

DRAFT
REPORT VOLUME THREE - APPENDICES
Part 2 of 4
Appendices 7-1 through 7-3

**SOUTHERN CALIFORNIA ACCELERATED
RAIL ELECTRIFICATION PROGRAM**



PHOTO BY SPACESHOTS INC.

Prepared for
Southern California Regional Rail Authority
February 10, 1992

DRAFT

REPORT VOLUME III – APPENDICES

Part 2 of 4
Appendices 7-1 through 7-3

Prepared By:

**Los Angeles County Transportation Commission
South Coast Air Quality Management District
Southern California Regional Rail Authority**

DeLeuw Cather & Company

Booz·Allen & Hamilton Inc.

Frederic R. Harris Inc.

ICI General Chemicals

LTK Engineering Services

Myra L. Frank & Associates, Inc.

Seelye, Stevenson, Valve & Knecht

Sharon Greene & Associates

Southern California Edison Inc.

Southern California Gas Company

Southwest Research Institute

DISCLAIMER

All participants in the Electrification Task Force identified on the previous page have contributed in some measure to the preparation of this Southern California Accelerated Rail Electrification Program report. However, not every participant is in agreement with the analysis and findings contained herein. Accordingly, identification of a participant does not indicate acceptance of, or agreement with, the entirety of the information provided in the report.

Funding for this Study

Provided By:

Amtrak

Atchison, Topeka and Santa Fe Railway Company

California Transportation Commission

Los Angeles Department of Water and Power

Riverside County Transportation Commission

**San Diego Association of Governments/
San Diego Gas and Electric/
San Diego Air Pollution Control District**

South Coast Air Coast Quality Management District

Southern California Edison

Southern California Gas Company

Southern California Regional Rail Authority

Southern Pacific Transportation Company

Union Pacific Railroad

LIST OF APPENDICES
(Part 2 of 4)

- 7-1 Estimate of Capital Costs – Commuter - Freight Combined
- 7-2 Total Costs Related to Electrification – 25Kv, Minimum Vertical Clearance
- 7-3 Total Costs Related to Electrification – 25Kv, Desirable

DRAFT VERSION 1
2/10/92

RPT/SCRE -01

APPENDIX 7-1

SOUTHERN CALIFORNIA REGIONAL ELECTRIFICATION PROGRAM
ESTIMATE OF CAPITAL COSTS (K\$)
COMMUTER - FREIGHT COMBINED

INFLATION ESCALATION		INFLATED COST										
Route	Seq/ Unit	Total 1992 Cost	Total Inflated Cost	1992 4.00% 104.00%	1993 4.00% 108.16%	1994 4.00% 112.49%	1995 4.00% 116.99%	1996 5.00% 122.84%	1997 5.00% 128.98%	1998 5.00% 135.43%	1999 5.00% 142.20%	
SEGMENT SPECIFIC COST												
1	SP-UP Corridor	4	100.0%		1.0%	2.0%	3.0%	4.0%	4.0%	10.0%	21.0%	21.0%
			45273.6	63108.3	470.8	979.4	1527.8	2118.5	2224.5	5830.3	12875.6	13519.3
2	Baldwin Park Commuter	8	100.0%		2.0%	4.0%	6.0%	23.0%	42.0%	23.0%		
			193293.1	234498.9	4020.5	8362.6	13045.7	52008.9	99721.4	57339.8		
3	Moorpark Commuter	9	100.0%		2.0%	4.0%	6.0%	23.0%	42.0%	23.0%		
			203221.9	246544.3	4227.0	8792.2	13715.8	54680.4	104843.7	60285.2		
4	Santa Clarita Commuter	10	100.0%		3.0%	5.0%	6.0%	50.0%	34.0%	1.5%	0.5%	
			99741.5	117840.4	3111.9	5394.0	6731.7	58341.7	41658.0	1929.7	675.4	
5	Lossan Corridor	11	100.0%		1.0%	3.0%	5.0%	28.0%	28.0%	28.0%		2.0%
			427598.4	543173.7	4447.0	13874.7	24049.5	25011.5	147067.5	154420.9	162141.9	12160.6
6	Riverside Via Ontario	2	100.0%		2.0%	4.0%	6.0%	23.0%	42.0%	23.0%		
			31839.4	38026.9	662.3	1377.5	2148.9	8567.0	16426.2	9445.1		
7	Riverside - LAUPT via Fullerton	7	100.0%		2.0%	4.0%	6.0%	23.0%	42.0%	23.0%		
			14563.7	17668.4	302.9	630.1	982.9	3918.6	7513.5	4320.3		
8	Hemet - Riverside	12	100.0%		2.0%	5.0%	7.0%	36.0%	48.0%	2.0%		
			123697.8	147221.9	2572.9	6689.6	9740.0	52095.2	72933.3	3190.8		
9	San bernardino - Irvine	6	100.0%		2.0%	4.0%	6.0%	23.0%	42.0%	23.0%		
			57177.3	69366.3	1189.3	2473.7	3859.0	15384.6	29498.2	16991.5		
10	Redlands Commuter	13	100.0%		3.0%	6.0%	27.0%	62.0%	2.0%			
			53999.7	61979.4	1682.0	3498.5	16373.1	39101.4	1324.4			
11	Southern Pacific Routes Ports to Yuma	3	100.0%		1.5%	2.0%	3.5%	5.0%	12.0%	21.0%	21.0%	21.0%
			698993.5	1196232.0	14024.3	19447.0	35393.6	52594.8	132513.6	243493.7	255668.4	268451.8
12	Santa Fe Ports to Barstow	5	100.0%		1.5%	2.0%	4.5%	5.0%	15.0%	28.0%	28.0%	15.8%
			270249.5	350941.0	4215.9	5848.0	13679.7	15807.7	49794.2	97596.7	102476.5	60717.3
13	Union Pacific Ports to Yermo	1	100.0%		1.5%	2.0%	4.5%	5.0%	15.0%	28.0%	28.0%	15.8%
			790617.5	1026681.2	12333.6	17102.6	40020.2	46245.5	145673.4	285519.9	299795.9	177629.1
TOTAL SEGMENT SPECIFIC COST			3,210,177.0	4,113,882.6	53,260.5	94,468.0	181,268.0	425,865.7	851,190.0	940,342.7	833,633.7	532,478.2
SHARE-ALL COST												
System-Wide Traction Electrification Cost			100.0%		10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
			50688.0	64811.7	5271.6	5482.4	5701.7	5929.8	6226.3	6537.6	6864.5	7207.7
Shops & Ancillary Facilities			100.0%		10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Locomotive Change Facilities			100.0%		10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Center			100.0%		10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
			0.0	10000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Locomotives												
	Passenger		0.0%									
	Freight		0.0%									
	Total Electric Locomotives		0.0	0.0								
			0.0	0.0								
TOTAL SHARE-ALL COST			50688.0	74811.7	5271.6	5482.4	5701.7	5929.8	6226.3	6537.6	6864.5	7207.7
TOTAL COST			3260865.0	4188694.3	58,532	99,950	186,970	431,796	857,416	946,880	840,498	539,686

SOUTHERN CALIFORNIA REGIONAL ELECTRIFICATION PROGRAM
ESTIMATE OF CAPITAL COSTS (K\$)
COMMUTER - FREIGHT COMBINED

INFLATION ESCALATION			INFLATED COST											
Route	Seq/ Unit	Total 1992 Cost	Total Inflated Cost	2000 5.00% 149.31%	2001 6.00% 158.27%	2002 6.00% 167.76%	2003 6.00% 177.83%	2004 6.00% 188.50%	2005 6.00% 199.81%	2006 6.00% 211.79%	2007 6.00% 224.50%	2008 6.00% 237.97%	2009 6.00% 252.25%	2010 6.00% 267.39%
SEGMENT SPECIFIC COST														
1	SP-UP Corridor	4	100.0%		21.0%	12.0%	1.0%							
			45273.6	63108.3	14195.3	8598.3	759.5							
2	Baldwin Park Commuter	8	100.0%											
			193293.1	234496.9										
3	Moorpark Commuter	9	100.0%											
			203221.9	246544.3										
4	Santa Clarita Commuter	10	100.0%											
			99741.5	117840.4										
5	Lossan Corridor	11	100.0%											
			427598.4	543173.7										
6	Riverside Via Ontario	2	100.0%											
			31839.4	38626.9										
7	Riverside - LAUPT via Fullerton	7	100.0%											
			14563.7	17668.4										
8	Hemet - Riverside	12	100.0%											
			123997.8	147221.9										
9	San bernardino - Irvine	6	100.0%											
			57177.3	69366.3										
10	Redlands Commuter	13	100.0%											
			53909.7	61979.4										
11	Southern Pacific Routes Ports to Yuma	3	100.0%		12.8%	0.2%								
			808993.5	1196232.0	171809.2	2845.0								
12	Santa Fe Ports to Barstow	5	100.0%		0.2%									
			270249.5	350941.0	807.0									
13	Union Pacific Ports to Yermo	1	100.0%		0.2%									
			790617.5	1026681.2	2360.9									
TOTAL SEGMENT SPECIFIC COST			3,210,177.0	4,113,882.6	189,172.4	11,443.9	759.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHARE-ALL COST														
System-Wide Traction Electrification Cost			100.0%		10.0%	10.0%								
			50688.0	64811.7	7568.1	8022.2								
Shops & Ancillary Facilities			100.0%		10.0%	10.0%								
			0.0	0.0	0.0	0.0								
Locomotive Change Facilities			100.0%		10.0%	10.0%								
			0.0	0.0	0.0	0.0								
Control Center			100.0%		10.0%	10.0%								
			0.0	10000.0	0.0	0.0								
Electric Locomotives														
	Passenger		0.0%											
			0.0	0.0										
	Freight		0.0%											
			0.0	0.0										
	Total Electric Locomotives		0.0	0.0										
TOTAL SHARE-ALL COST			50688.0	74811.7	7568.1	8022.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL COST			3260865.0	4188694.3	196,740	19,466	760	0	0	0	0	0	0	0

SOUTHERN CALIFORNIA REGIONAL ELECTRIFICATION PROGRAM
ESTIMATE OF CAPITAL COSTS (K\$)
COMMUTER - FREIGHT COMBINED

INFLATION ESCALATION		COST IN 1992 (K\$)										
Route	Seq/ Unit	Total 1992 Cost	Total Inflated Cost	1992 0.00% 100.00%	1993 0.00% 100.00%	1994 0.00% 100.00%	1995 0.00% 100.00%	1996 0.00% 100.00%	1997 0.00% 100.00%	1998 0.00% 100.00%	1999 0.00% 100.00%	
SEGMENT SPECIFIC COST												
1	SP-UP Corridor	4	100.0%	45273.8	1.0%	2.0%	3.0%	4.0%	4.0%	10.0%	21.0%	21.0%
2	Baldwin Park Commuter	8	100.0%	193293.1	2.0%	4.0%	6.0%	23.0%	42.0%	23.0%		
3	Moorpark Commuter	9	100.0%	203221.9	2.0%	4.0%	6.0%	23.0%	42.0%	23.0%		
4	Santa Clarita Commuter	10	100.0%	99741.5	3.0%	5.0%	6.0%	50.0%	34.0%	1.5%	0.5%	
5	Loosan Corridor	11	100.0%	427598.4	2.0%	4.0%	6.0%	23.0%	42.0%	23.0%		
6	Riverside Via Ontario	2	100.0%	31839.4	2.0%	4.0%	6.0%	23.0%	42.0%	23.0%		
7	Riverside - LAUPT via Fullerton	7	100.0%	14563.7	2.0%	4.0%	6.0%	23.0%	42.0%	23.0%		
8	Hemet - Riverside	12	100.0%	123697.8	2.0%	5.0%	7.0%	36.0%	48.0%	2.0%		
9	San bernardino - Irvine	6	100.0%	57177.3	2.0%	4.0%	6.0%	23.0%	42.0%	23.0%		
10	Redlands Commuter	13	100.0%	53909.7	3.0%	6.0%	27.0%	62.0%	2.0%			
11	Southern Pacific Routes Ports to Yuma	3	100.0%	808993.5	1.5%	2.0%	3.5%	5.0%	12.0%	21.0%	21.0%	21.0%
12	Santa Fe Ports to Barstow	5	100.0%	270249.5	1.5%	2.0%	4.5%	5.0%	15.0%	28.0%	28.0%	15.8%
13	Union Pacific Ports to Yermo	1	100.0%	790617.5	1.5%	2.0%	4.5%	5.0%	15.0%	28.0%	28.0%	15.8%
TOTAL SEGMENT SPECIFIC COST			3,210,177.0	3,210,177.0	51,212.0	87,341.0	161,148.8	364,031.8	692,953.1	729,078.3	615,565.1	374,465.0
SHARE-ALL COST												
System-Wide Traction Electrification Cost			100.0%	50688.0	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Shops & Ancillary Facilities		L.S.	100.0%	0.0	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Locomotive Change Facilities		L.S.	100.0%	0.0	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Control Center		L.S.	100.0%	0.0	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Electric Locomotives Passenger		EA	0.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Freight		EA	0.0%	1.0	10.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Total Electric Locomotives		L.S.	0.0%	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL SHARE-ALL COST			50688.0	60689.0	5068.8	5068.8	5068.8	5068.8	5068.8	5068.8	5068.8	5068.8
TOTAL COST			3260865.0	3270866.0	56,281	92,410	166,215	369,101	698,022	734,147	620,634	379,534

