

Lafayette *Metropolitan Expressway*

Addendum - TM#1 and TM#4

TOLL ROAD ENGINEERING & ENVIRONMENTAL RECONNAISSANCE

Submitted By:

HNTB

In association with:

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PENSCO

**Lafayette
Metropolitan
Expressway
Commission**

May, 2005

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INTRODUCTION

After review of the original set of alternatives described in Technical Memorandum #1, the LMEC requested HNTB to further research additional alternative corridors for Phase A of the LME Feasibility Study. This Addendum summarizes additions made to previously submitted Technical Memorandums #1 – Toll Road Engineering and #4 – Environmental Reconnaissance as part of the preliminary feasibility study. The corridors referred to in these technical memorandums were named Alternatives 1, 2 and 3 or Outer, Middle, and Inner, respectively. Based on review by HNTB of the costs and revenue potentials, along with input by LMEC regarding corridors, a refined set of alternatives were identified for initial implementation. The refined alternative set includes only two corridors which represent a combination of the inner and outer alternatives. The additional alternative corridors will be referred to in this Addendum as Alternatives 4 and 5. Also the proposed I-49 corridor section south of the urban core of Lafayette is included for study. These alternatives are illustrated in *Figure 1* and summarized below.

The recent Preliminary Engineering Report and EIS for I-49 South from Lafayette Regional Airport to Route LA 88 was utilized for this study. Currently, right-of-way and construction costs for the future I-49 corridor are unfunded. It should be noted that the decision to use I-49 as part of the toll system in Lafayette Parish has not been made and is included in this feasibility study addendum for evaluation purposes.

SYSTEM SUMMARY

Previously studied systems included Systems 1, 2 and 3. HNTB initially studied System 1 which included the entire Alternative 1 corridor made up of Segments B, C1, C2 and D. Based on the analysis of System 1 traffic and revenue, a decision was made to concentrate on Segment B which is located in the southwest quadrant. This quadrant has the highest population density and vehicle trip volume. It was determined to further study Segment B only for Alternatives 1 and 3. System 2 included Segment B for Alternative 1 and System 3 included Segment B for Alternative 3. LMEC then provided additional guidance to identify two additional corridors in the southwest quadrant that are a combination of Segment B from Alternatives 1 and 3. These additional corridors are called Alternatives 4 and 5 and are summarized below. Also, the proposed I-49 corridor section south of the urban core of Lafayette is included for further study as Segment A2.

