



Appendix N

Detailed Cost Estimates

SR 21 Corridor Study
Phase I Final Report

**Selected Alternatives
Estimate of Construction Costs**

SR 21: Conceptual Cost Estimate - NORTH - A

Item Number	Item	Quantity	Unit	Unit Cost	Cost, Rounded
Right-of-Way					
A1	Property (Land and Easement) - 33 parcels	15	acre	\$ 44,000.00	\$ 660,000.00
A2	Displacements - 4- commercial	4	each	\$ 300,000.00	\$ 1,200,000.00
A3	Other Costs (Administrative Costs, Inflation)	1	lump sum	\$ 825,000.00	\$ 825,000.00
Subtotal A					\$ 2,685,000.00
Reimbursable Utilities					
B1	Transmission Lines - lines at ramp to I-95	1	lump sum	\$ -	\$ -
B2	Services	1	lump sum	\$ -	\$ -
Subtotal B					\$ -
Construction: Major Structures					
C1a	Retaining Walls	101,200	sq. ft	\$ 40.00	\$ 4,048,000.00
C1b	Elevated Lanes	791,500	sq. ft	\$ 100.00	\$ 80,000,000.00
C1c	Ramps	219,200	sq. ft	\$ 105.00	\$ 24,000,000.00
Subtotal C1					\$ 108,048,000.00
Construction: Grading and Drainage					
C2a	Earthwork	84,000	cubic yard	\$ 13.00	\$ 1,092,000.00
C2b-1	Drainage, Cross Drain Pipe	1	lump sum	\$ 300,000.00	\$ 300,000.00
C2b-2	Curb & Gutter	15,100	linear foot	\$ 12.00	\$ 182,000.00
C2b-3	Drainage, Longitudinal System (includes elev. Lanes)	1	lump sum	\$ 1,200,000.00	\$ 1,200,000.00
Subtotal C2					\$ 2,774,000.00
Construction: Base and Paving					
C3a	Aggregate Base - Graded Aggregate (10")	173,900	square yard	\$ 16.00	\$ 2,790,000.00
C3b-1	Asphalt Paving Surface Course (12.5mm SP)	14,350	ton	\$ 75.00	\$ 1,080,000.00
C3b-2	Asphalt Paving Binder Course (19.0mm SP)	19,130	ton	\$ 70.00	\$ 1,340,000.00
C3b-3	Asphalt Paving Base Course (25.0mm SP)	28,700	ton	\$ 69.00	\$ 1,990,000.00
\$ 7,200,000.00					
C3-c	Other - Asphalt Concrete Leveling -Overlay	9,000	ton	\$ 75.00	\$ 675,000.00
Subtotal C3					\$ 7,875,000.00
Construction: Lump Items					
C4a	Traffic Control	1	lump sum	\$ 6,500,000.00	\$ 6,500,000.00
C4b	Clearing and Grubbing (includes demolition)	30	acre	\$ 15,000.00	\$ 450,000.00
C4c	Erosion Control	1.0	lump sum	\$ 6,500,000.00	\$ 6,500,000.00
Subtotal C4					\$ 13,450,000.00
Construction: Miscellaneous					
C5a	Lighting	1	lump sum	\$ 200,000.00	\$ 200,000.00
C5b	Signing - Striping - Signalization	1	lump sum	\$ 1,020,000.00	\$ 1,020,000.00
C5c	Guardrail / Barrier	8,000	linear foot	\$ 50.00	\$ 400,000.00
C5d	Sidewalk - Driveways	1	lump sum	\$ 290,000.00	\$ 290,000.00
Subtotal C5					\$ 1,910,000.00
Raw Subtotal C					\$ 134,057,000.00
E & C (10%)					\$ 13,406,000.00
Subtotal C					\$ 147,463,000.00
9					
Grand Total					\$ 150,148,000.00