29-Jan-92
02:05 PM

SOUTHERN CALIFORNIA REGIONAL ELECTRIFICATION PROGRAM
ESTIMATE OF CAPITAL COSTS (K\$)
COMMUTER - FREIGHT COMBINED

INFLATION ESCALATION		COST IN 1992 (K\$)												
Route	Seq/ Unit	Total 1992 Cost	Total Inflated Cost	2000 0.00% 100.00%	2001 0.00% 100.00%	2002 0.00% 100.00%	2003 0.00% 100.00%	2004 0.00% 100.00%	2005 0.00% 100.00%	2006 0.00% 100.00%	2007 0.00% 100.00%	2008 0.00% 100.00%	2009 0.00% 100.00%	2010 0.00% 100.00%
SEGMENT SPECIFIC COST														
1	SP-UP Corridor	4	100.0%	45273.6	21.0%	12.0%	1.0%							
			45273.6	9507.5	5432.8	452.7								
2	Baldwin Park Commuter	8	100.0%	193293.1										
			193293.1											
3	Moorpark Commuter	9	100.0%	203221.9										
			203221.9											
4	Santa Clarita Commuter	10	100.0%	99741.5										
			99741.5											
5	Loosan Corridor	11	100.0%	427598.4										
			427598.4											
6	Riverside Via Ontario	2	100.0%	31839.4										
			31839.4											
7	Riverside - LAUPT via Fullerton	7	100.0%	14563.7										
			14563.7											
8	Hemet - Riverside	12	100.0%	123697.8										
			123697.8											
9	San bernardino - Irvine	6	100.0%	57177.3										
			57177.3											
10	Redlands Commuter	13	100.0%	53909.7										
			53909.7											
11	Southern Pacific Routes Ports to Yuma	3	100.0%	898993.5	12.8%	0.2%								
			898993.5	115071.2	1796.0									
12	Santa Fe Ports to Barstow	5	100.0%	270249.5	0.2%									
			270249.5	540.5										
13	Union Pacific Ports to Yermo	1	100.0%	790617.5	0.2%									
			790617.5	1581.2										
TOTAL SEGMENT SPECIFIC COST			3,210,177.0	3,210,177.0	126,700.4	7,230.8	452.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SHARE-ALL COST														
System-Wide Traction Electrification Cost			100.0%	50688.0	10.0%	10.0%								
			50688.0	5068.8	5068.8									
Shops & Ancillary Facilities			100.0%		10.0%	10.0%								
				0.0	0.0	0.0								
Locomotive Change Facilities			100.0%		10.0%	10.0%								
				0.0	0.0	0.0								
Control Center			100.0%		10.0%	10.0%								
				0.0	0.0	0.0								
Electric Locomotives														
Passenger			0.0%											
			0.0	0.0										
Freight			0.0%											
			0.0	1.0	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Total Electric Locomotives			0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL SHARE-ALL COST			50688.0	60689.0	5068.8	5068.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL COST			3260865.0	3270866.0	131,709	12,300	453	0	0	0	0	0	0	0

SOUTHERN CALIFORNIA REGIONAL ELECTRIFICATION PROGRAM
ESTIMATE OF CAPITAL COSTS (K\$)
COMMUTER - FREIGHT COMBINED

ADD-ON FACTORS		A1	A2	A3	A4	A5	A	B	C	D	E	F	G	
Route	Seq	Segment Specific Construction	Traction Electrification Cost	Shops & Ancillary Facilities	Control Center	Locomotive Change Facilities	Total Segment Specific Cost	Locomotive	Contractors Mobilization/ Demobilization (5% of A)	Testing & Operations Mobilization (2% of A)	Owners Insurance (8% of A)	Mitigation (2% of A)	Right-of-Way (5% of A)	
SEGMENT SPECIFIC COST														
1	SP-UP Corridor	4	8,874.3	12,537.5	564.1	141.0	479.5	22,596.5	1,129.8	451.9	1,807.7	451.9		
2	Baldwin Park Commuter	8	37,888.3	53,528.3	2,408.5	602.1	2,047.2	96,474.4	4,823.7	1,929.5	7,718.0	1,929.5		
3	Moorpark Commuter	9	39,834.5	56,277.8	2,532.2	633.1	2,152.4	101,430.0	5,071.5	2,028.6	8,114.4	2,028.6		
4	Santa Clarita Commuter	10	19,550.8	27,621.2	1,242.8	310.7	1,056.4	49,781.9	2,480.1	995.6	3,982.6	995.6		
5	Lossan Corridor	11	83,815.6	118,414.0	5,328.0	1,332.0	4,528.8	213,418.5	10,670.9	4,268.4	17,073.5	4,268.4		
6	Riverside Via Ontario	2	6,241.0	8,817.2	396.7	99.2	337.2	15,891.4	794.6	317.8	1,271.3	317.8		
7	Riverside - LAUPT via Fullerton	7	2,854.7	4,033.1	181.5	45.4	154.2	7,268.9	363.4	145.4	581.5	145.4		
8	Hemet - Riverside	12	24,246.6	34,255.4	1,541.3	385.3	1,310.1	61,738.8	3,086.9	1,234.8	4,939.1	1,234.8		
9	San bernardino - Irvine	6	11,207.6	15,834.0	712.5	178.1	605.6	28,537.8	1,426.9	570.8	2,283.0	570.8		
10	Redlands Commuter	13	10,567.1	14,929.1	671.7	167.9	571.0	26,906.9	1,345.3	538.1	2,152.5	538.1		
11	Southern Pacific Routes Ports to Yuma	3	176,216.0	248,956.5	11,201.8	2,800.4	9,521.5	448,696.3	22,434.8	8,973.9	35,895.7	8,973.9		
12	Santa Fe Ports to Barstow	5	52,972.9	74,839.7	3,367.4	841.9	2,862.3	134,884.1	6,744.2	2,697.7	10,790.7	2,697.7		
13	Union Pacific Ports to Yermo	1	154,972.7	218,944.1	9,851.4	2,462.8	8,373.7	394,604.8	19,730.2	7,892.1	31,568.4	7,892.1		
TOTAL SEGMENT SPECIFIC COST		ERR	629242.1	888988.0	40000.0	10000.0	34000.0	1602230.1	0.0	80111.5	32044.6	128178.4	32044.6	0.0
SHARE-ALL COST														
System-Wide Traction Electrification Cost		N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42,240.0	
Shops and Ancillary Facilities		N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Control Center		N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Locomotive Change Facilities		N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
TOTAL SHARE-ALL COST			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42240.0	
TOTAL COST			629242.1	888988.0	40000.0	10000.0	34000.0	1602230.1	0.0	80111.5	32044.6	128178.4	32044.6	42240.0

SOUTHERN CALIFORNIA REGIONAL ELECTRIFICATION PROGRAM
ESTIMATE OF CAPITAL COSTS (K\$)
COMMUTER - FREIGHT COMBINED

ADD - ON FACTORS		A1	H	I	J	K	L	M	N	
Route	Seq	Segment Specific Construction	Force Account (8% of A)	Employee Training (3% of A)	Construction Change Orders (12% of A&F) (2% of B)	Project Services (25% of A&F) (1% - B; 10% - J)	Subtotal (A - K)	Project Reserves (20% of L)	Total Constant (L + M)	
SEGMENT SPECIFIC COST										
1	4	8,874.3	1,807.7	677.9	2,765.8	6,036.7	37,728.0	7,545.6	45,273.6	
2	8	37,888.3	7,718.0	2,894.2	11,808.5	25,781.8	161,077.6	32,215.5	193,293.1	
3	9	39,834.5	8,114.4	3,042.9	12,415.0	27,106.2	169,351.6	33,870.3	203,221.9	
4	10	19,550.8	3,982.6	1,493.5	6,093.3	13,303.7	83,117.9	16,623.6	99,741.5	
5	11	83,815.6	17,073.5	6,402.6	26,122.4	57,033.9	356,332.0	71,266.4	427,598.4	
6	2	6,241.0	1,271.3	475.7	1,945.1	4,246.8	26,532.9	5,306.6	31,839.4	
7	7	2,854.7	581.5	218.1	889.7	1,942.5	12,136.4	2,427.3	14,563.7	
8	12	24,246.6	4,939.1	1,852.2	7,556.8	16,499.1	103,081.5	20,616.3	123,697.8	
9	6	11,207.6	2,283.0	856.1	3,493.0	7,626.4	47,647.8	9,529.6	57,177.3	
10	13	10,567.1	2,152.5	807.2	3,293.4	7,190.6	44,924.8	8,985.0	53,909.7	
11	3	176,216.0	35,805.7	13,460.9	54,920.4	119,909.6	749,161.2	149,832.2	898,993.5	
12	5	52,972.9	10,790.7	4,046.5	16,509.8	36,046.4	225,207.9	45,041.6	270,249.5	
13	1	154,972.7	31,568.4	11,838.1	48,299.6	105,454.2	658,847.9	131,769.6	790,617.5	
TOTAL SEGMENT SPECIFIC COST		ERR	629242.1	128178.4	48066.9	196113.0	428180.0	2675147.5	535029.5	3210177.0
SHARE - ALL COST										
System - Wide Traction Electrification Cost	N/A	0.0	0.0	0.0	0.0	0.0	42,240.0	8,448.0	50,688.0	
Shops and Ancillary Facilities	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Control Center	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Locomotive Change Facilities	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
TOTAL SHARE - ALL COST			0.0	0.0	0.0	0.0	42240.0	8448.0	50688.0	
TOTAL COST			629242.1	128178.4	48066.9	196113.0	428180.0	2717387.5	543477.5	3260865.0

**SOUTHERN CALIFORNIA REGIONAL ELECTRIFICATION PROGRAM
ESTIMATE OF CAPITAL COSTS (K\$)
COMMUTER ONLY**

ADD-ON FACTORS		A1	A2	A3	A4	A5	A	B	C	D	E	F	G
Route	Seq	Segment Construction	Traction Electrification Cost	Shops & Ancillary Facilities	Control Center	Locomotive Change Facilities	Total Segment Specific Cost	Locomotive	Contractors Mobilization/ Demobilization (5% of A)	Testing & Operations Mobilization (2% of A)	Owners Insurance (8% of A)	Mitigation (2% of A)	Right-of-Way (5% of A)
SEGMENT SPECIFIC COST													
1	SP-UP Corridor	4	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	
2	Baldwin Park Commuter	8	37,888.3	41,526.1	0.0	559.2	79,973.6		3,906.7	1,599.5	6,307.9	1,599.5	
3	Moorpark Commuter	9	39,834.5	43,659.1	0.0	587.9	84,081.6		4,204.1	1,681.6	6,726.5	1,681.6	
4	Santa Clarita Commuter	10	19,550.8	21,427.9	0.0	288.5	41,267.3		2,063.4	825.3	3,301.4	825.3	
5	Lossan Corridor	11	83,783.9	91,828.3	0.0	1,236.6	176,848.7		8,842.4	3,537.0	14,147.9	3,537.0	
6	Riverside Via Ontario	2	6,209.4	6,805.6	0.0	91.6	13,106.6		655.3	262.1	1,048.5	262.1	
7	Riverside - LAUPT via Fullerton	7	2,854.7	3,128.8	0.0	42.1	6,025.6		301.3	120.5	482.0	120.5	
8	Hemet - Riverside	12	24,246.6	26,574.6	0.0	357.9	51,179.1		2,559.0	1,023.6	4,094.3	1,023.6	
9	San bernardino - Irvine	6	11,207.6	12,283.7	0.0	165.4	23,656.7		1,182.8	473.1	1,892.5	473.1	
10	Redlands Commuter	13	10,567.1	11,581.7	0.0	156.0	22,304.7		1,115.2	446.1	1,784.4	446.1	
11	Southern Pacific Routes Ports to Yuma	3	2,914.8	3,194.7	0.0	43.0	6,152.5		307.6	123.0	492.2	123.0	
12	Santa Fe Ports to Barstow	5	45,923.0	50,332.2	0.0	677.8	96,933.0		4,846.6	1,938.7	7,754.6	1,938.7	
13	Union Pacific Ports to Yermo	1	53,798.0	58,963.3	0.0	794.0	113,555.3		5,677.8	2,271.1	9,084.4	2,271.1	
TOTAL SEGMENT SPECIFIC COST			338778.7	371306.0	0.0	5000.0	715084.7	0.0	35754.2	14301.7	57206.8	14301.7	0.0
SHARE-ALL COST													
System-Wide Traction Electrification Cost		N/A	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	23,040.0
Shops and Ancillary Facilities		N/A	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Control Center		N/A	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	
Locomotive Change Facilities		N/A	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	
TOTAL SHARE-ALL COST			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23040.0
TOTAL COST			338778.7	371306.0	0.0	5000.0	715084.7	0.0	35754.2	14301.7	57206.8	14301.7	23040.0

**SOUTHERN CALIFORNIA REGIONAL ELECTRIFICATION PROGRAM
ESTIMATE OF CAPITAL COSTS (K\$)
COMMUTER ONLY**

ADD-ON FACTORS		A1	H	I	J	K	L	M	N
Route	Seq	Segment Specific Construction	Force Account (8% of A)	Employee Training (3% of A)	Construction Change Orders (12% of A&F) (2% of B)	Project Services (25% of A&F) (1% - B; 10% - J)	Subtotal (A - K)	Project Reserves (20% of L)	Total Constant (L + M)
SEGMENT SPECIFIC COST									
1	4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	8	37,888.3	6,397.9	2,399.2	9,788.8	21,372.1	133,527.1	26,705.4	160,232.5
3	9	39,834.5	6,726.5	2,522.4	10,291.6	22,470.0	140,385.9	28,077.2	168,463.1
4	10	19,550.8	3,301.4	1,238.0	5,051.1	11,028.3	68,901.5	13,780.3	82,681.8
5	11	83,783.9	14,147.9	5,305.5	21,646.3	47,261.1	295,273.7	59,054.7	354,328.5
6	2	6,209.4	1,048.5	393.2	1,604.3	3,502.6	21,883.4	4,376.7	26,260.0
7	7	2,854.7	482.0	180.8	737.5	1,610.3	10,060.6	2,012.1	12,072.7
8	12	24,246.6	4,094.3	1,535.4	6,264.3	13,677.1	85,450.6	17,090.1	102,540.7
9	6	11,207.6	1,892.5	709.7	2,895.6	6,322.0	39,498.2	7,899.6	47,397.8
10	13	10,567.1	1,784.4	669.1	2,730.1	5,960.7	37,240.9	7,448.2	44,689.1
11	3	2,914.8	492.2	184.6	753.1	1,644.2	10,272.4	2,054.5	12,326.9
12	5	45,923.0	7,754.6	2,908.0	11,864.6	25,904.4	161,843.2	32,368.6	194,211.9
13	1	53,798.0	9,084.4	3,406.7	13,899.2	30,346.5	189,596.5	37,919.3	227,515.8
TOTAL SEGMENT SPECIFIC COST		338778.7	57206.8	21452.5	87526.4	191099.2	1193934.0	238786.8	1432720.8
SHARE-ALL COST									
System-Wide Traction Electrification Cost	N/A	0.0	0.0	0.0	0.0	0.0	23,040.0	4,608.0	27,648.0
Shops and Ancillary Facilities	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Center	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Locomotive Change Facilities	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL SHARE-ALL COST		0.0	0.0	0.0	0.0	0.0	23040.0	4608.0	27648.0
TOTAL COST		338778.7	57206.8	21452.5	87526.4	191099.2	1216974.0	243394.8	1460368.8