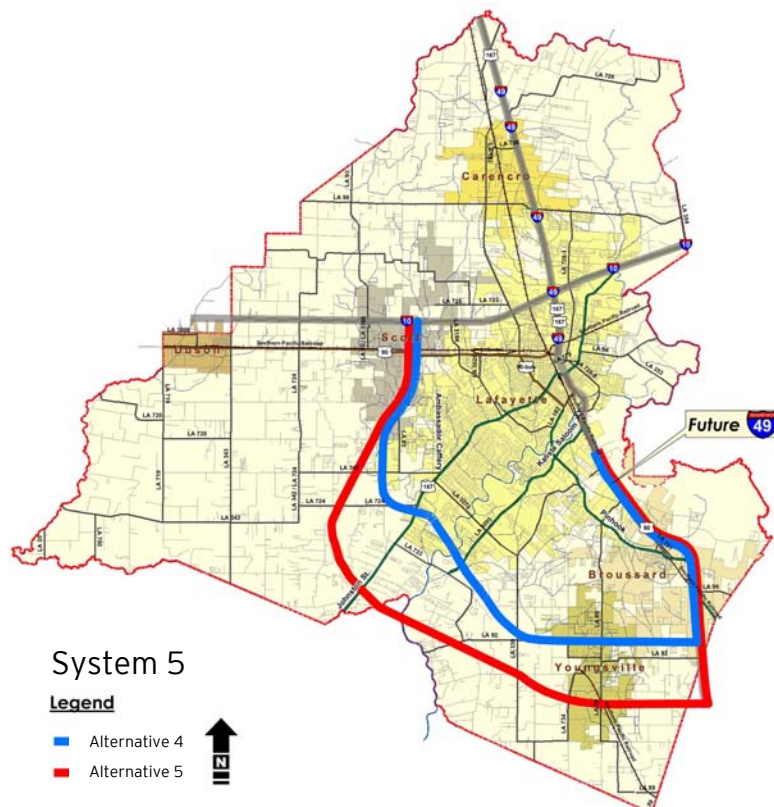
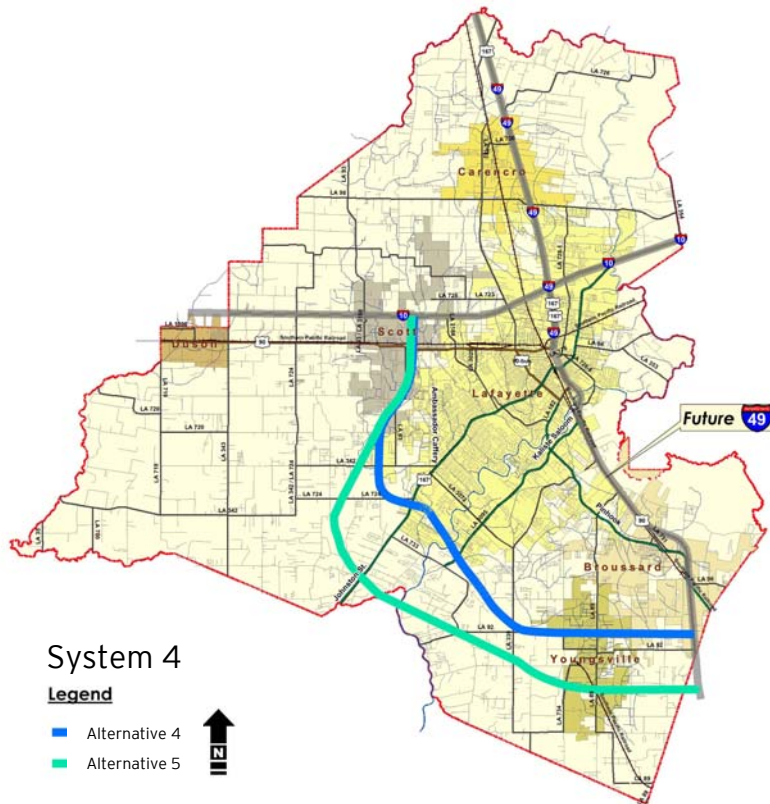
SYSTEMS 4 AND 5

System 4 includes Segment B only of either Alternative 4 or 5 and System 5 includes Segments A2 and B of either Alternative 4 or 5. Alternatives 4 and 5 are described below.

ALTERNATIVES 4 AND 5

Both corridor alternatives begin at the proposed I-49 South. Alternative 4 continues from I-49 South along a new alignment within the southwest portion of Lafayette Parish just north of LA 92. It then turns north and terminates at I-10 between the existing LA 3168 and LA 3184 interchanges. Alternative 5 continues from I-49 south along a new alignment within the southwest portion of Lafayette Parish approximately 1.5 miles south of LA 92. It then turns north near Johnston Street and also terminates at I-10 between the existing LA 3168 and LA 3184 interchanges. Alternatives 4 and 5 essentially represent a combination of the southwest portions of the inner and outer corridors previously studied.

Figure 1: Systems 4 and 5 Corridor Maps



ENVIRONMENTAL RECONNAISSANCE

The environmental reconnaissance addresses the existing human and natural environmental conditions that could potentially be affected by each corridor. It is intended to provide a broad summary and description of the natural, cultural, community resources, land uses, and environmental factors that exist.