**Selected Alternatives
Estimate of Construction Costs**

SR 21: Conceptual Cost Estimate - CENTRAL - A

Item Number	Item	Quantity	Unit	Unit Cost	Cost, Rounded
Right-of-Way					
A1	Property (Land and Easement) - 9 parcels	3	acre	\$ 66,000.00	\$ 198,000.00
A2	Displacements -	0	each	\$ 300,000.00	
A3	Other Costs (Administrative Costs, Inflation)	1	lump sum	\$ 225,000.00	\$ 225,000.00
Subtotal A					\$ 423,000.00
Reimbursable Utilities					
B1	Transmission Lines - lines at ramp to I-95	1	lump sum	\$ -	\$ -
B2	Services	1	lump sum	\$ -	\$ -
Subtotal B					\$ -
Construction: Major Structures					
C1a	Retaining Walls	34,200	sq. ft	\$ 40.00	\$ 1,368,000.00
C1b	Elevated Lanes	1,603,200	sq. ft	\$ 100.00	\$ 161,000,000.00
C1c	Ramps	74,820	sq. ft	\$ 105.00	\$ 8,000,000.00
C1d	Bridge Widening	8,369	sq. ft	\$ 150.00	\$ 2,000,000.00
Subtotal C1					\$ 172,368,000.00
Construction: Grading and Drainage					
C2a	Earthwork	55,710	cubic yard	\$ 13.00	\$ 725,000.00
C2b-1	Drainage, Cross Drain Pipe	1	lump sum	\$ 150,000.00	\$ 150,000.00
C2b-2	Curb & Gutter	47,134	linear foot	\$ 12.00	\$ 566,000.00
C2b-3	Drainage, Longitudinal System (includes elev. Lanes)	1	lump sum	\$ 1,200,000.00	\$ 1,200,000.00
Subtotal C2					\$ 2,641,000.00
Construction: Base and Paving					
C3a	Aggregate Base - Graded Aggregate (10")	99,639	square yard	\$ 16.00	\$ 1,600,000.00
C3b-1	Asphalt Paving Surface Course (12.5mm SP)	8,220	ton	\$ 75.00	\$ 620,000.00
C3b-2	Asphalt Paving Binder Course (19.0mm SP)	10,960	ton	\$ 70.00	\$ 770,000.00
C3b-3	Asphalt Paving Base Course (25.0mm SP)	16,440	ton	\$ 69.00	\$ 1,140,000.00
					\$ 4,130,000.00
C3-c	Other - Asphalt Concrete Leveling	10,148	ton	\$ 75.00	\$ 762,000.00
Subtotal C3					\$ 4,892,000.00
Construction: Lump Items					
C4a	Traffic Control	1	lump sum	\$ 10,000,000.00	\$ 10,000,000.00
C4b	Clearing and Grubbing (includes demolition)	11	acre	\$ 15,000.00	\$ 165,000.00
C4c	Erosion Control	1.0	lump sum	\$ 10,000,000.00	\$ 10,000,000.00
Subtotal C4					\$ 20,165,000.00
Construction: Miscellaneous					
C5a	Lighting	1	lump sum	\$ 200,000.00	\$ 200,000.00
C5b	Signing - Striping - Signalization	1	lump sum	\$ 490,000.00	\$ 490,000.00
C5c	Guardrail / Barrier	8,000	linear foot	\$ 50.00	\$ 400,000.00
C5d	Sidewalk - Driveways	1	lump sum	\$ 750,000.00	\$ 750,000.00
Subtotal C5					\$ 1,840,000.00
Raw Subtotal C					\$ 201,906,000.00
E & C (10%)					\$ 20,191,000.00
Subtotal C					\$ 222,097,000.00
Grand Total					\$ 222,520,000.00