SOUTHERN CALIFORNIA REGIONAL ELECTRIFICATION PROGRAM
ESTIMATE OF CAPITAL COSTS (K\$)
COMMUTER ONLY

INFLATION ESCALATION		INFLATED COST										
Route	Seq/ Unit	Total 1992 Cost	Total Inflated Cost	1992 4.00% 104.00%	1993 4.00% 108.16%	1994 4.00% 112.40%	1995 4.00% 116.90%	1996 5.00% 122.84%	1997 5.00% 128.98%	1998 5.00% 135.43%	1999 5.00% 142.20%	
SEGMENT SPECIFIC COST												
1	SP-UP Corridor	4	100.0%		1.0%	2.0%	3.0%	4.0%	4.0%	10.0%	21.0%	21.0%
			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	Baldwin Park Commuter	8	100.0%		2.0%	4.0%	6.0%	23.0%	42.0%	23.0%		
			160232.5	194390.5	3332.8	6932.3	10814.4	43113.4	82665.2	47532.5		
3	Moorpark Commuter	9	100.0%		2.0%	4.0%	6.0%	23.0%	42.0%	23.0%		
			168463.1	204375.7	3504.0	7268.4	11369.9	45327.9	86911.4	49974.1		
4	Santa Clarita Commuter	10	100.0%		3.0%	5.0%	6.0%	50.0%	34.0%	1.5%	0.5%	
			82681.8	97685.1	2579.7	4471.4	5580.3	48363.0	34531.2	1599.8	559.9	
5	Lossan Corridor	11	100.0%		1.0%	3.0%	5.0%	5.0%	28.0%	28.0%		2.0%
			354328.5	450099.7	3685.0	11497.3	19928.8	20725.7	121867.2	127980.5	134358.6	10076.9
6	Riverside Via Ontario	2	100.0%		2.0%	4.0%	6.0%	23.0%	42.0%	23.0%		
			26260.0	31858.1	546.2	1136.1	1772.3	7065.7	13547.7	7790.0		
7	Riverside - LAUPT via Fullerton	7	100.0%		2.0%	4.0%	6.0%	23.0%	42.0%	23.0%		
			12072.7	14646.4	251.1	522.3	814.8	3248.4	6228.4	3581.3		
8	Hemet - Riverside	12	100.0%		2.0%	5.0%	7.0%	36.0%	48.0%	2.0%		
			102540.7	122041.3	2132.8	5545.4	8074.1	43184.9	60458.9	2645.1		
9	San bernardino - Irvine	6	100.0%		2.0%	4.0%	6.0%	23.0%	42.0%	23.0%		
			47397.8	57501.9	985.9	2050.6	3199.0	12753.2	24452.9	14060.4		
10	Redlands Commuter	13	100.0%		3.0%	6.0%	27.0%	62.0%	2.0%			
			44689.1	51378.5	1394.3	2900.1	13572.7	32413.5	1097.9			
11	Southern Pacific Routes Ports to Yuma	3	100.0%		1.5%	2.0%	3.5%	5.0%	12.0%	21.0%	21.0%	21.0%
			12326.9	16402.6	192.3	266.7	485.3	721.0	1817.0	3338.8	3505.7	3681.0
12	Santa Fe Ports to Barstow	5	100.0%		1.5%	2.0%	4.5%	5.0%	15.0%	28.0%	28.0%	15.8%
			194211.9	252199.9	3029.7	4201.2	9830.8	11360.0	35784.1	70136.8	73643.6	43633.8
13	Union Pacific Ports to Yermo	1	100.0%		1.5%	2.0%	4.5%	5.0%	15.0%	28.0%	28.0%	15.8%
			227515.8	295447.8	3549.2	4921.6	11516.6	13308.1	41920.4	82164.0	86272.2	51116.3
TOTAL SEGMENT SPECIFIC COST			1,432,720.8	1,788,027.6	25,183.2	51,733.4	96,958.8	281,584.9	511,282.2	410,783.0	298,339.9	108,508.0
SHARE-ALL COST												
System-Wide Traction Electrification Cost			100.0%		10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
			27648.0	35351.8	2875.4	2990.4	3110.0	3234.4	3396.1	3566.0	3744.3	3931.5
Shops & Ancillary Facilities			100.0%		10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Locomotive Change Facilities		L.S.	100.0%		10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Center		L.S.	100.0%		10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
			0.0	10000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Locomotives												
Passenger		EA	0.0%									
			0.0	0.0								
Freight		EA	0.0%									
			0.0	0.0								
Total Electric Locomotives		L.S.	0.0	0.0								
TOTAL SHARE-ALL COST			27648.0	45351.8	2875.4	2990.4	3110.0	3234.4	3396.1	3566.0	3744.3	3931.5
TOTAL COST			1460368.8	1833379.4	28,059	54,724	100,069	284,819	514,678	414,349	302,084	112,439

29-Jan-92
02:34 PM

SOUTHERN CALIFORNIA REGIONAL ELECTRIFICATION PROGRAM
ESTIMATE OF CAPITAL COSTS (K\$)
COMMUTER ONLY

INFLATION ESCALATION		COST IN 1992 (K\$)										
Route	Seq/ Unit	Total 1992 Cost	Total Inflated Cost	1992 0.00% 100.00%	1993 0.00% 100.00%	1994 0.00% 100.00%	1995 0.00% 100.00%	1996 0.00% 100.00%	1997 0.00% 100.00%	1998 0.00% 100.00%	1999 0.00% 100.00%	
SEGMENT SPECIFIC COST												
1	SP-UP Corridor	4	100.0%	100.0%	1.0%	2.0%	3.0%	4.0%	4.0%	10.0%	21.0%	21.0%
			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	Baldwin Park Commuter	8	100.0%	160232.5	2.0%	4.0%	6.0%	23.0%	42.0%	23.0%		
			160232.5	160232.5	3204.6	6409.3	9613.9	36853.5	67297.6	36853.5		
3	Moorpark Commuter	9	100.0%	168463.1	2.0%	4.0%	6.0%	23.0%	42.0%	23.0%		
			168463.1	168463.1	3369.3	6738.5	10107.8	38746.5	70754.5	38746.5		
4	Santa Clarita Commuter	10	100.0%	82681.8	3.0%	5.0%	6.0%	50.0%	34.0%	1.5%	0.5%	
			82681.8	82681.8	2480.5	4134.1	4960.9	41340.9	26111.8	1240.2	413.4	
5	Lossan Corridor	11	100.0%	354328.5	1.0%	3.0%	5.0%	5.0%	28.0%	28.0%	28.0%	2.0%
			354328.5	354328.5	3543.3	10629.9	17716.4	17716.4	99212.0	99212.0	99212.0	7086.6
6	Riverside Via Ontario	2	100.0%	26260.0	2.0%	4.0%	6.0%	23.0%	42.0%	23.0%		
			26260.0	26260.0	525.2	1050.4	1575.6	6039.8	11029.2	6039.8		
7	Riverside - LAUPT via Fullerton	7	100.0%	12072.7	2.0%	4.0%	6.0%	23.0%	42.0%	23.0%		
			12072.7	12072.7	241.5	482.9	724.4	2776.7	5070.6	2776.7		
8	Hemet - Riverside	12	100.0%	102540.7	2.0%	5.0%	7.0%	36.0%	48.0%	2.0%		
			102540.7	102540.7	2050.8	5127.0	7177.8	36914.7	49219.5	2050.8		
9	San bernardino - Irvine	6	100.0%	47397.8	2.0%	4.0%	6.0%	23.0%	42.0%	23.0%		
			47397.8	47397.8	948.0	1896.0	2843.9	10901.5	19907.1	10901.5		
10	Redlands Commuter	13	100.0%	44689.1	3.0%	6.0%	6.0%	27.0%	62.0%	2.0%		
			44689.1	44689.1	1340.7	2681.3	12066.0	27707.2	893.8			
11	Southern Pacific Routes Ports to Yuma	3	100.0%	12326.9	1.5%	2.0%	3.5%	5.0%	12.0%	21.0%	21.0%	21.0%
			12326.9	12326.9	184.9	246.5	431.4	616.3	1479.2	2566.7	2566.7	2566.7
12	Santa Fe Ports to Barstow	5	100.0%	194211.9	1.5%	2.0%	4.5%	5.0%	15.0%	28.0%	28.0%	15.8%
			194211.9	194211.9	2913.2	3884.2	8739.5	9710.6	29131.8	54379.3	54379.3	30685.5
13	Union Pacific Ports to Yermo	1	100.0%	227515.8	1.5%	2.0%	4.5%	5.0%	15.0%	28.0%	28.0%	15.8%
			227515.8	227515.8	3412.7	4550.3	10238.2	11375.8	34127.4	63704.4	63704.4	35947.5
TOTAL SEGMENT SPECIFIC COST			1,432,720.8	1,432,720.8	24,214.6	47,830.5	86,196.0	240,700.0	416,234.5	318,493.4	220,297.8	76,308.2
SHARE-ALL COST												
System-Wide Traction Electrification Cost			100.0%	27648.0	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
			27648.0	27648.0	2764.8	2764.8	2764.8	2764.8	2764.8	2764.8	2764.8	2764.8
Shops & Ancillary Facilities			100.0%		10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Locomotive Change Facilities			100.0%		10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Center			100.0%		10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electric Locomotives				10000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Passenger			0.0%									
Freight			0.0%		10.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Electric Locomotives			0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL SHARE-ALL COST			27648.0	37649.0	2764.8	2764.8	2764.8	2764.8	2764.8	2764.8	2764.8	2764.8
TOTAL COST			1460368.8	1470369.8	26,979	50,595	88,961	243,465	418,999	321,258	223,063	79,073

APPENDIX 7-2

**TOTAL COSTS* RELATED TO ELECTRIFICATION
(No Segments Duplicated)
25Kv, Minimum Vertical Clearance**

<u>ELEMENTS</u>	COMMUTER ONLY		COMMUTER & FREIGHT	
	<u>CONSTRUCTION COST</u> (A)	<u>TOTAL COST</u> (N)	<u>CONSTRUCTION COST</u> (A)	<u>TOTAL COST</u> (N)
CIVIL, STRUCTURAL & SIGNAL COSTS	338,784,212.00	678,777,206.07	629,250,944.00	1,260,747,055.37
SYS. -WIDE TRACTION ELECT. COSTS	371,306,000.00	758,912,819.81	888,988,000.00	1,831,835,909.18
SHOPS & ANCILLARY FACILITIES	0.00	0.00	40,000,000.00	80,142,720.00
LOCOMOTIVE CHANGE FACILITIES	0.00	0.00	34,000,000.00	68,121,312.00
CONTROL CENTER	5,000,000.00	10,017,840.00	10,000,000.00	20,035,680.00
TOTAL	715,090,212.00	1,447,707,865.88	1,602,238,944.00	3,260,882,676.55

*(Locomotives not included)

ESTIMATED COSTS RELATED TO ELECTRIFICATION

3 SHOPS & ANCILLARY FACILITIES

<u>PROJECT ADD-ONS</u>	<u>COMMUTER ONLY AMT.</u>	<u>COMMUTER & FREIGHT AMT.</u>
A. Construction	0.00	40,000,000.00
B. Locomotives		
C. Contractors Mobilization/Demobilization (5% of A)	0.00	2,000,000.00
D. Testing and Operations Mobilization (2% of A)	0.00	800,000.00
E. Owners Insurance (8% of A)	0.00	3,200,000.00
F. Mitigation (2% of A)	0.00	800,000.00
G. Right-of-Way	0.00	0.00
H. Force Account (8% of A)	0.00	3,200,000.00
I. Employee Training (3% of A)	0.00	1,200,000.00
J. Construction Change Orders (12% of A & F, 2% of B)	0.00	4,896,000.00
K. Project Services (25% of A & F, 1% of B, 10% of J)	0.00	10,689,600.00
L. Subtotal (A thru K)	0.00	66,785,600.00
M. Project Reserve (20% of L)	0.00	13,357,120.00
N. Total Cost in 1992 Dollars (L + M)	0.00	80,142,720.00
O. Annual Inflation:		
4% 1992 thru 1995		
5% 1995 thru 2000		
6% 2001 thru 2010		

ESTIMATED COSTS RELATED TO ELECTRIFICATION

8 LOCOMOTIVE CHANGE FACILITIES

<u>PROJECT ADD-ONS</u>	<u>COMMUTER ONLY</u> <u>AMT.</u>	<u>COMMUTER & FREIGHT</u> <u>AMT.</u>
A. Construction	0.00	34,000,000.00
B. Locomotives		
C. Contractors Mobilization/Demobilization (5% of A)	0.00	1,700,000.00
D. Testing and Operations Mobilization (2% of A)	0.00	680,000.00
E. Owners Insurance (8% of A)	0.00	2,720,000.00
F. Mitigation (2% of A)	0.00	680,000.00
G. Right-of-Way	0.00	0.00
H. Force Account (8% of A)	0.00	2,720,000.00
I. Employee Training (3% of A)	0.00	1,020,000.00
J. Construction Change Orders (12% of A & F, 2% of B)	0.00	4,161,600.00
K. Project Services (25% of A & F, 1% of B, 10% of J)	0.00	9,086,160.00
L. Subtotal (A thru K)	0.00	56,767,760.00
M. Project Reserve (20% of L)	0.00	11,353,552.00
N. Total Cost in 1992 Dollars (L + M)	0.00	68,121,312.00
O. Annual Inflation:		
4% 1992 thru 1995		
5% 1995 thru 2000		
6% 2001 thru 2010		