I-49 south of the Lafayette Regional Airport is currently in the EIS phase with a record of decision expected mid-2005. This TM addresses the environmental reconnaissance for Segment B of Alternatives 4 and 5. Both alternatives traverse mostly vacant, agricultural and scattered, low-density residential land uses. Both corridors will serve to facilitate future development and managed growth opportunities for these areas in the parish. Alternative 5 has the least impacts to low and high-density residential areas and parks and recreational uses. The two proposed corridors have been developed to avoid and minimize impacts to wetlands and encroachment within the 100-year floodplain to the extent feasible. About 30 percent of each corridor will fall within the 100-year floodplain while impacts to wetlands are minimal. A summary of the selected human and natural environment impacts for each alternative are estimated in *Table 1* below.

Table 1: Environmental Evaluation Measures

ALTERNATIVE EVALUATION MEASURES		
	Alternative	
Environmental Factors	4	5
<i>% of Alternative through floodplains</i>	30%	30%
<i>% of Alternative through undeveloped land</i>	80%	88%
<i>% of Alternative through wetlands</i>	2%	1.5%
Community Services Within or Adjacent to Alternatives		
<i>Schools</i>	2	1
<i>Churches</i>	1	0
<i>Cemeteries</i>	1	0
<i>Parks & Recreation Areas</i>	0	0

More detailed investigations and determinations will be made on all community, natural and cultural resources within any and all alternatives carried forward from this study. For the level of investigation conducted at this time, it is felt that the construction of either Alternative 4 or 5 is feasible and the economic benefits, higher levels of traffic service, travel time reductions and the new hurricane evacuation benefits that would result, will outweigh the projected environmental impacts.

TOLL ROAD ENGINEERING

This section documents the preliminary cost estimates for toll road construction and operation and maintenance for Systems 4 and 5. The segment description for each system is described below.

SEGMENT B, ALTERNATIVE 4 SUMMARY

Segment B, Alternative 4, is approximately 17 miles in length. About 80 percent of the corridor is undeveloped with a majority of the undeveloped land. The proposed improvements for this corridor would be a four-lane tollway. For cost estimating purposes, it has been assumed that 10 percent of the system would include one-way frontage roads. A total of six diamond interchanges, two fully directional system-to-system interchanges and a new major river crossing over the Vermilion River are proposed for this project.

SEGMENT B, ALTERNATIVE 5 SUMMARY

Alternative 5 is approximately 20 miles in length. About 88 percent of the corridor is undeveloped with a majority of the undeveloped land. The proposed improvements for this corridor would be a four-lane tollway. For cost estimating purposes, it has been assumed that 10 percent of the system would include one-way frontage roads. A total of six diamond interchanges, two fully directional system-to-system interchanges and a new major river crossing over the Vermilion River are proposed for this project.

SEGMENT A2, I-49 SUMMARY

The proposed improvements for the I-49 section would be a six-lane toll road with continuous one-way parallel frontage roads. The approximate length of I-49 that connects to Segment B of Alternative 4 is seven miles. For Segment B of Alternative 5, the approximate length of I-49 is nine miles.

Table 2 summarizes the alternative corridors including the I-49 roadway portion.

Table 2: Summary of Corridor Segments

ITEM	Segment B		Segment A2 (I-49)	
	Alternative 4	Alternative 5	Alternative 4	Alternative 5
Approx. Length (miles)	17	19.8	7.1	8.7
Planned Improvements	4 to 6-lane expressway w/ a portion of frontage roads	4 to 6-lane expressway w/ a portion of frontage roads	6-lane expressway w/ continuous frontage roads	6-lane expressway w/ continuous frontage roads
No. of Diamond Interchanges	6	6	5	6
No. of System-to-System Interchanges	3	3	0	0
New Vermilion River Crossing	1	1	0	0

For toll road sections that may include I-49, a six-lane mainline section would be provided.

PROJECT PHASING

For preliminary analysis, two systems have been developed for consideration. System 4 is Segment B only. System 5 is Segment B plus I-49 or Segment A2. Because the Record of Decision for I-49 South of the airport to LA 88 is scheduled to be issued in mid-2005, the I-49 section is expected to be constructed first (although a supplemental EIS will need to be prepared taking into consideration the toll nature of the project and perhaps changes in logical termini). Segment A2 has an estimated opening of 2011 with Segment B opening 2012. *Table 3* summarizes the segment lengths for Alternatives 4 and 5.