**Selected Alternatives
Estimate of Construction Costs**

SR 21: Conceptual Cost Estimate - CENTRAL-B for ALT 10A only

Item Number	Item	Quantity	Unit	Unit Cost	Cost, Rounded
Right-of-Way					
A1	Property (Land and Easement) - 23 Parcels	44	acre	\$ 66,000.00	\$ 2,904,000.00
A2	Displacements - 8 commercial	8	each	\$ 300,000.00	\$ 2,400,000.00
A3	Displacements - 48 residents	48	each	\$ 120,000.00	\$ 5,760,000.00
A4	Other Costs (Administrative Costs, Inflation)	1	lump sum	\$ 575,000.00	\$ 575,000.00
Subtotal A					\$ 11,639,000.00
Reimbursable Utilities					
B1	Transmission Lines - Primary and Secondary Reloc.	1	lump sum	\$ -	\$ -
B2	Services	1	lump sum	\$ -	\$ -
Subtotal B					\$ -
Construction: Major Structures					
C1a	Retaining Walls	38,000	sq. ft	\$ 40.00	\$ 1,520,000.00
C1b	Elevated Lanes	535,000	sq. ft	\$ 100.00	\$ 54,000,000.00
C1c	Ramps	203,000	sq. ft	\$ 105.00	\$ 22,000,000.00
C1d	Bridge Widening	31,300	sq. ft	\$ 150.00	\$ 5,000,000.00
Subtotal C1					\$ 82,520,000.00
Construction: Grading and Drainage					
C2a	Earthwork	230,000	cubic yard	\$ 11.00	\$ 2,530,000.00
C2b-1	Drainage	1	lump sum	\$ 300,000.00	\$ 300,000.00
C2b-2	Curb & Gutter	1,000	linear foot	\$ 12.00	\$ 12,000.00
Subtotal C2					\$ 2,842,000.00
Construction: Base and Paving					
C3a	Aggregate Base - Graded Aggregate (10")	163,300	square yard	\$ 16.00	\$ 2,620,000.00
C3b-1	Asphalt Paving Surface Course (12.5mm SP)	15,600	ton	\$ 75.00	\$ 1,170,000.00
C3b-2	Asphalt Paving Binder Course (19.0mm SP)	18,000	ton	\$ 70.00	\$ 1,260,000.00
C3b-3	Asphalt Paving Base Course (25.0mm SP)	27,000	ton	\$ 69.00	\$ 1,870,000.00
\$ 6,920,000.00					
C3-d	Other - Asphalt Concrete Leveling	5,000	ton	\$ 75.00	\$ 375,000.00
Subtotal C3					\$ 7,295,000.00
Construction: Lump Items					
C4a	Traffic Control	1	lump sum	\$ 6,000,000.00	\$ 6,000,000.00
C4b	Clearing and Grubbing (includes demolition)	46	acre	\$ 15,000.00	\$ 690,000.00
C4c	Erosion Control	1	lump sum	\$ 6,000,000.00	\$ 6,000,000.00
Subtotal C4					\$ 12,690,000.00
Construction: Miscellaneous					
C5a	Lighting	1	lump sum	\$ 200,000.00	\$ 200,000.00
C5b	Signing - Striping - Signalization	1	lump sum	\$ 660,000.00	\$ 660,000.00
C5c	Guardrail / Barrier	2,000	linear foot	\$ 50.00	\$ 100,000.00
C5d	Sidewalk - Driveways	1	lump sum	\$ 25,000.00	\$ 25,000.00
C5e	Concrete Median Barriers Type 20	41,000	LF	\$ 65.00	\$ 2,665,000.00
Subtotal C5					\$ 3,650,000.00
Raw Subtotal C					\$ 108,997,000.00
E & C (10%)					\$ 10,900,000.00
Subtotal C					\$ 119,897,000.00
Grand Total					\$ 131,536,000.00