ESTIMATED COSTS RELATED TO ELECTRIFICATION

1 CONTROL CENTER

<u>PROJECT ADD-ONS</u>	<u>COMMUTER ONLY</u> <u>AMT.</u>	<u>COMMUTER & FREIGHT</u> <u>AMT.</u>
A. Construction	5,000,000.00	10,000,000.00
B. Locomotives		
C. Contractors Mobilization/Demobilization (5% of A)	250,000.00	500,000.00
D. Testing and Operations Mobilization (2% of A)	100,000.00	200,000.00
E. Owners Insurance (8% of A)	400,000.00	800,000.00
F. Mitigation (2% of A)	100,000.00	200,000.00
G. Right-of-Way	0.00	0.00
H. Force Account (8% of A)	400,000.00	800,000.00
I. Employee Training (3% of A)	150,000.00	300,000.00
J. Construction Change Orders (12% of A & F, 2% of B)	612,000.00	1,224,000.00
K. Project Services (25% of A & F, 1% of B, 10% of J)	1,336,200.00	2,672,400.00
L. Subtotal (A thru K)	8,348,200.00	16,696,400.00
M. Project Reserve (20% of L)	1,669,640.00	3,339,280.00
N. Total Cost in 1992 Dollars (L + M)	10,017,840.00	20,035,680.00
O. Annual Inflation:		
4% 1992 thru 1995		
5% 1995 thru 2000		
6% 2001 thru 2010		

**SYSTEM-WIDE TRACTION ELECTRIFICATION COSTS (NO SEGMENTS DUPLICATED)
25Kv, Minimum Vertical Clearance**

<u>PROJECT ADD-ONS</u>	<u>COMMUTER ONLY AMT.</u>	<u>COMMUTER & FREIGHT AMT.</u>
A. Construction	371,306,000.00	888,988,000.00
B. Locomotives		
C. Contractors Mobilization/Demobilization (5% of A)	18,565,300.00	44,449,400.00
D. Testing and Operations Mobilization (2% of A)	7,426,120.00	17,779,760.00
E. Owners Insurance (8% of A)	29,704,480.00	71,119,040.00
F. Mitigation (2% of A)	7,426,120.00	17,779,760.00
G. Right-of-Way	12,480,000.00	42,240,000.00
H. Force Account (8% of A)	29,704,480.00	71,119,040.00
I. Employee Training (3% of A)	11,139,180.00	26,669,640.00
J. Construction Change Orders (12% of A & F, 2% of B)	45,447,854.40	108,812,131.20
K. Project Services (25% of A & F, 1% of B, 10% of J)	99,227,815.44	237,573,153.12
L. Subtotal (A thru K)	632,427,349.84	1,526,529,924.32
M. Project Reserve (20% of L)	126,485,469.97	305,305,984.86
N. Total Cost in 1992 Dollars (L + M)	758,912,819.81	1,831,835,909.18
O. Annual Inflation:		
4% 1992 thru 1995		
5% 1995 thru 2000		
6% 2001 thru 2010		

SUMMARY OF COSTS BY ROUTE* COSTS RELATED TO ELECTRIFICATION
25Kv, Minimum Vertical Clearance

*Locomotives, Shops & Ancillary Facilities, Locomotive Change Facilities and Control Center not included

COMMUTER ONLY

<u>ROUTE</u>	<u>DESCRIPTION</u>	<u>RTE. MILES</u>	<u>UNDUPLICATED RTE. MILES</u>	<u>DUPLICATED CONSTRUCTION COSTS (A)</u>	<u>DUPLICATED TOTAL COST (N)</u>
1.	UP/SP Corridor	394	394	63,766,458.00	139,280,434.72
2.	Baldwin Park Commuter	57	57	93,454,320.00	189,546,085.01
3.	Moorpark Commuter	48	46	91,795,256.00	186,222,037.47
4.	Santa Clarita Commuter	35	24	68,264,880.00	137,925,329.09
5.	Lossan Corridor	134	133	248,469,820.00	502,434,180.32
6.	Riverside Via Ontario	59	24	108,899,602.00	220,491,757.78
7.	Riverside - Laupt via Fullerton	62	35	126,768,720.00	256,293,750.79
8.	Hemet - Riverside	39	39	54,387,174.00	110,120,401.44
9.	San Bernardino - Irvine	53	13	105,997,534.00	214,677,267.20
10.	Redlands Commuter	12	12	18,917,216.00	39,053,928.63
11.	Southern Pacific Routes Ports to Yuma	282	16	7,474,685.00	15,576,039.68
12.	Santa Fe Ports to Barstow	176	0	133,593,390.00	273,423,441.22
13.	Union Pacific Ports to Yermo	187	0	117,114,448.00	239,254,760.35

SUMMARY OF COSTS BY ROUTE* COSTS RELATED TO ELECTRIFICATION
25Kv, Minimum Vertical Clearance

*Locomotives, Shops & Ancillary Facilities, Locomotive Change Facilities and Control Center not included

COMMUTER & FREIGHT

<u>ROUTE</u>	<u>DESCRIPTION</u>	<u>RTE. MILES</u>	<u>UNDUPLICATED RTE. MILES</u>	<u>DUPLICATED CONSTRUCTION COSTS (A)</u>	<u>DUPLICATED TOTAL COST (N)</u>
1.	UP/SP Corridor	394	394	744,585,526.00	1,513,715,733.16
2.	Baldwin Park Commuter	57	57	93,454,320.00	189,546,085.01
3.	Moorpark Commuter	48	46	91,795,256.00	186,222,037.47
4.	Santa Clarita Commuter	35	24	68,264,880.00	137,925,329.09
5.	Lossan Corridor	134	133	276,862,300.00	562,776,444.69
6.	Riverside Via Ontario	59	24	124,703,922.00	253,308,787.59
7.	Riverside - Laught via Fullerton	62	35	142,581,496.00	289,127,722.78
8.	Hemet - Riverside	39	39	54,387,174.00	110,120,401.44
9.	San Bernardino - Irvine	53	13	126,635,550.00	257,178,935.64
10.	Redlands Commuter	12	12	18,917,216.00	39,053,928.63
11.	Southern Pacific Routes Ports to Yuma	282	16	511,363,224.00	1,040,678,991.98
12.	Santa Fe Ports to Barstow	176	0	369,135,726.00	748,804,528.27
13.	Union Pacific Ports to Yermo	187	0	394,749,044.00	801,274,552.59

SUMMARY OF COSTS BY ROUTE* COSTS RELATED TO ELECTRIFICATION

25Kv, Minimum Vertical Clearance

*Locomotives, Shops & Ancillary Facilities, Locomotive Change Facilities and Control Center not included

COMMUTER ONLY (NO SEGMENTS DUPLICATED)

<u>ROUTE</u>	<u>DESCRIPTION</u>	<u>RTE. MILES</u>	<u>UNDUPLICATED RTE. MILES</u>	<u>UNDUPLICATED CONSTRUCTION COSTS (A)</u>	<u>UNDUPLICATED TOTAL COST (N)</u>
1.	UP/SP Corridor	394	394	26,363,458.00	52,820,980.82
2.	Baldwin Park Commuter	57	57	44,493,320.00	89,145,392.17
3.	Moorpark Commuter	48	46	39,835,032.00	79,812,195.39
4.	Santa Clarita Commuter	35	24	19,550,888.00	39,171,533.57
5.	Lossan Corridor	134	133	113,398,884.00	227,202,375.22
6.	Riverside Via Ontario	59	24	20,107,920.00	40,287,585.06
7.	Riverside - Laupt via Fullerton	62	35	26,549,648.00	53,194,025.14
8.	Hemet - Riverside	39	39	27,483,174.00	55,064,407.96
9.	San Bernardino - Irvine	53	13	10,434,672.00	20,906,574.91
10.	Redlands Commuter	12	12	10,567,216.00	21,172,135.83
11.	Southern Pacific Routes Ports to Yuma	282	16	0.00	0.00
12.	Santa Fe Ports to Barstow	176	0	0.00	0.00
13.	Union Pacific Ports to Yermo	187	0	0.00	0.00
<u>TOTAL:</u>				338,784,212.00	678,777,206.07

SUMMARY OF COSTS BY ROUTE* COSTS RELATED TO ELECTRIFICATION
25Kv, Minimum Vertical Clearance

*Locomotives, Shops & Ancillary Facilities, Locomotive Change Facilities and Control Center not included

COMMUTER & FREIGHT (NO SEGMENTS DUPLICATED)

<u>ROUTE</u>	<u>DESCRIPTION</u>	<u>RTE. MILES</u>	<u>UNDUPLICATED RTE. MILES</u>	<u>UNDUPLICATED CONSTRUCTION COSTS (A)</u>	<u>UNDUPLICATED TOTAL COST (N)</u>
1.	UP/SP Corridor	394	394	285,894,526.00	572,809,123.67
2.	Baldwin Park Commuter	57	57	44,493,320.00	89,145,392.17
3.	Moorpark Commuter	48	46	39,835,032.00	79,812,195.39
4.	Santa Clarita Commuter	35	24	19,550,888.00	39,171,533.57
5.	Lossan Corridor	134	133	113,747,364.00	227,900,578.59
6.	Riverside Via Ontario	59	24	20,266,320.00	40,604,950.23
7.	Riverside - Laught via Fullerton	62	35	32,894,624.00	65,906,616.02
8.	Hemet - Riverside	39	39	27,483,174.00	55,064,407.96
9.	San Bernardino - Irvine	53	13	10,529,712.00	21,096,994.01
10.	Redlands Commuter	12	12	10,567,216.00	21,172,135.83
11.	Southern Pacific Routes Ports to Yuma	282	16	13,702,336.00	27,453,561.93
12.	Santa Fe Ports to Barstow	176	0	10,286,432.00	20,609,565.99
13.	Union Pacific Ports to Yermo	187	0	0.00	0.00
<u>TOTAL:</u>				629,250,944.00	1,260,747,055.37