Table 3: Summary of Construction Phasing for Systems 4 and 5

SEGMENT	SYSTEM 4		SYSTEM 5	
	Alternative 4	Alternative 5	Alternative 4	Alternative 5
A2	--	--	7.1 miles	8.7 miles
B	17.0 miles	19.8 miles	17.0 miles	19.8 miles
Total	17.0 miles	19.8 miles	24.1 miles	28.5 miles

CAPITAL COST ESTIMATES

This section summarizes the preliminary estimated construction costs associated with Systems 4 and 5. Costs for I-49 South were derived from the EIS and Preliminary Engineering Report documents (prepared by others) that have been developed for this section. Included in *Appendix A* to this report are more details regarding the estimates of the construction costs for the corridors for Segment B. *Table 4* presents the total construction cost estimates (2005) for the study corridors and *Table 5* summarizes the capital cost estimates by phase.

Table 4: Summary of Capital Cost Estimates (\$ in millions)

COST ITEM	SYSTEM 4 (Segment B)		SYSTEM 5 (Segments A2 and B)	
	Alternative 4	Alternative 5	Alternative 4	Alternative 5
Roadway/Bridge Construction, ROW, Design, CEI, Toll Plaza Construction and Contingency (additional)	\$401M	\$416M	\$706M	\$764M
Cost Per Mile	\$23.6M per mile	\$21.0M per mile	\$29.4M per mile	\$26.8M per mile

Table 5: Summary of Capital Cost Estimates by Segment (\$ in millions)

SYSTEM	Length (miles)	Capital Cost	Cost Per Mile
System 4, Alternative 4			
Segment B	17.0	\$401M	\$23.6M per mile
System 4, Alternative 5			
Segment B	19.8	\$416M	\$21.0M per mile
System 5, Alternative 4			
Segment A2	7.1	\$310M	\$43.7M per mile
Segment B	17.0	\$396M	\$23.3M per mile
System 5, Alternative 5			
Segment A2	8.7	\$352M	\$40.54M per mile
Segment B	19.8	\$412M	\$20.8M per mile

ANNUAL OPERATIONS & MAINTENANCE COSTS

The 2004 annual O&M costs for the project are shown in Table 6.

Table 6: Summary of Operations & Maintenance Cost Estimates (\$ in millions)

System	Segment A2	Segment B	TOTAL
System 4, Alternative 4	--	\$4.8M	\$4.8M
System 4, Alternative 5	--	\$5.0M	\$5.0M
System 5, Alternative 4	\$2.6M	\$4.6M	\$7.2M
System 5, Alternative 5	\$3.0M	\$4.8M	\$7.8M

REPLACEMENT RESERVE MAINTENANCE FUND

Included in the annual costs of operating and maintaining a toll road system are replacement reserve maintenance fund (RMF) considerations as shown in Tables 7 and 8 below.

Table 7: Summary of O&M and RMF Cost Estimates for System 4

ANNUAL COST CATEGORY	Alternative 4	Alternative 5
Annual Operations and Maintenance	\$4,800,000	\$5,000,000
Annual Reserve Maintenance Fund	\$760,000	\$790,000
Total Annual Cost	\$5,560,000	\$5,790,000

Table 8: Summary of O&M and RMF Cost Estimates for System 5

ANNUAL COST CATEGORY	Alternative 4	Alternative 5
Annual Operations and Maintenance	\$7,200,000	\$7,800,000
Annual Reserve Maintenance Fund	\$1,340,000	\$1,450,000
Total Annual Cost	\$8,540,000	\$9,250,000