**Selected Alternatives
Estimate of Construction Costs**

SR 21: Conceptual Cost Estimate - CENTRAL-B for ALT 11 Only

Item Number	Item	Quantity	Unit	Unit Cost	Cost, Rounded
Right-of-Way					
A1	Property (Land and Easement) - 23 Parcels	30	acre	\$ 66,000.00	\$ 1,980,000.00
A2	Displacements - 8 commercial	8	each	\$ 300,000.00	\$ 2,400,000.00
A3	Displacements - 48 residents	48	each	\$ 120,000.00	\$ 5,760,000.00
A4	Other Costs (Administrative Costs, Inflation)	1	lump sum	\$ 575,000.00	\$ 575,000.00
Subtotal A					\$ 10,715,000.00
Reimbursable Utilities					
B1	Transmission Lines - Primary and Secondary Reloc.	1	lump sum	\$ -	\$ -
B2	Services	1	lump sum	\$ -	\$ -
Subtotal B					\$ -
Construction: Major Structures					
C1a	Retaining Walls	43,000	sq. ft	\$ 40.00	\$ 1,720,000.00
C1b	Elevated Lanes	454,920	sq. ft	\$ 100.00	\$ 46,000,000.00
C1c	Ramps	43,000	sq. ft	\$ 105.00	\$ 5,000,000.00
C1d	Bridges	21,000	sq. ft	\$ 150.00	\$ 4,000,000.00
C1e	Bridge Widening	11,000	sq. ft	\$ 150.00	\$ 2,000,000.00
Subtotal C1					\$ 58,720,000.00
Construction: Grading and Drainage					
C2a	Earthwork	130,000	cubic yard	\$ 11.00	\$ 1,430,000.00
C2b-1	Drainage	1	lump sum	\$ 200,000.00	\$ 200,000.00
C2b-2	Curb & Gutter	1,000	linear foot	\$ 12.00	\$ 12,000.00
Subtotal C2					\$ 1,642,000.00
Construction: Base and Paving					
C3a	Aggregate Base - Graded Aggregate (10")	132,200	square yard	\$ 16.00	\$ 2,120,000.00
C3b-1	Asphalt Paving Surface Course (12.5mm SP)	10,900	ton	\$ 75.00	\$ 820,000.00
C3b-2	Asphalt Paving Binder Course (19.0mm SP)	15,000	ton	\$ 70.00	\$ 1,050,000.00
C3b-3	Asphalt Paving Base Course (25.0mm SP)	22,000	ton	\$ 69.00	\$ 1,520,000.00
Subtotal C3					\$ 5,510,000.00
C3-d	Other - Asphalt Concrete Leveling	5,000	ton	\$ 75.00	\$ 375,000.00
Subtotal C3					\$ 5,885,000.00
Construction: Lump Items					
C4a	Traffic Control	1	lump sum	\$ 5,000,000.00	\$ 5,000,000.00
C4b	Clearing and Grubbing (includes demolition)	30	acre	\$ 15,000.00	\$ 450,000.00
C4c	Erosion Control	1	lump sum	\$ 5,000,000.00	\$ 5,000,000.00
C4d	Box Culvert	1	lump sum	\$ 1,200,000.00	\$ 1,200,000.00
Subtotal C4					\$ 11,650,000.00
Construction: Miscellaneous					
C5a	Lighting	1	lump sum	\$ 200,000.00	\$ 200,000.00
C5b	Signing - Striping - Signalization	1	lump sum	\$ 510,000.00	\$ 510,000.00
C5c	Guardrail / Barrier	2,000	linear foot	\$ 50.00	\$ 100,000.00
C5d	Sidewalk - Driveways	1	lump sum	\$ 25,000.00	\$ 25,000.00
C5e	Concrete Median Barriers Type 20	6,300	LF	\$ 65.00	\$ 409,000.00
Subtotal C5					\$ 1,244,000.00
Raw Subtotal C					\$ 79,141,000.00
E & C (10%)					\$ 7,915,000.00
Subtotal C					\$ 87,056,000.00
Grand Total					\$ 97,771,000.00