ROUTE 1 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	26,363,458.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	1,318,172.90
D. Testing and Operations Mobilization (2% of A)	527,269.16
E. Owners Insurance (8% of A)	2,109,076.64
F. Mitigation (2% of A)	527,269.16
G. Right-of-Way	
H. Force Account (8% of A)	2,109,076.64
I. Employee Training (3% of A)	790,903.74
J. Construction Change Orders (12% of A & F, 2% of B)	3,226,887.26
K. Project Services (25% of A & F, 1% of B, 10% of J)	7,045,370.52
L. Subtotal (A thru K)	44,017,484.02
M. Project Reserve (20% of L)	8,803,496.80
N. Total Cost in 1992 Dollars (L + M)	52,820,980.82
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 2 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	44,493,320.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	2,224,666.00
D. Testing and Operations Mobilization (2% of A)	889,866.40
E. Owners Insurance (8% of A)	3,559,465.60
F. Mitigation (2% of A)	889,866.40
G. Right-of-Way	
H. Force Account (8% of A)	3,559,465.60
I. Employee Training (3% of A)	1,334,799.60
J. Construction Change Orders (12% of A & F, 2% of B)	5,445,982.37
K. Project Services (25% of A & F, 1% of B, 10% of J)	11,890,394.84
L. Subtotal (A thru K)	74,287,826.80
M. Project Reserve (20% of L)	14,857,565.36
N. Total Cost in 1992 Dollars (L + M)	89,145,392.17
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 3 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	39,835,032.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	1,991,751.60
D. Testing and Operations Mobilization (2% of A)	796,700.64
E. Owners Insurance (8% of A)	3,186,802.56
F. Mitigation (2% of A)	796,700.64
G. Right-of-Way	
H. Force Account (8% of A)	3,186,802.56
I. Employee Training (3% of A)	1,195,050.96
J. Construction Change Orders (12% of A & F, 2% of B)	4,875,807.92
K. Project Services (25% of A & F, 1% of B, 10% of J)	10,645,513.95
L. Subtotal (A thru K)	66,510,162.83
M. Project Reserve (20% of L)	13,302,032.57
N. Total Cost in 1992 Dollars (L + M)	79,812,195.39
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 4 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	19,550,888.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	977,544.40
D. Testing and Operations Mobilization (2% of A)	391,017.76
E. Owners Insurance (8% of A)	1,564,071.04
F. Mitigation (2% of A)	391,017.76
G. Right-of-Way	
H. Force Account (8% of A)	1,564,071.04
I. Employee Training (3% of A)	586,526.64
J. Construction Change Orders (12% of A & F, 2% of B)	2,393,028.69
K. Project Services (25% of A & F, 1% of B, 10% of J)	5,224,779.31
L. Subtotal (A thru K)	32,642,944.64
M. Project Reserve (20% of L)	6,528,588.93
N. Total Cost in 1992 Dollars (L + M)	39,171,533.57
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops & Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 5 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	113,398,884.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	5,669,944.20
D. Testing and Operations Mobilization (2% of A)	2,267,977.68
E. Owners Insurance (8% of A)	9,071,910.72
F. Mitigation (2% of A)	2,267,977.68
G. Right-of-Way	
H. Force Account (8% of A)	9,071,910.72
I. Employee Training (3% of A)	3,401,966.52
J. Construction Change Orders (12% of A & F, 2% of B)	13,880,023.40
K. Project Services (25% of A & F, 1% of B, 10% of J)	30,304,717.76
L. Subtotal (A thru K)	189,335,312.68
M. Project Reserve (20% of L)	37,867,062.54
N. Total Cost in 1992 Dollars (L + M)	227,202,375.22
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 6 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	20,107,920.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	1,005,396.00
D. Testing and Operations Mobilization (2% of A)	402,158.40
E. Owners Insurance (8% of A)	1,608,633.60
F. Mitigation (2% of A)	402,158.40
G. Right-of-Way	
H. Force Account (8% of A)	1,608,633.60
I. Employee Training (3% of A)	603,237.60
J. Construction Change Orders (12% of A & F, 2% of B)	2,461,209.41
K. Project Services (25% of A & F, 1% of B, 10% of J)	5,373,640.54
L. Subtotal (A thru K)	33,572,987.55
M. Project Reserve (20% of L)	6,714,597.51
N. Total Cost in 1992 Dollars (L + M)	40,287,585.06
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 7 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	26,549,648.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	1,327,482.40
D. Testing and Operations Mobilization (2% of A)	530,992.96
E. Owners Insurance (8% of A)	2,123,971.84
F. Mitigation (2% of A)	530,992.96
G. Right-of-Way	
H. Force Account (8% of A)	2,123,971.84
I. Employee Training (3% of A)	796,489.44
J. Construction Change Orders (12% of A & F, 2% of B)	3,249,676.92
K. Project Services (25% of A & F, 1% of B, 10% of J)	7,095,127.93
L. Subtotal (A thru K)	44,328,354.29
M. Project Reserve (20% of L)	8,865,670.86
N. Total Cost in 1992 Dollars (L + M)	53,194,025.14
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 8 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	27,483,174.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	1,374,158.70
D. Testing and Operations Mobilization (2% of A)	549,663.48
E. Owners Insurance (8% of A)	2,198,653.92
F. Mitigation (2% of A)	549,663.48
G. Right-of-Way	
H. Force Account (8% of A)	2,198,653.92
I. Employee Training (3% of A)	824,495.22
J. Construction Change Orders (12% of A & F, 2% of B)	3,363,940.50
K. Project Services (25% of A & F, 1% of B, 10% of J)	7,344,603.42
L. Subtotal (A thru K)	45,887,006.64
M. Project Reserve (20% of L)	9,177,401.33
N. Total Cost in 1992 Dollars (L + M)	55,064,407.96
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops & Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 9 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	10,434,672.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	521,733.60
D. Testing and Operations Mobilization (2% of A)	208,693.44
E. Owners Insurance (8% of A)	834,773.76
F. Mitigation (2% of A)	208,693.44
G. Right-of-Way	
H. Force Account (8% of A)	834,773.76
I. Employee Training (3% of A)	313,040.16
J. Construction Change Orders (12% of A & F, 2% of B)	1,277,203.85
K. Project Services (25% of A & F, 1% of B, 10% of J)	2,788,561.75
L. Subtotal (A thru K)	17,422,145.76
M. Project Reserve (20% of L)	3,484,429.15
N. Total Cost in 1992 Dollars (L + M)	20,906,574.91
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 10 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	10,567,216.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	528,360.80
D. Testing and Operations Mobilization (2% of A)	211,344.32
E. Owners Insurance (8% of A)	845,377.28
F. Mitigation (2% of A)	211,344.32
G. Right-of-Way	
H. Force Account (8% of A)	845,377.28
I. Employee Training (3% of A)	317,016.48
J. Construction Change Orders (12% of A & F, 2% of B)	1,293,427.24
K. Project Services (25% of A & F, 1% of B, 10% of J)	2,823,982.80
L. Subtotal (A thru K)	17,643,446.52
M. Project Reserve (20% of L)	3,528,689.30
N. Total Cost in 1992 Dollars (L + M)	21,172,135.83
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 11 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	0.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	0.00
D. Testing and Operations Mobilization (2% of A)	0.00
E. Owners Insurance (8% of A)	0.00
F. Mitigation (2% of A)	0.00
G. Right-of-Way	
H. Force Account (8% of A)	0.00
I. Employee Training (3% of A)	0.00
J. Construction Change Orders (12% of A & F, 2% of B)	0.00
K. Project Services (25% of A & F, 1% of B, 10% of J)	0.00
L. Subtotal (A thru K)	0.00
M. Project Reserve (20% of L)	0.00
N. Total Cost in 1992 Dollars (L + M)	0.00
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 12 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	0.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	0.00
D. Testing and Operations Mobilization (2% of A)	0.00
E. Owners Insurance (8% of A)	0.00
F. Mitigation (2% of A)	0.00
G. Right-of-Way	
H. Force Account (8% of A)	0.00
I. Employee Training (3% of A)	0.00
J. Construction Change Orders (12% of A & F, 2% of B)	0.00
K. Project Services (25% of A & F, 1% of B, 10% of J)	0.00
L. Subtotal (A thru K)	0.00
M. Project Reserve (20% of L)	0.00
N. Total Cost in 1992 Dollars (L + M)	0.00
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops & Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 13 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	0.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	0.00
D. Testing and Operations Mobilization (2% of A)	0.00
E. Owners Insurance (8% of A)	0.00
F. Mitigation (2% of A)	0.00
G. Right-of-Way	
H. Force Account (8% of A)	0.00
I. Employee Training (3% of A)	0.00
J. Construction Change Orders (12% of A & F, 2% of B)	0.00
K. Project Services (25% of A & F, 1% of B, 10% of J)	0.00
L. Subtotal (A thru K)	0.00
M. Project Reserve (20% of L)	0.00
N. Total Cost in 1992 Dollars (L + M)	0.00
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops & Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 1 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	63,766,458.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	3,188,322.90
D. Testing and Operations Mobilization (2% of A)	1,275,329.16
E. Owners Insurance (8% of A)	5,101,316.64
F. Mitigation (2% of A)	1,275,329.16
G. Right-of-Way	9,600,000.00
H. Force Account (8% of A)	5,101,316.64
I. Employee Training (3% of A)	1,912,993.74
J. Construction Change Orders (12% of A & F, 2% of B)	7,805,014.46
K. Project Services (25% of A & F, 1% of B, 10% of J)	17,040,948.24
L. Subtotal (A thru K)	116,067,028.94
M. Project Reserve (20% of L)	23,213,405.79
N. Total Cost in 1992 Dollars (L + M)	139,280,434.72
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 2 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	93,454,320.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	4,672,716.00
D. Testing and Operations Mobilization (2% of A)	1,869,086.40
E. Owners Insurance (8% of A)	7,476,345.60
F. Mitigation (2% of A)	1,869,086.40
G. Right-of-Way	1,920,000.00
H. Force Account (8% of A)	7,476,345.60
I. Employee Training (3% of A)	2,803,629.60
J. Construction Change Orders (12% of A & F, 2% of B)	11,438,808.77
K. Project Services (25% of A & F, 1% of B, 10% of J)	24,974,732.48
L. Subtotal (A thru K)	157,955,070.84
M. Project Reserve (20% of L)	31,591,014.17
N. Total Cost in 1992 Dollars (L + M)	189,546,085.01
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 3 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	91,795,256.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	4,589,762.80
D. Testing and Operations Mobilization (2% of A)	1,835,905.12
E. Owners Insurance (8% of A)	7,343,620.48
F. Mitigation (2% of A)	1,835,905.12
G. Right-of-Way	1,920,000.00
H. Force Account (8% of A)	7,343,620.48
I. Employee Training (3% of A)	2,753,857.68
J. Construction Change Orders (12% of A & F, 2% of B)	11,235,739.33
K. Project Services (25% of A & F, 1% of B, 10% of J)	24,531,364.21
L. Subtotal (A thru K)	155,185,031.23
M. Project Reserve (20% of L)	31,037,006.25
N. Total Cost in 1992 Dollars (L + M)	186,222,037.47
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 4 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	68,264,880.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	3,413,244.00
D. Testing and Operations Mobilization (2% of A)	1,365,297.60
E. Owners Insurance (8% of A)	5,461,190.40
F. Mitigation (2% of A)	1,365,297.60
G. Right-of-Way	960,000.00
H. Force Account (8% of A)	5,461,190.40
I. Employee Training (3% of A)	2,047,946.40
J. Construction Change Orders (12% of A & F, 2% of B)	8,355,621.31
K. Project Services (25% of A & F, 1% of B, 10% of J)	18,243,106.53
L. Subtotal (A thru K)	114,937,774.24
M. Project Reserve (20% of L)	22,987,554.85
N. Total Cost in 1992 Dollars (L + M)	137,925,329.09
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops & Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 5 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	248,469,820.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	12,423,491.00
D. Testing and Operations Mobilization (2% of A)	4,969,396.40
E. Owners Insurance (8% of A)	19,877,585.60
F. Mitigation (2% of A)	4,969,396.40
G. Right-of-Way	3,840,000.00
H. Force Account (8% of A)	19,877,585.60
I. Employee Training (3% of A)	7,454,094.60
J. Construction Change Orders (12% of A & F, 2% of B)	30,412,705.97
K. Project Services (25% of A & F, 1% of B, 10% of J)	66,401,074.70
L. Subtotal (A thru K)	418,695,150.26
M. Project Reserve (20% of L)	83,739,030.05
N. Total Cost in 1992 Dollars (L + M)	502,434,180.32
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 6 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	108,899,602.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	5,444,980.10
D. Testing and Operations Mobilization (2% of A)	2,177,992.04
E. Owners Insurance (8% of A)	8,711,968.16
F. Mitigation (2% of A)	2,177,992.04
G. Right-of-Way	1,920,000.00
H. Force Account (8% of A)	8,711,968.16
I. Employee Training (3% of A)	3,266,988.06
J. Construction Change Orders (12% of A & F, 2% of B)	13,329,311.28
K. Project Services (25% of A & F, 1% of B, 10% of J)	29,102,329.64
L. Subtotal (A thru K)	183,743,131.48
M. Project Reserve (20% of L)	36,748,626.30
N. Total Cost in 1992 Dollars (L + M)	220,491,757.78
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 7 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	126,768,720.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	6,338,436.00
D. Testing and Operations Mobilization (2% of A)	2,535,374.40
E. Owners Insurance (8% of A)	10,141,497.60
F. Mitigation (2% of A)	2,535,374.40
G. Right-of-Way	1,920,000.00
H. Force Account (8% of A)	10,141,497.60
I. Employee Training (3% of A)	3,803,061.60
J. Construction Change Orders (12% of A & F, 2% of B)	15,516,491.33
K. Project Services (25% of A & F, 1% of B, 10% of J)	33,877,672.73
L. Subtotal (A thru K)	213,578,125.66
M. Project Reserve (20% of L)	42,715,625.13
N. Total Cost in 1992 Dollars (L + M)	256,293,750.79
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 8 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	54,387,174.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	2,719,358.70
D. Testing and Operations Mobilization (2% of A)	1,087,743.48
E. Owners Insurance (8% of A)	4,350,973.92
F. Mitigation (2% of A)	1,087,743.48
G. Right-of-Way	960,000.00
H. Force Account (8% of A)	4,350,973.92
I. Employee Training (3% of A)	1,631,615.22
J. Construction Change Orders (12% of A & F, 2% of B)	6,656,990.10
K. Project Services (25% of A & F, 1% of B, 10% of J)	14,534,428.38
L. Subtotal (A thru K)	91,767,001.20
M. Project Reserve (20% of L)	18,353,400.24
N. Total Cost in 1992 Dollars (L + M)	110,120,401.44
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops & Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 9 PROJECT ADD - ONS

	<u>AMT.</u>
A. Construction	105,997,534.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	5,299,876.70
D. Testing and Operations Mobilization (2% of A)	2,119,950.68
E. Owners Insurance (8% of A)	8,479,802.72
F. Mitigation (2% of A)	2,119,950.68
G. Right-of-Way	1,920,000.00
H. Force Account (8% of A)	8,479,802.72
I. Employee Training (3% of A)	3,179,926.02
J. Construction Change Orders (12% of A & F, 2% of B)	12,974,098.16
K. Project Services (25% of A & F, 1% of B, 10% of J)	28,326,780.99
L. Subtotal (A thru K)	178,897,722.67
M. Project Reserve (20% of L)	35,779,544.53
N. Total Cost in 1992 Dollars (L + M)	214,677,267.20
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 10 PROJECT ADD - ONS

	<u>AMT.</u>
A. Construction	18,917,216.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	945,860.80
D. Testing and Operations Mobilization (2% of A)	378,344.32
E. Owners Insurance (8% of A)	1,513,377.28
F. Mitigation (2% of A)	378,344.32
G. Right-of-Way	960,000.00
H. Force Account (8% of A)	1,513,377.28
I. Employee Training (3% of A)	567,516.48
J. Construction Change Orders (12% of A & F, 2% of B)	2,315,467.24
K. Project Services (25% of A & F, 1% of B, 10% of J)	5,055,436.80
L. Subtotal (A thru K)	32,544,940.52
M. Project Reserve (20% of L)	6,508,988.10
N. Total Cost in 1992 Dollars (L + M)	39,053,928.63
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 11 PROJECT ADD - ONS

	<u>AMT.</u>
A. Construction	7,474,685.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	373,734.25
D. Testing and Operations Mobilization (2% of A)	149,493.70
E. Owners Insurance (8% of A)	597,974.80
F. Mitigation (2% of A)	149,493.70
G. Right-of-Way	500,000.00
H. Force Account (8% of A)	597,974.80
I. Employee Training (3% of A)	224,240.55
J. Construction Change Orders (12% of A & F, 2% of B)	914,901.44
K. Project Services (25% of A & F, 1% of B, 10% of J)	1,997,534.82
L. Subtotal (A thru K)	12,980,033.06
M. Project Reserve (20% of L)	2,596,006.61
N. Total Cost in 1992 Dollars (L + M)	15,576,039.68
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 12 PROJECT ADD - ONS

	<u>AMT.</u>
A. Construction	133,593,390.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	6,679,669.50
D. Testing and Operations Mobilization (2% of A)	2,671,867.80
E. Owners Insurance (8% of A)	10,687,471.20
F. Mitigation (2% of A)	2,671,867.80
G. Right-of-Way	4,800,000.00
H. Force Account (8% of A)	10,687,471.20
I. Employee Training (3% of A)	4,007,801.70
J. Construction Change Orders (12% of A & F, 2% of B)	16,351,830.94
K. Project Services (25% of A & F, 1% of B, 10% of J)	35,701,497.54
L. Subtotal (A thru K)	227,852,867.68
M. Project Reserve (20% of L)	45,570,573.54
N. Total Cost in 1992 Dollars (L + M)	273,423,441.22
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops & Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 13 PROJECT ADD-ONS

	AMT.
A. Construction	117,114,448.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	5,855,722.40
D. Testing and Operations Mobilization (2% of A)	2,342,288.96
E. Owners Insurance (8% of A)	9,369,155.84
F. Mitigation (2% of A)	2,342,288.96
G. Right-of-Way	3,840,000.00
H. Force Account (8% of A)	9,369,155.84
I. Employee Training (3% of A)	3,513,433.44
J. Construction Change Orders (12% of A & F, 2% of B)	14,334,808.44
K. Project Services (25% of A & F, 1% of B, 10% of J)	31,297,665.08
L. Subtotal (A thru K)	199,378,966.96
M. Project Reserve (20% of L)	39,875,793.39
N. Total Cost in 1992 Dollars (L + M)	239,254,760.35
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops & Ancillary Fac., Locomotive Change Fac., and Control Center not included