APPENDIX A



SYSTEM 4, ALTERNATIVE 4

QUANTITIES AND UNIT COSTS SUPPLIED BY *HNTB, PENSCO and C.H. Fenstermaker*

Item No.	Cost Item	Units	Unit Cost	Item	Segment B	
	Mainline				Quant.	Cost
1	- 4-Lane Toll Road w/ Frontage Roads	CL Mile	\$5,374,000.00	Cost for paving, grading, and drainage. ¹	1.70	\$9,135,800.00
2	- 4-Lane Toll Road w/out Frontage Roads	CL Mile	\$3,635,000.00	Cost for paving, grading, and drainage. ¹	15.30	\$55,615,500.00
Subtotal					17.00	\$64,751,300.00
	Interchanges (Including Bridges)					
3	- Typical Diamond Interchange (new)	Ea.	\$6,500,000.00	Cost for new interchange, including mainline grade separation, slip ramps, cross street, and lighting.	6	\$39,000,000.00
4	- Typical System-to-System Interchange (new)	Ea.	^c \$50,000,000.00	Cost for new directional interchange, including mainline grade separation, ramps (grade and structures), cross street, and lighting.	2	\$100,000,000.00
Subtotal						\$139,000,000.00
	Bridges/Structures					
5	- Mainline - Vermilion River Crossing	Ea.	\$17,700,000.00	Cost for construction of a major river bridge.	1	\$17,700,000.00
6	- Other Mainline Bridges	Ea.	\$1,500,000.00	Cost for construction of other bridges (bayous, local roads, etc.).	20.0 ^B	\$30,000,000.00
Subtotal						\$47,700,000.00
	Miscellaneous					
7	- Major Utilities	Lump Sum	\$11,937,000.00	Cost of relocating major utilities.	Lump	\$9,229,000.00
8	- Local Roads	Ea.	\$1,400,000.00	Cost to reconstruct cross-roads that are not accounted for in Items 3 and 4.	8	\$11,200,000.00
8a	- Interchange Signallization	Ea.	\$120,000.00	^P Cost of Signallization for diamond interchanges.	3	\$360,000.00
9	- R/W	Acres	Varies			\$27,780,500
Subtotal						\$48,569,500.00
10	SUBTOTAL					\$300,020,800.00
11	- Engineering and Contingency	% of Construct. Costs	25%	Contingency funds applied to total of construction costs above		\$75,005,200.00
12	- Mainline Toll Plazas	Ea.	\$4,753,300	Cost of Mainline Toll Plaza	2	\$9,506,600.00
13	- Mainline Startup Costs (First phase only)	Lump Sum	\$5,000,000	Cost of System Software & Hardware	1	\$5,000,000.00
14	- Ramp Toll Plazas (two per interchange)	Ea.	\$1,961,900	Cost of two Ramp Toll Plazas per interchange	6	\$11,771,400.00
15	TOTAL					\$401,304,000.00

1. Paving includes roadway surface, base and shoulders. Grading assumes 5' embankment height. Drainage includes major structures (box culverts) and minor structures (culverts).

2. Phase A2 construction costs were taken from the I-49 South Route US 90, Lafayette Regional Airport to Route LA 88 Preliminary Engineering Report and EIS dated 2002 and inflated to 2005 dollars using Engineering News Record Construction Cost Index History.

PENSCO NOTES

^A Quantity adjusted to account for total estimated cost of work for this phase.

^B R.R. Overpass Bridges equivalent to 7.0 X Unit Cost. Vermilion River Crossing (Non-navigable) equivalent to 2.5 X Unit Cost.

^C As per HNTB

^D Includes 2 signals per interchange.



