 lane section	\$46.00	TON	201,654	\$9,276,084	208,159	\$9,575,314	243,936	\$11,221,067
3 lane section	\$46.00	TON	106,480	\$4,898,080	110,739	\$5,093,994	136,178	\$6,264,199
4 lane section	\$46.00	TON	1,766	\$81,236	1,859	\$85,514	2,370	\$109,021
6" Asph. Surf.								
2 lane section	\$49.31	TON	201,654	\$9,943,559	208,159	\$10,264,320	243,936	\$12,028,496
3 lane section	\$49.31	TON	106,480	\$5,250,529	110,739	\$5,460,540	136,178	\$6,714,949
4 lane section	\$49.31	TON	1,766	\$87,081	1,859	\$91,667	2,370	\$116,866
Rock Subgrade (Under new pavement), 1'	\$12.62	TON	647,970	\$8,177,381	670,670	\$8,463,855	647,970	\$8,177,381
Mountable Median Type 6A	\$45.49	SY	230,302	\$10,476,438	---	---	---	---
Concrete Median Barrier	\$48.00	LF	---	---	---	---	148,051	\$7,106,448
Drainage (Depressed Median)	\$10.00	LF	---	---	148,051	\$1,480,510	---	---
Removing Shoulders	\$4.01	SY	394,803	\$1,583,160	394,803	\$1,583,160	394,803	\$1,583,160
Access Point Pavement								
Right Turn Lanes (12' x200') & Side Road Approach (75'x24')								
- 10" DGA Base	\$15.19	TON	11,806	\$179,333	11,806	\$179,333	---	---
- 6" Asph. Base	\$46.00	TON	6,776	\$311,696	6,776	\$311,696	---	---
- 6" Asph. Surf.	\$49.31	TON	6,776	\$334,125	6,776	\$334,125	---	---
Connector Roads	\$400,000.00	ML	---	---	---	---	1.4	\$545,455
Lighting Relocation at Intersections	\$2,000.00	EA	34	\$68,000	34	\$68,000	---	---
New Lighting at Intersections	\$15,000.00	EA	18	\$270,000	18	\$270,000	---	---
New Lighting at Interchanges	\$15,000.00	EA	---	---	---	---	64	\$960,000
Guardrail Replacement	\$10.06	LF	132,575	\$1,333,705	132,575	\$1,333,705	132,575	\$1,333,705
2" Bituminous Overlay over Existing Pavement	\$42.26	TON	52,319	\$2,211,001	24,398	\$1,031,059	52,319	\$2,211,001
Excavation	\$5.03	CY	7,652,769	\$38,493,428	14,997,831	\$75,439,090	10,455,695	\$52,592,146
Embankment	\$4.35	CY	648,554	\$2,821,210	843,726	\$3,670,208	715,607	\$3,112,890
Culvert Replacement	NA	EA	0	\$0	0	\$0	0	\$0
Culvert Widening	NA	EA	0	\$0	0	\$0	0	\$0
Bridge Replacement	NA	EA	0	\$0	0	\$0	0	\$0
Bridge Widening	NA	LS	2	\$1,009,470	2	\$1,009,470	2	\$1,009,470
New Bridge over KY 9	\$5,500,000	EA	0	\$0	0	\$0	5	\$27,500,000
Interchanges	\$20,000,000.00	EA	0	\$0	0	\$0	10	\$200,000,000
Subtotal								
				\$105,007,736		\$134,235,130		\$352,709,600
Contingency (20%)								
				\$21,001,547		\$26,847,026		\$70,541,920
Total								
				\$126,009,283		\$161,082,156		\$423,251,520

KY 9 (AA Highway) Project Costs

Right of Way

Item	Cost/Unit	Unit	Partially Controlled Depressed Median		Fully Controlled Median Barrier	
			Total Number of Units	Total Cost	Total Number of Units	Total Cost
Residence	\$150,000	EA	4	\$600,000	95	\$14,250,000
Entrances	\$5,000	EA	7	\$35,000	30	\$150,000
Acreage	\$10,000	AC	295	\$2,953,975	476	\$4,760,000
Businesses	\$250,000	EA	0	\$0	1	\$250,000
Subtotal				\$3,588,975		\$19,410,000

Utilities

Item	Cost/Unit	Unit	Partially Controlled Depressed Median		Fully Controlled	
			Total Number of Units	Total Cost	Total Number of Units	Total Cost
Intersection Areas	\$20,000	EA	27	\$540,000	27	\$540,000
Interchange Areas	\$100,000	EA	0	\$0	16	\$1,600,000
Subtotal				\$540,000		\$2,140,000

Construction & Design

Item	Cost/Unit	Unit	Partially Controlled Depressed Median		Fully Controlled	
			Total Number of Units	Total Cost	Total Number of Units	Total Cost
Construction Costs				\$161,082,156		\$423,251,520
Design (8)%				\$12,886,573		\$33,860,122
Subtotal				\$173,968,729		\$457,111,641

TOTAL				\$178,097,704		\$478,661,641
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KY 9 (AA Highway) Project Costs by Priority Section for Partially Controlled Depressed Median

Priority 1	East of KY 19 (MP 5.546) to Mason County (MP 13.987)	
	8.974 miles	8 intersections
Priority 2	Campbell County (MP 0.5) to KY 1109 (MP 13.585)	
	11.1109 miles	14 intersections
Priority 3	East of KY 1109 (MP 13.585) to west of KY 19 (MP 5.546)	
	8.039 miles	5 intersections
Total	28.1239 miles	27 intersections

Right of Way

Item	Cost/Unit	Unit	Total Number of Units	Total Cost	Priority Section One		Priority Section Two		Priority Section Three	
					Number of Units	Cost	Number of Units	Cost	Number of Units	Cost
Residence	\$150,000	EA	4	\$600,000	1	\$150,000	1	\$150,000	2	\$300,000
Entrances	\$5,000	EA	7	\$35,000	1	\$5,000	3	\$15,000	3	\$15,000
Acreage*	\$10,000	AC	295.4	\$2,953,975	94.1	\$940,548	117.8	\$1,178,209	83.5	\$835,217.63
Businesses	\$250,000	EA	0	\$0		\$0		\$0		\$0
Subtotal				\$3,588,975		\$1,095,548		\$1,343,209		\$1,150,218

*Acreage estimated by assuming 15,000 SF (0.34 AC) per state or local road intersection

Utilities

Item	Cost/Unit	Unit	Total Number of Units	Total Cost	Priority Section One		Priority Section Two		Priority Section Three	
					Number of Units	Cost	Number of Units	Cost	Number of Units	Cost
Partially Controlled Depressed Median Intersections	\$20,000	EA	27	\$540,000	8	\$160,000	14	\$280,000	5	\$100,000
Subtotal				\$540,000		\$160,000		\$280,000		\$100,000

Construction & Design

Item	Cost/Unit	Unit	Total Number of Units	Total Cost	Priority Section One		Priority Section Two		Priority Section Three	
					Number of Units	Cost	Number of Units	Cost	Number of Units	Cost
Construction Costs				\$161,082,156		\$51,399,389		\$63,638,675		\$46,044,093
Design (8%)				\$12,886,573		\$4,111,951		\$5,091,094		\$3,683,527
Subtotal				\$173,968,729		\$55,511,340		\$68,729,769		\$49,727,620

TOTAL				\$178,097,704		\$56,766,888		\$70,352,978		\$50,977,838
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