**CIVIL, STRUCTURAL, SIGNAL, & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
(NO SEGMENTS DUPLICATED) COMMUTER ONLY
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u> #1	<u>Cost</u>	<u>Quantity</u> #2	<u>Cost</u>	<u>Quantity</u> #3	<u>Cost</u>	<u>Quantity</u> #4	<u>Cost</u>	<u>Quantity</u> #5	<u>Cost</u>
<u>Stabilize Track for Electrification</u>												
Single Track	T.F.	6	296,208	1,777,248	422,400	2,534,400	403,392	2,420,352	161,568	969,408	1,267,200	7,603,200
<u>Overhead Utility Relocations</u>	L.S.	16,000	10	160,000	37	592,000	16	256,000	12	192,000	49	784,000
<u>Underground Utility Relocations</u>	L.F.	0	0	0	0	0	0	0	0	0	0	0
<u>Right-of-Way Acquisition</u>	Ac.	800,000	0	0	0	0	0	0	0	0	0	0
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>		0.20	0	0	0	0	0	0	0	0	0	0
<u>Site Demolition</u>	C.Y.	80	0	0	0	0	0	0	0	0	0	0
<u>Shops & Ancillary Facilities</u>	L.S.	40,000,000	0	0	0	0	0	0	0	0	0	0
<u>Locomotive Change Facilities</u>	L.S.	4,000,000 / 6,000,000	0	0	0	0	0	0	0	0	0	0
<u>Electric Locomotives</u>	L.S.		0	0	0	0	0	0	0	0	0	0
Passenger	EA	5,250,000	0	0	0	0	0	0	0	0	0	0
Freight	EA	4,000,000	0	0	0	0	0	0	0	0	0	0
<u>Crossing Warning Systems</u>	EA	100,000	24	2,400,000	78	7,800,000	33	3,300,000	25	2,500,000	101	10,100,000
<u>Communications SCADA (Supervisory Control)</u>	R.F.	30	188,496	5,654,880	299,904	8,997,120	246,048	7,381,440	125,136	3,754,080	702,768	21,083,040

**CIVIL, STRUCTURAL, SIGNAL, & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
(NO SEGMENTS DUPLICATED) COMMUTER ONLY
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u> #1	<u>Cost</u>	<u>Quantity</u> #2	<u>Cost</u>	<u>Quantity</u> #3	<u>Cost</u>	<u>Quantity</u> #4	<u>Cost</u>	<u>Quantity</u> #5	<u>Cost</u>
Control Center	L.S.	10,000,000	0	0	0	0	0	0	0	0	0	0
Overhead Bridge Clearance Improvements (Including Approaches) Vertical Clearance Improvements												
	L.S.	600,000	0	0	0	0	0	0	0	0	0	0
	L.S.	700,000										
	L.S.	1,000,000										
Track Lowering												
Single Track (12"Av)	T.F.	40	2,000	80,000	6,000	240,000	2,000	80,000	1,000	40,000	44,000	1,760,000
Tunnel Modifications												
Track Lowering	T.F.	500	0	0	0	0	7,940	3,970,000	7,000	3,500,000	0	0
Structural Mod.	R.F.	3,000	0	0	0	0	770	2,310,000	0	0	0	0
Signals (Wayside)												
Phase Sel & Tru-II	T.F.	55	296,206	16,291,330	442,360	24,329,800	365,768	20,117,240	156,280	8,595,400	1,246,080	68,534,400
Cab Signals	T.F.	7	0	0	0	0	0	0	0	0	504,892	3,534,244
TOTAL COST				26,363,458		44,493,320		39,835,032		19,550,888		113,398,884

**CIVIL, STRUCTURAL, SIGNAL, & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
(NO SEGMENTS DUPLICATED) COMMUTER ONLY
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u> #6	<u>Cost</u>	<u>Quantity</u> #7	<u>Cost</u>	<u>Quantity</u> #8	<u>Cost</u>	<u>Quantity</u> #9	<u>Cost</u>	<u>Quantity</u> #10	<u>Cost</u>
<u>Stabilize Track for Electrification</u>												
Single Track	T.F.	6	213,840	1,283,040	269,808	1,618,848	236,544	1,419,264	105,072	630,432	67,056	402,336
<u>Overhead Utility Relocations</u>												
	L.S.	16,000	13	208,000	19	304,000	30	480,000	9	144,000	21	336,000
<u>Underground Utility Relocations</u>												
	L.F.	0	0	0	0	0	0	0	0	0	0	0
<u>Right-of-Way Acquisition</u>												
	Ac.	800,000	0	0	0	0	0	0	0	0	0	0
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>												
		0.20	0	0	0	0	0	0	0	0	0	0
<u>Site Demolition</u>												
	C.Y.	80	0	0	0	0	0	0	0	0	0	0
<u>Shops & Ancillary Facilities</u>												
	L.S.	40,000,000	0	0	0	0	0	0	0	0	0	0
<u>Locomotive Change Facilities</u>												
	L.S.	4,000,000 / 6,000,000	0	0	0	0	0	0	0	0	0	0
<u>Electric Locomotives</u>												
Passenger	EA	5,250,000	0	0	0	0	0	0	0	0	0	0
Freight	EA	4,000,000	0	0	0	0	0	0	0	0	0	0
<u>Crossing Warning Systems</u>												
	EA	100,000	27	2,700,000	39	3,900,000	61	6,100,000	20	2,000,000	42	4,200,000
<u>Communications SCADA (Supervisory Control)</u>												
	R.F.	30	119,856	3,595,680	186,912	5,607,360	206,448	6,193,440	67,056	2,011,680	63,360	1,900,800

**CIVIL, STRUCTURAL, SIGNAL, & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
(NO SEGMENTS DUPLICATED) COMMUTER ONLY
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#6		#7		#8		#9		#10	
Control Center	L.S.	10,000,000	0	0	0	0	0	0	0	0	0	0
Overhead Bridge Clearance Improvements (Including Approaches) Vertical Clearance Improvements												
	L.S.	600,000	0	0	0	0	0	0	0	0	0	0
	L.S.	700,000										
	L.S.	1,000,000										
Track Lowering												
Single Track (12"Av)	T.F.	40	14,000	560,000	7,000	280,000	7,000	280,000	4,000	160,000	1,000	40,000
Tunnel Modifications												
Track Lowering	T.F.	500	0	0	0	0	0	0	0	0	0	0
Structural Mod.	R.F.	3,000	0	0	0	0	0	0	0	0	0	0
Signals (Wayside)												
Phase Sel & Tru-II	T.F.	55	213,840	11,761,200	269,808	14,839,440	236,554	13,010,470	99,792	5,488,560	67,056	3,688,080
Cab Signals	T.F.	7	0	0	0	0	0	0	0	0	0	0
TOTAL COST				20,107,920		26,549,648		27,483,174		10,434,672		10,567,216

**CIVIL, STRUCTURAL, SIGNAL, & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
(NO SEGMENTS DUPLICATED) COMMUTER ONLY
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>TOTAL QUANTITY</u>	<u>TOTAL COST</u>
			#11		#12		#13			
<u>Stabilize Track for Electrification</u>										
Single Track	T.F.	6	0	0	0	0	0	0	3,443,088	20,658,528
<u>Overhead Utility Relocations</u>	L.S.	16,000	0	0	0	0	0	0	216	3,456,000
<u>Underground Utility Relocations</u>	L.F.	0	0	0	0	0	0	0	0	0
<u>Right-of-Way Acquisition</u>	Ac.	800,000	0	0	0	0	0	0	0	0
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>		0.20	0	0	0	0	0	0	0	0
<u>Site Demolition</u>	C.Y.	80	0	0	0	0	0	0	0	0
<u>Shops & Ancillary Facilities</u>	L.S.	40,000,000	0	0	0	0	0	0	0	0
<u>Locomotive Change Facilities</u>	L.S.	4,000,000 / 6,000,000	0	0	0	0	0	0	0	0
<u>Electric Locomotives</u>	L.S.		0	0	0	0	0	0	0	0
Passenger	EA	5,250,000	0	0	0	0	0	0	0	0
Freight	EA	4,000,000	0	0	0	0	0	0	0	0
<u>Crossing Warning Systems</u>	EA	100,000	0	0	0	0	0	0	450	45,000,000
<u>Communications SCADA (Supervisory Control)</u>	R.F.	30	0	0	0	0	0	0	2,205,984	66,179,520

**CIVIL, STRUCTURAL, SIGNAL, & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
(NO SEGMENTS DUPLICATED) COMMUTER ONLY
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>TOTAL QUANTITY</u>	<u>TOTAL COST</u>
			#11		#12		#13			
<u>Control Center</u>	L.S.	10,000,000	0	0	0	0	0	0	0	0
Overhead Bridge										
Clearance Improvements										
(Including Approaches)										
Vertical Clearance										
Improvements	L.S.	600,000	0	0	0	0	0	0	0	0
	L.S.	700,000								
	L.S.	1,000,000								
Track Lowering										
Single Track (12"Av)	T.F.	40	0	0	0	0	0	0	88,000	3,520,000
Tunnel Modifications										
Track Lowering	T.F.	500	0	0	0	0	0	0	14,940	7,470,000
Structural Mod.	R.F.	3,000	0	0	0	0	0	0	770	2,310,000
Signals (Wayside)										
Phase Sel & Tru-II	T.F.	55	0	0	0	0	0	0	3,393,744	186,655,920
Cab Signals	T.F.	7	0	0	0	0	0	0	504,892	3,534,244
TOTAL COST				0		0		0	9,652,084	338,784,212

**CIVIL, STRUCTURAL, SIGNAL, & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u> #1	<u>Cost</u>	<u>Quantity</u> #2	<u>Cost</u>	<u>Quantity</u> #3	<u>Cost</u>	<u>Quantity</u> #4	<u>Cost</u>	<u>Quantity</u> #5	<u>Cost</u>
<u>Stabilize Track for Electrification</u>												
Single Track	T.F.	6	296,208	1,777,248	422,400	2,534,400	434,016	2,604,096	327,360	1,964,160	1,294,656	7,767,936
<u>Overhead Utility Relocations</u>	L.S.	16,000	10	160,000	37	592,000	16	256,000	16	256,000	49	784,000
<u>Underground Utility Relocations</u>	L.F.	0	0	0	0	0	0	0	0	0	0	0
<u>Right-of-Way Acquisition</u>	Ac.	800,000	0	0	0	0	0	0	0	0	0	0
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>		0.20	0	0	0	0	0	0	0	0	0	0
<u>Site Demolition</u>	C.Y.	80	0	0	0	0	0	0	0	0	0	0
<u>Shops & Ancillary Facilities</u>	L.S.	40,000,000	0	0	0	0	0	0	0	0	0	0
<u>Locomotive Change Facilities</u>	L.S.	4,000,000 / 6,000,000	0	0	0	0	0	0	0	0	0	0
<u>Electric Locomotives</u>	L.S.		0	0	0	0	0	0	0	0	0	0
Passenger	EA	5,250,000	0	0	0	0	0	0	0	0	0	0
Freight	EA	4,000,000	0	0	0	0	0	0	0	0	0	0
<u>Crossing Warning Systems</u>	EA	100,000	24	2,400,000	78	7,800,000	33	3,300,000	34	3,400,000	101	10,100,000
<u>Communications SCADA (Supervisory Control)</u>	R.F.	30	188,496	5,654,880	299,904	8,997,120	250,800	7,524,000	184,272	5,528,160	705,936	21,178,080

**CIVIL, STRUCTURAL, SIGNAL, & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#1		#2		#3		#4		#5	
<u>Control Center</u>	L.S.	10,000,000	0	0	0	0	0	0	0	0	0	0
<u>Overhead Bridge Clearance Improvements</u> (Including Approaches) Vertical Clearance Improvements	L.S. L.S. L.S.	600,000 700,000 1,000,000	0	0	0	0	0	0	0	0	0	0
<u>Track Lowering</u> Single Track (12"Av)	T.F.	40	2,000	80,000	6,000	240,000	2,000	80,000	1,000	40,000	44,000	1,760,000
<u>Tunnel Modifications</u> Track Lowering	T.F.	500	0	0	0	0	7,940	3,970,000	7,000	3,500,000	0	0
Structural Mod.	R.F.	3,000	0	0	0	0	770	2,310,000	0	0	0	0
<u>Signals (Wayside)</u> Phase Sel & Tru-II	T.F.	55	296,206	16,291,330	442,360	24,329,800	426,912	23,480,160	326,192	17,940,560	1,300,992	71,554,560
Cab Signals	T.F.	7	0	0	0	0	0	0	0	0	504,892	3,534,244
TOTAL COST				26,363,458		44,493,320		43,524,256		32,628,880		116,678,820

**CIVIL, STRUCTURAL, SIGNAL, & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u> #6	<u>Cost</u>	<u>Quantity</u> #7	<u>Cost</u>	<u>Quantity</u> #8	<u>Cost</u>	<u>Quantity</u> #9	<u>Cost</u>	<u>Quantity</u> #10	<u>Cost</u>
<u>Stabilize Track for Electrification</u>												
Single Track	T.F.	6	540,672	3,244,032	601,920	3,611,520	236,544	1,419,264	435,600	2,613,600	67,056	402,336
<u>Overhead Utility Relocations</u>	L.S.	16,000	23	368,000	26	416,000	30	480,000	34	544,000	21	336,000
<u>Underground Utility Relocations</u>	L.F.	0	0	0	0	0	0	0	0	0	0	0
<u>Right-of-Way Acquisition</u>	Ac.	800,000	0	0	0	0	0	0	0	0	0	0
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>		0.20	0	0	0	0	0	0	0	0	0	0
<u>Site Demolition</u>	C.Y.	80	0	0	0	0	0	0	0	0	0	0
<u>Shops & Ancillary Facilities</u>	L.S.	40,000,000	0	0	0	0	0	0	0	0	0	0
<u>Locomotive Change Facilities</u>	L.S.	4,000,000 / 6,000,000	0	0	0	0	0	0	0	0	0	0
<u>Electric Locomotives</u>	L.S.		0	0	0	0	0	0	0	0	0	0
Passenger	EA	5,250,000	0	0	0	0	0	0	0	0	0	0
Freight	EA	4,000,000	0	0	0	0	0	0	0	0	0	0
<u>Crossing Warning Systems</u>	EA	100,000	51	5,100,000	54	5,400,000	61	6,100,000	71	7,100,000	42	4,200,000
<u>Communications SCADA (Supervisory Control)</u>	R.F.	30	313,104	9,393,120	326,304	9,789,120	206,448	6,193,440	278,784	8,363,520	63,360	1,900,800