SYSTEM 4, ALTERNATIVE 5

QUANTITIES AND UNIT COSTS SUPPLIED BY *HNTB, PENSCO and C.H. Fenstermaker*

Item No.	Cost Item	Units	Unit Cost	Item	Segment B	
	Mainline				Quant.	Cost
1	- 4-Lane Toll Road w/ Frontage Roads	CL Mile	\$5,339,000.00	Cost for paving, grading, and drainage. ¹	1.98	\$10,571,220.00
2	- 4-Lane Toll Road w/out Frontage Roads	CL Mile	\$3,616,000.00	Cost for paving, grading, and drainage. ¹	17.82	\$64,437,120.00
	Subtotal				19.80	\$75,008,340.00
	Interchanges (Including Bridges)					
3	- Typical Diamond Interchange (new)	Ea.	\$6,500,000.00	Cost for new interchange, including mainline grade separation, slip ramps, cross street, and lighting.	6	\$39,000,000.00
4	- Typical System-to-System Interchange (new)	Ea.	^c \$50,000,000.00	Cost for new directional interchange, including mainline grade separation, ramps (grade and structures), cross street, and lighting.	2	\$100,000,000.00
	Subtotal					\$139,000,000.00
	Bridges/Structures					
5	- Mainline - Vermilion River Crossing	Ea.	\$17,700,000.00	Cost for construction of a major river bridge.	1	\$17,700,000.00
6	- Other Mainline Bridges	Ea.	\$1,500,000.00	Cost for construction of other bridges (bayous, local roads, etc.).	21.0 ^b	\$31,500,000.00
						\$49,200,000.00
	Miscellaneous					
7	- Major Utilities	Lump Sum	\$12,817,000	Cost of relocating major utilities.	Lump	\$10,109,000.00
8	- Local Roads	Ea.	\$1,400,000.00	Cost to reconstruct cross-roads that are not accounted for in Items 3 and 4.	8	\$11,200,000.00
8a	- Interchange Signallization	Ea.	\$120,000.00	^b Cost of Signallization for diamond interchanges.	3	\$360,000.00
9	- R/W	Acres	Varies			\$27,304,500
						\$48,973,500.00
10	Subtotal					\$312,181,840.00
11	- Engineering and Contingency	% of Construct. Costs	25%	Contingency funds applied to total of construction costs above minus toll plazas		\$78,045,460.00
12	- Mainline Toll Plazas	Ea.	\$4,753,300	Cost of Mainline Toll Plaza	2	\$9,506,600.00
13	- Mainline Startup Costs (First phase only)	Lump Sum	\$5,000,000	Cost of System Software & Hardware	1	\$5,000,000.00
14	- Ramp Toll Plazas	Ea.	\$1,961,900	Cost of two Ramp Toll Plazas per interchange	6	\$11,771,400.00
15	TOTAL					\$416,505,300.00

1. Paving includes roadway surface, base and shoulders. Grading assumes 5' embankment height. Drainage includes major structures (box culverts) and minor structures (culverts).

2. Phase A2 construction costs were taken from the I-49 South Route US 90, Lafayette Regional Airport to Route LA 88 Preliminary Engineering Report and EIS dated 2002 and inflated to 2004 dollars using Engineering News Record Construction Cost Index History.

PENSCO NOTES

^A Quantity adjusted to account for total estimated cost of work for this phase

^B R.R. Overpass Bridges equivalent to 7.0 X Unit Cost. Vermilion River Crossing (Non-navigable) equivalent to 2.5 X Unit Cost.

^C As per HNTB

^D Includes 2 signals per interchange.