**Selected Alternatives
Estimate of Construction Costs**

SR 21: Conceptual Cost Estimate - SOUTH -A

Item Number	Item	Quantity	Unit	Unit Cost	Cost, Rounded
Right-of-Way					
A1	Property (Land and Easement) - 33 parcels	2	acre	\$ 350,000.00	\$ 700,000.00
A2	Displacements - 1 business	1	each	\$ 300,000.00	\$ 300,000.00
A3	Other Costs (Administrative Costs, Inflation)	1	lump sum	\$ 825,000.00	\$ 825,000.00
Subtotal A					\$ 1,825,000.00
Reimbursable Utilities					
B1	Transmission Lines - lines at ramp to I-95	1	lump sum	\$ -	\$ -
B2	Services	1	lump sum	\$ -	\$ -
Subtotal B					\$ -
Construction: Major Structures					
C1a	Retaining Walls	30,400	sq. ft	\$ 40.00	\$ 1,216,000.00
C1b	Elevated Lanes	1,006,285	sq. ft	\$ 100.00	\$ 101,000,000.00
C1c	Bridge Widening	22,000	sq. ft	\$ 150.00	\$ 4,000,000.00
Subtotal C1					\$ 106,216,000.00
Construction: Grading and Drainage					
C2a	Earthwork	50,000	cubic yard	\$ 13.00	\$ 650,000.00
C2b-1	Drainage, Cross Drain Pipe	1	lump sum	\$ 100,000.00	\$ 100,000.00
C2b-2	Curb & Gutter	78,000	linear foot	\$ 12.00	\$ 936,000.00
C2b-3	Drainage, Longitudinal System (includes elev. Lanes)	1	lump sum	\$ 1,200,000.00	\$ 1,200,000.00
Subtotal C2					\$ 2,886,000.00
Construction: Base and Paving					
C3a	Aggregate Base - Graded Aggregate (10")	15,600	square yard	\$ 16.00	\$ 250,000.00
C3b-1	Asphalt Paving Surface Course (12.5mm SP)	1,287	ton	\$ 75.00	\$ 100,000.00
C3b-2	Asphalt Paving Binder Course (19.0mm SP)	1,716	ton	\$ 70.00	\$ 130,000.00
C3b-3	Asphalt Paving Base Course (25.0mm SP)	2,574	ton	\$ 69.00	\$ 180,000.00
\$ 660,000.00					
C3-c	Other - Asphalt Concrete Leveling	6,211	ton	\$ 75.00	\$ 466,000.00
Subtotal C3					\$ 1,126,000.00
Construction: Lump Items					
C4a	Traffic Control	1	lump sum	\$ 6,500,000.00	\$ 6,500,000.00
C4b	Clearing and Grubbing (includes demolition)	5	acre	\$ 15,000.00	\$ 75,000.00
C4c	Erosion Control	1.0	lump sum	\$ 6,500,000.00	\$ 6,500,000.00
Subtotal C4					\$ 13,075,000.00
Construction: Miscellaneous					
C5a	Lighting	1	lump sum	\$ 200,000.00	\$ 200,000.00
C5b	Signing - Striping - Signalization	1	lump sum	\$ 270,000.00	\$ 270,000.00
C5c	Guardrail / Barrier	8,000	linear foot	\$ 50.00	\$ 400,000.00
C5d	Sidewalk - Driveways	1	lump sum	\$ 300,000.00	\$ 300,000.00
Subtotal C5					\$ 1,170,000.00
Raw Subtotal C					\$ 124,473,000.00
E & C (10%)					\$ 12,448,000.00
Subtotal C					\$ 136,921,000.00
Grand Total					\$ 138,746,000.00