**CIVIL, STRUCTURAL, SIGNAL, & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#6		#7		#8		#9		#10	
Control Center	L.S.	10,000,000	0	0	0	0	0	0	0	0	0	0
Overhead Bridge Clearance Improvements (Including Approaches) Vertical Clearance Improvements	L.S. L.S. L.S.	600,000 700,000 1,000,000	0	0	0	0	0	0	0	0	0	0
Track Lowering Single Track (12"Av)	T.F.	40	16,000	640,000	15,000	600,000	7,000	280,000	13,000	520,000	1,000	40,000
Tunnel Modifications Track Lowering Structural Mod.	T.F. R.F.	500 3,000	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Signals (Wayside) Phase Sel & Tru-II Cab Signals	T.F. T.F.	55 7	571,190 0	31,415,450 0	608,256 0	33,454,080 0	236,554 0	13,010,470 0	430,330 70,752	23,668,150 495,264	67,056 0	3,688,080 0
TOTAL COST				50,160,602		53,270,720		27,483,174		43,304,534		10,567,216

**CIVIL, STRUCTURAL, SIGNAL, & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>TOTAL QUANTITY</u>	<u>TOTAL COST</u>
			<u>#11</u>		<u>#12</u>		<u>#13</u>			
<u>Stabilize Track for Electrification</u>										
Single Track	T.F.	6	63,360	380,160	628,320	3,769,920	589,248	3,535,488	5,937,360	35,624,160
<u>Overhead Utility Relocations</u>	L.S.	16,000	3	48,000	33	528,000	30	480,000	328	5,248,000
<u>Underground Utility Relocations</u>	L.F.	0	0	0	0	0	0	0	0	0
<u>Right-of-Way Acquisition</u>	Ac.	800,000	0	0	0	0	0	0	0	0
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>		0.20	0	0	0	0	0	0	0	0
<u>Site Demolition</u>	C.Y.	80	0	0	0	0	0	0	0	0
<u>Shops & Ancillary Facilities</u>	L.S.	40,000,000	0	0	0	0	0	0	0	0
<u>Locomotive Change Facilities</u>	L.S.	4,000,000 / 6,000,000	0	0	0	0	0	0	0	0
<u>Electric Locomotives</u>	L.S.		0	0	0	0	0	0	0	0
Passenger	EA	5,250,000	0	0	0	0	0	0	0	0
Freight	EA	4,000,000	0	0	0	0	0	0	0	0
<u>Crossing Warning Systems</u>	EA	100,000	7	700,000	70	7,000,000	67	6,700,000	693	69,300,000
<u>Communications SCADA (Supervisory Control)</u>	R.F.	30	23,760	712,800	360,624	10,818,720	352,176	10,565,280	3,553,968	106,619,040

**CIVIL, STRUCTURAL, SIGNAL, & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>TOTAL QUANTITY</u>	<u>TOTAL COST</u>
			#11		#12		#13			
Control Center	L.S.	10,000,000	0	0	0	0	0	0	0	0
Overhead Bridge Clearance Improvements (Including Approaches) Vertical Clearance Improvements										
	L.S.	600,000	0	0	0	0	0	0	0	0
	L.S.	700,000								
	L.S.	1,000,000								
Track Lowering										
Single Track (12"Av)	T.F.	40	10,000	400,000	15,000	600,000	10,000	400,000	142,000	5,680,000
Tunnel Modifications										
Track Lowering	T.F.	500	0	0	0	0	0	0	14,940	7,470,000
Structural Mod.	R.F.	3,000	0	0	0	0	0	0	770	2,310,000
Signals (Wayside)										
Phase Sel & Tru-II	T.F.	55	58,080	3,194,400	623,050	34,267,750	583,976	32,118,680	5,971,154	328,413,470
Cab Signals	T.F.	7	0	0	0	0	0	0	575,644	4,029,508
TOTAL COST				5,435,360		56,984,390		53,799,448	16,196,857	564,694,178

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u> #1	<u>Cost</u>	<u>Quantity</u> #2	<u>Cost</u>	<u>Quantity</u> #3	<u>Cost</u>	<u>Quantity</u> #4	<u>Cost</u>	<u>Quantity</u> #5	<u>Cost</u>
Control)	R.F.	30	3,168	95,040	1,584	47,520	1,056	31,680	61,248	1,837,440	13,200	396,000
Control Center	L.S.	10,000,000		0		0		0		0		0
Overhead Bridge Clearance Improvements (Including Approaches) Vertical Clearance Improvements												
	L.S.	600,000		0		0		0		0		0
	L.S.	700,000										
	L.S.	1,000,000										
Track Lowering												
Single Track (12"Av)	T.F.	40		0		0		0		0		0
Tunnel Modifications												
Track Lowering	T.F.	500		0		0		0		0		0
Structural Mod.	R.F.	3,000		0		0		0		0		0
Signals (Wayside)												
Phase Sel & Tru-II	T.F.	55	54,912	3,020,160	6,232	342,760	2,112	116,160	67,056	3,688,080	28,512	1,568,160
Cab Signals	T.F.	7		0		0		0		0		0
TOTAL COST				3,279,936		409,288		160,512		5,927,856		2,914,912

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u> #6	<u>Cost</u>	<u>Quantity</u> #7	<u>Cost</u>	<u>Quantity</u> #8	<u>Cost</u>	<u>Quantity</u> #9	<u>Cost</u>	<u>Quantity</u> #10	<u>Cost</u>	
Control)	R.F.	30	90,816	2,724,480	6,336	190,080			0	122,496	3,674,880	6,336	190,080
Control Center	L.S.	10,000,000		0		0			0		0		0
Overhead Bridge Clearance Improvements (Including Approaches) Vertical Clearance Improvements													
	L.S.	600,000		0		0			0		0		0
	L.S.	700,000											
	L.S.	1,000,000											
Track Lowering													
Single Track (12"Av)	T.F.	40		0		0			0	6,000	240,000		0
Tunnel Modifications													
Track Lowering	T.F.	500		0		0			0		0		0
Structural Mod.	R.F.	3,000		0		0			0		0		0
Signals (Wayside)													
Phase Sel & Tru-II	T.F.	55	130,944	7,201,920	6,336	348,480			0	146,256	8,044,080	12,672	696,960
Cab Signals	T.F.	7		0		0			0		0		0
TOTAL COST				13,620,064		892,576			0	17,288,176			1,063,072

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>#11</u>		<u>#12</u>		<u>#13</u>		<u>#14</u>		<u>#15</u>	
			<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
<u>Control)</u>	R.F.	30	0	48,048	1,441,440	125,136	3,754,080	38,544	1,156,320	153,120	4,593,600	
<u>Control Center</u>	L.S.	10,000,000	0		0		0		0		0	
<u>Overhead Bridge Clearance Improvements</u> (Including Approaches) Vertical Clearance Improvements												
	L.S.	600,000	0		0		0		0		0	
	L.S.	700,000										
	L.S.	1,000,000										
<u>Track Lowering</u>												
Single Track (12"Av)	T.F.	40	0		0	1,000	40,000		0	2,000	80,000	
<u>Tunnel Modifications</u>												
Track Lowering	T.F.	500	0		0	7,000	3,500,000		0	7,940	3,970,000	
Structural Mod.	R.F.	3,000	0		0		0		0	770	2,310,000	
<u>Signals (Wayside)</u>												
Phase Sel & Tru-II	T.F.	55	0	96,096	5,285,280	156,280	8,595,400	70,088	3,854,840	186,912	10,280,160	
Cab Signals	T.F.	7	0		0		0		0		0	
TOTAL COST			0		8,325,696		19,550,888		6,121,688		24,324,576	

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
 COMMUTER ONLY
 25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>#16</u> <u>Cost</u>	<u>Quantity</u>	<u>#17</u> <u>Cost</u>	<u>Quantity</u>	<u>#18</u> <u>Cost</u>	<u>Quantity</u>	<u>#19</u> <u>Cost</u>	<u>Quantity</u>	<u>#20</u> <u>Cost</u>
<u>Stabilize Track for Electrification</u>												
Single Track	T.F.	6		0	54,912	329,472	13,728	82,368	80,256	481,536	141,504	849,024
<u>Overhead Utility Relocations</u>												
	L.S.	16,000		0		0		0	1	16,000	5	80,000
<u>Underground Utility Relocations</u>												
	L.F.	0		0		0		0		0		0
<u>Right-of-Way Acquisition</u>												
	Ac.	800,000		0		0		0		0		0
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>												
		0.20		0		0		0		0		0
<u>Site Demolition</u>												
	C.Y.	80		0		0		0		0		0
<u>Shops & Ancillary Facilities</u>												
	L.S.	40,000,000		0		0		0		0		0
<u>Locomotive Change Facilities</u>												
	L.S.	4,000,000 / 6,000,000		0		0		0		0		0
<u>Electric Locomotives</u>												
Passenger	EA	5,250,000		0		0		0		0		0
Freight	EA	4,000,000		0		0		0		0		0
<u>Crossing Warning Systems</u>												
	EA	100,000		0		0		0	2	200,000	11	1,100,000
<u>Communications SCADA (Supervisory</u>												

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv, Minimum Vertical Clearance**

	Units	Unit Costs	#16		#17		#18		#19		#20	
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
Control)	R.F.	30	0	16,896	506,880	6,864	205,920	40,128	1,203,840	68,112	2,043,360	
Control Center	L.S.	10,000,000	0		0		0		0		0	
Overhead Bridge Clearance Improvements (Including Approaches) Vertical Clearance Improvements												
	L.S.	600,000	0		0		0		0		0	
	L.S.	700,000										
	L.S.	1,000,000										
Track Lowering												
Single Track (12"Av)	T.F.	40	0	4,000	160,000	4,000	160,000		0		0	
Tunnel Modifications												
Track Lowering	T.F.	500	0		0		0		0		0	
Structural Mod.	R.F.	3,000	0		0		0		0		0	
Signals (Wayside)												
Phase Sel & Tru-II	T.F.	55	0	33,792	1,858,560	13,728	755,040	80,256	4,414,080	141,504	7,782,720	
Cab Signals	T.F.	7	0		0		0		0		0	
TOTAL COST			0		2,854,912		1,203,328		6,315,456		11,855,104	

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>#21</u>		<u>#22</u>		<u>#23</u>		<u>#24</u>		<u>#25</u>	
			<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
<u>Control)</u>	R.F.	30	41,712	1,251,360	32,736	982,080	154,176	4,625,280	217,008	6,510,240	29,568	887,040
<u>Control Center</u>	L.S.	10,000,000		0		0		0		0		0
<u>Overhead Bridge Clearance Improvements</u> (Including Approaches) Vertical Clearance Improvements												
	L.S.	600,000		0		0		0		0		0
	L.S.	700,000										
	L.S.	1,000,000										
<u>Track Lowering</u>												
Single Track (12"Av)	T.F.	40	4,000	160,000	2,000	80,000	10,000	400,000	15,000	600,000	2,000	80,000
<u>Tunnel Modifications</u>												
Track Lowering	T.F.	500		0		0		0		0		0
Structural Mod.	R.F.	3,000		0		0		0		0		0
<u>Signals (Wayside)</u>												
Phase Sel & Tru-II	T.F.	55	86,064	4,733,520	70,752	3,891,360	226,512	12,458,160	334,224	18,382,320	68,112	3,746,160
Cab Signals	T.F.	7		0	70,752	495,264	226,512	1,585,584	207,628	1,453,396		0
TOTAL COST				8,489,264		7,385,216		21,176,096		31,975,300		6,849,872

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#26		#27		#28		#29		#30	
<u>Stabilize Track for Electrification</u>												
Single Track	T.F.	6	57,024	342,144	212,784	1,276,704	0	0	0	0	10,560	63,360
<u>Overhead Utility Relocations</u>												
	L.S.	16,000	5	80,000	14	224,000		0		0		0
<u>Underground Utility Relocations</u>												
	L.F.	0		0		0		0		0		0
<u>Right-of-Way Acquisition</u>												
	Ac.	800,000		0		0		0		0		0
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>												
		0.20		0		0		0		0		0
<u>Site Demolition</u>												
	C.Y.	80		0		0		0		0		0
<u>Shops & Ancillary Facilities</u>												
	L.S.	40,000,000		0		0		0		0		0
<u>Locomotive Change Facilities</u>												
	L.S.	4,000,000 / 6,000,000		0		0		0		0		0
<u>Electric Locomotives</u>												
Passenger	EA	5,250,000		0		0		0		0		0
Freight	EA	4,000,000		0		0		0		0		0
<u>Crossing Warning Systems</u>												
	EA	100,000	11	1,100,000	28	2,800,000		0		0	1	100,000
<u>Communications SCADA (Supervisory</u>												

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv, Minimum Vertical Clearance**

	Units	Unit Costs	#26		#27		#28		#29		#30	
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
<u>Control)</u>	R.F.	30	28,512	855,360	158,400	4,752,000	0	0	0	0	5,280	158,400
<u>Control Center</u>	L.S.	10,000,000		0		0		0		0		0
<u>Overhead Bridge Clearance Improvements</u> (Including Approaches) Vertical Clearance Improvements												
	L.S.	600,000		0		0		0		0		0
	L.S.	700,000										
	L.S.	1,000,000										
<u>Track Lowering</u>												
Single Track (12"Av)	T.F.	40		0	7,000	280,000		0		0		0
<u>Tunnel Modifications</u>												
Track Lowering	T.F.	500		0		0		0		0		0
Structural Mod.	R.F.	3,000		0		0		0		0		0
<u>Signals (Wayside)</u>												
Phase Sel & Tru-II	T.F.	55	57,024	3,136,320	212,784	11,703,120	0	0	0	0	10,560	580,800
Cab Signals	T.F.	7		0		0		0		0		0
TOTAL COST				5,513,824		21,035,824		0		0		902,560