SYSTEM 5, ALTERNATIVE 4

QUANTITIES AND UNIT COSTS SUPPLIED BY *HNTB, PENSCO and C.H. Fenstermaker*

Item No.	Cost Item	Units	Unit Cost	Item	Segment B		Segment A2 ²		TOTAL
	Mainline				Quant.	Cost	Quant.	Cost	
1	- 4-Lane Toll Road w/ Frontage Roads	CL Mile	\$5,374,000.00	Cost for paving, grading, and drainage. ¹	1.70	\$9,135,800.00		\$0.00	\$9,135,800.00
2	- 4-Lane Toll Road w/out Frontage Roads	CL Mile	\$3,635,000.00	Cost for paving, grading, and drainage. ¹	15.30	\$55,615,500.00		\$0.00	\$55,615,500.00
Subtotal					17.00	\$64,751,300.00	0.00	\$0.00	\$64,751,300.00
	Interchanges (Including Bridges)								
3	- Typical Diamond Interchange (new)	Ea.	\$6,500,000.00	Cost for new interchange, including mainline grade separation, slip ramps, cross street, and lighting.	6	\$39,000,000.00	0	\$0.00	\$39,000,000.00
4	- Typical System-to-System Interchange (new)	Ea.	^c \$50,000,000.00	Cost for new directional interchange, including mainline grade separation, ramps (grade and structures), cross street, and lighting.	2	\$100,000,000.00	0	\$0.00	\$100,000,000.00
Subtotal						\$139,000,000.00		\$0.00	\$139,000,000.00
	Bridges/Structures								
5	- Mainline - Vermilion River Crossing	Ea.	\$17,700,000.00	Cost for construction of a major river bridge.	1	\$17,700,000.00		\$0.00	\$17,700,000.00
6	- Other Mainline Bridges	Ea.	\$1,500,000.00	Cost for construction of other bridges (bayous, local roads, etc.).	20.0 ^B	\$30,000,000.00	0	\$0.00	\$30,000,000.00
Subtotal						\$47,700,000.00		\$0.00	\$47,700,000.00
	Miscellaneous								
7	- Major Utilities	Lump Sum	\$11,937,000.00	Cost of relocating major utilities.	Lump	\$9,229,000.00	Lump	\$0.00	\$9,229,000.00
8	- Local Roads	Ea.	\$1,400,000.00	Cost to reconstruct cross-roads that are not accounted for in Items 3 and 4.	8	\$11,200,000.00	0	\$0.00	\$11,200,000.00
8a	- Interchange Signallization	Ea.	\$120,000.00	^a Cost of Signallization for diamond interchanges.	3	\$360,000.00	0	\$0.00	\$360,000.00
9	- R/W	Acres	Varies			\$27,780,500		\$0	\$27,780,500
Subtotal						\$48,569,500.00		\$0.00	\$48,569,500.00
10	SUBTOTAL					\$300,020,800.00		\$292,320,000.00	\$592,340,800.00
11	- Engineering and Contingency	% of Construct. Costs	25%	Contingency funds applied to total of construction costs above		\$75,005,200.00		\$0.00	\$75,005,200.00
12	- Mainline Toll Plazas	Ea.	\$4,753,300	Cost of Mainline Toll Plaza	2	\$9,506,600.00	1	\$4,753,300.00	\$14,259,900.00
13	- Mainline Startup Costs (First phase only)	Lump Sum	\$5,000,000	Cost of System Software & Hardware	0	\$0.00	1	\$5,000,000.00	\$5,000,000.00
14	- Ramp Toll Plazas (two per interchange)	Ea.	\$1,961,900	Cost of two Ramp Toll Plazas per interchange	6	\$11,771,400.00	4	\$7,847,600.00	\$19,619,000.00
15	TOTAL					\$396,304,000.00		\$309,920,900.00	\$706,224,900.00

PENSCO NOTES

^A Quantity adjusted to account for total estimated cost of work for this phase.

^B R.R. Overpass Bridges equivalent to 7.0 X Unit Cost. Vermilion River Crossing (Non-navigable) equivalent to 2.5 X Unit Cost.

^C As per HNTB

^D Includes 2 signals per interchange.

1. Paving includes roadway surface, base and shoulders. Grading assumes 5' embankment height. Drainage includes major structures (box culverts) and minor structures (culverts).

2. Phase A2 construction costs were taken from the I-49 South Route US 90, Lafayette Regional Airport to Route LA 88 Preliminary Engineering Report and EIS dated 2002 and inflated to 2004 dollars using