**Selected Alternatives
Estimate of Construction Costs**

SR 21: Conceptual Cost Estimate - SOUTH -B

Item Number	Item	Quantity	Unit	Unit Cost	Cost, Rounded
Right-of-Way					
A1	Property (Land and Easement) - 53 parcels	100	acre	\$ 61,000.00	\$ 6,100,000.00
A2	Displacements - 4 commercial	4	each	\$ 300,000.00	\$ 1,200,000.00
A3	Displacements - 5 residential	5	each	\$ 120,000.00	\$ 600,000.00
A4	Other Costs (Administrative Costs, Inflation)	1	lump sum	\$ 1,325,000.00	\$ 1,325,000.00
Subtotal A					\$ 9,225,000.00
Reimbursable Utilities					
B1	Transmission Lines - lines at ramp to I-95	1	lump sum	\$ -	\$ -
B2	Services	1	lump sum	\$ -	\$ -
Subtotal B					\$ -
Construction: Major Structures					
C1a	Retaining Walls	400,000	sq. ft	\$ 40.00	\$ 16,000,000.00
C1b	Bridges	650,000	sq. ft	\$ 150.00	\$ 98,000,000.00
C1c	Bridge Widening	0	sq. ft	\$ 150.00	
C1d	Trumpet Interchange	1	lump sum	\$ 50,000,000.00	\$ 50,000,000.00
Subtotal C1					\$ 164,000,000.00
Construction: Grading and Drainage					
C2a	Earthwork	1,200,000	cubic yard	\$ 11.00	\$ 13,200,000.00
C2b-1	Drainage	1	lump sum	\$ 400,000.00	\$ 400,000.00
C2b-2	Curb & Gutter	5,000	linear foot	\$ 12.00	\$ 60,000.00
Subtotal C2					\$ 13,660,000.00
Construction: Base and Paving					
C3a	Aggregate Base - Graded Aggregate (10")	440,000	square yard	\$ 16.00	\$ 7,040,000.00
C3b-1	Asphalt Paving Surface Course (12.5mm SP)	37,000	ton	\$ 75.00	\$ 2,780,000.00
C3b-2	Asphalt Paving Binder Course (19.0mm SP)	49,000	ton	\$ 70.00	\$ 3,430,000.00
C3b-3	Asphalt Paving Base Course (25.0mm SP)	73,000	ton	\$ 69.00	\$ 5,040,000.00
\$ 18,290,000.00					
C3-c	Other - Asphalt Concrete Leveling	5,000	ton	\$ 75.00	\$ 375,000.00
Subtotal C3					\$ 18,665,000.00
Construction: Lump Items					
C4a	Traffic Control	1	lump sum	\$ 11,500,000.00	\$ 11,500,000.00
C4b	Clearing and Grubbing (includes demolition)	100	acre	\$ 15,000.00	\$ 1,500,000.00
C4c	Erosion Control	1	lump sum	\$ 11,500,000.00	\$ 11,500,000.00
	Box Culvert	1	lump sum	\$ 1,200,000.00	\$ 1,200,000.00
Subtotal C4					\$ 25,700,000.00
Construction: Miscellaneous					
C5a	Lighting	1	lump sum	\$ 400,000.00	\$ 400,000.00
C5b	Signing - Striping - Signalization	1	lump sum	\$ 690,000.00	\$ 690,000.00
C5c	Guardrail / Barrier	30,000	linear foot	\$ 50.00	\$ 1,500,000.00
C5d	Concrete Median Barriers Type 20	21,000	LF	\$ 65.00	\$ 1,365,000.00
Subtotal C5					\$ 3,955,000.00
Raw Subtotal C					\$ 225,980,000.00
E & C (10%)					\$ 22,598,000.00
Subtotal C					\$ 248,578,000.00
Grand Total					\$ 257,803,000.00

**Selected Alternatives
Estimate of Construction Costs**

CONSTRUCTION COST TOTALS - ALTERNATIVES 3, 10, 11						
ALTERNATIVES		Construction Cost by Section	MAP ID	Right-Of_Way COST	CONSTRUCTION COST	TOTAL COST
ALTERNATIVE 3	North A	\$ 147,463,000	A	\$ 4,933,000	\$ 506,481,000	\$ 511,500,000
	Central A	\$ 222,097,000				
	South A	\$ 136,921,000				
ALTERNATIVE 10	North A	\$ 147,463,000	B	\$ 16,149,000	\$ 404,281,000	\$ 420,500,000
	Central B	\$ 119,897,000				
	South A	\$ 136,921,000				
ALTERNATIVE 11	North A	\$ 147,463,000	C	\$ 22,625,000	\$ 483,097,000	\$ 505,800,000
	Central B	\$ 87,056,000				
	South B	\$ 248,578,000				