SYSTEM 5, ALTERNATIVE 5

QUANTITIES AND UNIT COSTS SUPPLIED BY *HNTB, PENSCO and C.H. Fenstermaker*

Item No.	Cost Item	Units	Unit Cost	Item	Segment B		Segment A2 ²		TOTAL
	Mainline				Quant.	Cost	Quant.	Cost	
1	- 4-Lane Toll Road w/ Frontage Roads	CL Mile	\$5,339,000.00	Cost for paving, grading, and drainage. ¹	1.98	\$10,571,220.00	0.00	\$0.00	\$10,571,220.00
2	- 4-Lane Toll Road w/out Frontage Roads	CL Mile	\$3,616,000.00	Cost for paving, grading, and drainage. ¹	17.82	\$64,437,120.00	0.00	\$0.00	\$64,437,120.00
Subtotal					19.80	\$75,008,340.00	0.00	\$0.00	\$75,008,340.00
	Interchanges (Including Bridges)								
3	- Typical Diamond Interchange (new)	Ea.	\$6,500,000.00	Cost for new interchange, including mainline grade separation, slip ramps, cross street, and lighting.	6	\$39,000,000.00	0	\$0.00	\$39,000,000.00
4	- Typical System-to-System Interchange (new)	Ea.	^c \$50,000,000.00	Cost for new directional interchange, including mainline grade separation, ramps (grade and structures), cross street, and lighting.	2	\$100,000,000.00	0	\$0.00	\$100,000,000.00
Subtotal						\$139,000,000.00		\$0.00	\$139,000,000.00
	Bridges/Structures								
5	- Mainline - Vermilion River Crossing	Ea.	\$17,700,000.00	Cost for construction of a major river bridge.	1	\$17,700,000.00		\$0.00	\$17,700,000.00
6	- Other Mainline Bridges	Ea.	\$1,500,000.00	Cost for construction of other bridges (bayous, local roads, etc.).	21.0 ^B	\$31,500,000.00	0	\$0.00	\$31,500,000.00
						\$49,200,000.00		\$0.00	\$49,200,000.00
	Miscellaneous								
7	- Major Utilities	Lump Sum	\$12,817,000	Cost of relocating major utilities.	Lump	\$10,109,000.00	Lump	\$0.00	\$10,109,000.00
8	- Local Roads	Ea.	\$1,400,000.00	Cost to reconstruct cross-roads that are not accounted for in Items 3 and 4.	8	\$11,200,000.00	0	\$0.00	\$11,200,000.00
8a	-Interchange Signalization	Ea.	\$120,000.00	^D Cost of Signalization for diamond interchanges.	3	\$360,000.00	0	\$0.00	\$360,000.00
9	- R/W	Acres	Varies			\$27,304,500		\$0	\$27,304,500.00
						\$48,973,500.00		\$0.00	\$48,973,500.00
10	Subtotal					\$312,181,840.00		\$332,640,000.00	\$644,821,840.00
11	- Engineering and Contingency	% of Construct. Costs	25%	Contingency funds applied to total of construction costs above minus toll plazas		\$78,045,460.00		\$0.00	\$78,045,460.00
12	- Mainline Toll Plazas	Ea.	\$4,753,300	Cost of Mainline Toll Plaza	2	\$9,506,600.00	1	\$4,753,300.00	\$14,259,900.00
13	- Mainline Startup Costs (First phase only)	Lump Sum	\$5,000,000	Cost of System Software & Hardware	0	\$0.00	1	\$5,000,000.00	\$5,000,000.00
14	- Ramp Toll Plazas	Ea.	\$1,961,900	Cost of two Ramp Toll Plazas per interchange	6	\$11,771,400.00	5	\$9,809,500.00	\$21,580,900.00
15	TOTAL					\$411,505,300.00		\$352,202,800.00	\$763,708,100.00

1. Paving includes roadway surface, base and shoulders. Grading assumes 5' embankment height.
Drainage includes major structures (box culverts) and minor structures (culverts).

2. Phase A2 construction costs were taken from the I-49 South Route US 90, Lafayette Regional Airport to Route LA 88 Preliminary Engineering Report and EIS dated 2002 and inflated to 2004 dollars using

PENSCO NOTES

^A Quantity adjusted to account for total estimated cost of work for this phase.

^B R.R. Overpass Bridges equivalent to 7.0 X Unit Cost. Vermilion River Crossing (Non-navigable) equivalent to 2.5 X Unit Cost.

^C As per HNTB

^D Includes 2 signals per interchange.