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv, Minimum Vertical Clearance**

	Units	Unit Costs	#31		#32		#33		#34		#35	
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
Control)	R.F.	30	49,632	1,488,960	33,792	1,013,760	61,776	1,853,280	38,016	1,140,480	105,072	3,152,160
Control Center	L.S.	10,000,000		0		0		0		0		0
Overhead Bridge Clearance Improvements (Including Approaches) Vertical Clearance Improvements												
	L.S.	600,000		0		0		0		0		0
	L.S.	700,000										
	L.S.	1,000,000										
Track Lowering												
Single Track (12"Av)	T.F.	40		0		0		0	2,000	80,000	4,000	160,000
Tunnel Modifications												
Track Lowering	T.F.	500		0		0		0		0		0
Structural Mod.	R.F.	3,000		0		0		0		0		0
Signals (Wayside)												
Phase Sel & Tru-II	T.F.	55	78,672	4,326,960	67,582	3,717,010	84,480	4,646,400	54,912	3,020,160	170,016	9,350,880
Cab Signals	T.F.	7		0		0		0		0		0
TOTAL COST				6,819,952		5,668,274		7,754,560		5,218,112		16,375,136

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#36		#37		#38		#39		#40	
<u>Control</u>)	R.F.	30	0	0	10,560	316,800	0	0	0	0	0	0
<u>Control Center</u>	L.S.	10,000,000		0		0		0		0		0
Overhead Bridge Clearance Improvements (Including Approaches) Vertical Clearance Improvements												
	L.S.	600,000		0		0		0		0		0
	L.S.	700,000										
	L.S.	1,000,000										
Track Lowering												
Single Track (12"Av)	T.F.	40		0	10,000	400,000		0		0		0
Tunnel Modifications												
Track Lowering	T.F.	500		0		0		0		0		0
Structural Mod.	R.F.	3,000		0		0		0		0		0
Signals (Wayside)												
Phase Sel & Tru-II	T.F.	55	0	0	29,568	1,626,240	0	0	0	0	0	0
Cab Signals	T.F.	7		0		0		0		0		0
TOTAL COST				0		2,520,448		0		0		0

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>#41</u>		<u>#42</u>		<u>#43</u>		<u>#44</u>		<u>#45</u>	
			<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
<u>Control)</u>	R.F.	30	0	0	0	0	0	0	0	0	0	0
<u>Control Center</u>	L.S.	10,000,000		0		0		0		0		0
<u>Overhead Bridge Clearance Improvements</u> (Including Approaches) Vertical Clearance Improvements												
	L.S.	600,000		0		0		0		0		0
	L.S.	700,000										
	L.S.	1,000,000										
<u>Track Lowering</u> Single Track (12"Av)												
	T.F.	40		0		0		0		0		0
<u>Tunnel Modifications</u> Track Lowering Structural Mod.												
	T.F.	500		0		0		0		0		0
	R.F.	3,000		0		0		0		0		0
<u>Signals (Wayside)</u> Phase Sel & Tru-II Cab Signals												
	T.F.	55	0	0	0	0	0	0	0	0	0	0
	T.F.	7		0		0		0		0		0
TOTAL COST				0		0		0		0		0

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	
			#46		#47		#48		#49		#50		
<u>Control</u>)	R.F.	30	0	0			0	29,040	871,200	0	0	0	0
<u>Control Center</u>	L.S.	10,000,000		0			0		0		0		0
<u>Overhead Bridge Clearance Improvements</u> (Including Approaches) Vertical Clearance Improvements													
	L.S.	600,000		0			0		0		0		0
	L.S.	700,000											
	L.S.	1,000,000											
<u>Track Lowering</u> Single Track (12"Av)													
	T.F.	40		0			0		0		0		0
<u>Tunnel Modifications</u> Track Lowering Structural Mod.													
	T.F.	500		0			0		0		0		0
	R.F.	3,000		0			0		0		0		0
<u>Signals (Wayside)</u> Phase Sel & Tru-II Cab Signals													
	T.F.	55	0	0	0		0	29,040	1,597,200	0	0	0	0
	T.F.	7		0			0		0		0		0
TOTAL COST				0			0		3,822,640		0		0

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#51		#52		#53		#54		#55	
Control)	R.F.	30	0	0	16,368	491,040	18,480	554,400	14,256	427,680	5,280	158,400
Control Center	L.S.	10,000,000		0		0		0		0		0
Overhead Bridge Clearance Improvements (Including Approaches) Vertical Clearance Improvements												
	L.S.	600,000		0		0		0		0		0
	L.S.	700,000										
	L.S.	1,000,000										
Track Lowering												
Single Track (12"Av)	T.F.	40		0		0	2,000	80,000	2,000	80,000		0
Tunnel Modifications												
Track Lowering	T.F.	500		0		0		0		0		0
Structural Mod.	R.F.	3,000		0		0		0		0		0
Signals (Wayside)												
Phase Sel & Tru-II	T.F.	55	0	0	32,746	1,801,030	36,960	2,032,800	28,512	1,568,160	5,280	290,400
Cab Signals	T.F.	7		0		0		0		0		0
TOTAL COST				0		3,236,486		3,136,640		2,994,912		480,480

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv, Minimum Vertical Clearance**

	Units	Unit Costs	#56		#57		#58		#59		#60	
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
<u>Control)</u>	R.F.	30	0	0	0	0	0	0	0	0	0	0
<u>Control Center</u>	L.S.	10,000,000		0		0		0		0		0
<u>Overhead Bridge Clearance Improvements</u> (Including Approaches) Vertical Clearance Improvements												
	L.S.	600,000		0		0		0		0		0
	L.S.	700,000										
	L.S.	1,000,000										
<u>Track Lowering</u>												
Single Track (12"Av)	T.F.	40		0		0		0		0		0
<u>Tunnel Modifications</u>												
Track Lowering	T.F.	500		0		0		0		0		0
Structural Mod.	R.F.	3,000		0		0		0		0		0
<u>Signals (Wayside)</u>												
Phase Sel & Tru-II	T.F.	55	0	0	0	0	0	0	0	0	0	0
Cab Signals	T.F.	7	0	0	0	0	0	0	0	0	0	0
TOTAL COST				0		0		0		0		0

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv, Minimum Vertical Clearance**

	Units	Unit Costs	#61		#62		#63		#64		#65	
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
<u>Control</u>)	R.F.	30	0	0	0	0	0	0	0	0	0	0
			0		0		0		0		0	
<u>Control Center</u>	L.S.	10,000,000		0		0		0		0		0
<u>Overhead Bridge Clearance Improvements</u> (Including Approaches) Vertical Clearance Improvements												
	L.S.	600,000		0		0		0		0		0
	L.S.	700,000										
	L.S.	1,000,000										
<u>Track Lowering</u>												
Single Track (12"Av)	T.F.	40		0		0		0		0		0
<u>Tunnel Modifications</u>												
Track Lowering	T.F.	500		0		0		0		0		0
Structural Mod.	R.F.	3,000		0		0		0		0		0
<u>Signals (Wayside)</u>												
Phase Sel & Tru-II	T.F.	55	0	0	0	0	0	0	0	0	0	0
Cab Signals	T.F.	7		0		0		0		0		0
TOTAL COST				0		0		0		0		0

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#66		#67		#68		#69		#70	
<u>Control)</u>	R.F.	30	0	0	0	63,360	1,900,800	190,080	5,702,400	0	0	0
<u>Control Center</u>	L.S.	10,000,000		0	0		0		0		0	0
<u>Overhead Bridge Clearance Improvements</u> (Including Approaches) Vertical Clearance Improvements												
	L.S.	600,000		0	0		0		0		0	0
	L.S.	700,000										
	L.S.	1,000,000										
<u>Track Lowering</u>												
Single Track (12"Av)	T.F.	40		0	0	1,000	40,000	7,000	280,000			0
<u>Tunnel Modifications</u>												
Track Lowering	T.F.	500		0	0		0		0			0
Structural Mod.	R.F.	3,000		0	0		0		0			0
<u>Signals (Wayside)</u>												
Phase Sel & Tru-II	T.F.	55	0	0	0	67,056	3,688,080	203,808	11,209,440	0		0
Cab Signals	T.F.	7	0	0	0		0		0			0
TOTAL COST				0	0		10,567,216		24,246,688			0

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>#71</u>		<u>#72</u>		<u>TOTAL QUANTITY</u>	<u>TOTAL COST</u>
			<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>		
<u>Control)</u>	R.F.	30	4,224	126,720	95,568	2,867,040	2,205,984	66,179,520
<u>Control Center</u>	L.S.	10,000,000		0		0	0	0
<u>Overhead Bridge Clearance Improvements</u> (Including Approaches) Vertical Clearance Improvements								
	L.S.	600,000		0		0	0	0
	L.S.	700,000						
	L.S.	1,000,000						
<u>Track Lowering</u>								
Single Track (12"Av)	T.F.	40		0	3,000	120,000	88,000	3,520,000
<u>Tunnel Modifications</u>								
Track Lowering	T.F.	500		0		0	14,940	7,470,000
Structural Mod.	R.F.	3,000		0		0	770	2,310,000
<u>Signals (Wayside)</u>								
Phase Sel & Tru-II	T.F.	55	14,256	784,080	191,136	10,512,480	3,393,744	186,655,920
Cab Signals	T.F.	7		0		0	504,892	3,534,244
TOTAL COST				1,212,336		15,294,336	9,652,084	338,784,212

ROUTE 1 PROJECT ADD-ONS

	AMT.
A. Construction	744,585,526.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	37,229,276.30
D. Testing and Operations Mobilization (2% of A)	14,891,710.52
E. Owners Insurance (8% of A)	59,566,842.08
F. Mitigation (2% of A)	14,891,710.52
G. Right-of-Way	18,240,000.00
H. Force Account (8% of A)	59,566,842.08
I. Employee Training (3% of A)	22,337,565.78
J. Construction Change Orders (12% of A & F, 2% of B)	91,137,268.38
K. Project Services (25% of A & F, 1% of B, 10% of J)	198,983,035.97
L. Subtotal (A thru K)	1,261,429,777.63
M. Project Reserve (20% of L)	252,285,955.53
N. Total Cost in 1992 Dollars (L + M)	1,513,715,733.16
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 2 PROJECT ADD-ONS

	AMT.
A. Construction	93,454,320.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	4,672,716.00
D. Testing and Operations Mobilization (2% of A)	1,869,086.40
E. Owners Insurance (8% of A)	7,476,345.60
F. Mitigation (2% of A)	1,869,086.40
G. Right-of-Way	1,920,000.00
H. Force Account (8% of A)	7,476,345.60
I. Employee Training (3% of A)	2,803,629.60
J. Construction Change Orders (12% of A & F, 2% of B)	11,438,808.77
K. Project Services (25% of A & F, 1% of B, 10% of J)	24,974,732.48
L. Subtotal (A thru K)	157,955,070.84
M. Project Reserve (20% of L)	31,591,014.17
N. Total Cost in 1992 Dollars (L + M)	189,546,085.01
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 3 PROJECT ADD-ONS

	AMT.
A. Construction	91,795,256.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	4,589,762.80
D. Testing and Operations Mobilization (2% of A)	1,835,905.12
E. Owners Insurance (8% of A)	7,343,620.48
F. Mitigation (2% of A)	1,835,905.12
G. Right-of-Way	1,920,000.00
H. Force Account (8% of A)	7,343,620.48
I. Employee Training (3% of A)	2,753,857.68
J. Construction Change Orders (12% of A & F, 2% of B)	11,235,739.33
K. Project Services (25% of A & F, 1% of B, 10% of J)	24,531,364.21
L. Subtotal (A thru K)	155,185,031.23
M. Project Reserve (20% of L)	31,037,006.25
N. Total Cost in 1992 Dollars (L + M)	186,222,037.47
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 4 PROJECT ADD-ONS

	AMT.
A. Construction	68,264,880.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	3,413,244.00
D. Testing and Operations Mobilization (2% of A)	1,365,297.60
E. Owners Insurance (8% of A)	5,461,190.40
F. Mitigation (2% of A)	1,365,297.60
G. Right-of-Way	960,000.00
H. Force Account (8% of A)	5,461,190.40
I. Employee Training (3% of A)	2,047,946.40
J. Construction Change Orders (12% of A & F, 2% of B)	8,355,621.31
K. Project Services (25% of A & F, 1% of B, 10% of J)	18,243,106.53
L. Subtotal (A thru K)	114,937,774.24
M. Project Reserve (20% of L)	22,987,554.85
N. Total Cost in 1992 Dollars (L + M)	137,925,329.09
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops and Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 5 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	276,862,300.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	13,843,115.00
D. Testing and Operations Mobilization (2% of A)	5,537,246.00
E. Owners Insurance (8% of A)	22,148,984.00
F. Mitigation (2% of A)	5,537,246.00
G. Right-of-Way	6,720,000.00
H. Force Account (8% of A)	22,148,984.00
I. Employee Training (3% of A)	8,305,869.00
J. Construction Change Orders (12% of A & F, 2% of B)	33,887,945.52
K. Project Services (25% of A & F, 1% of B, 10% of J)	73,988,681.05
L. Subtotal (A thru K)	468,980,370.57
M. Project Reserve (20% of L)	93,796,074.11
N. Total Cost in 1992 Dollars (L + M)	562,776,444.69
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 6 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	124,703,922.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	6,235,196.10
D. Testing and Operations Mobilization (2% of A)	2,494,078.44
E. Owners Insurance (8% of A)	9,976,313.76
F. Mitigation (2% of A)	2,494,078.44
G. Right-of-Way	2,880,000.00
H. Force Account (8% of A)	9,976,313.76
I. Employee Training (3% of A)	3,741,117.66
J. Construction Change Orders (12% of A & F, 2% of B)	15,263,760.05
K. Project Services (25% of A & F, 1% of B, 10% of J)	33,325,876.12
L. Subtotal (A thru K)	211,090,656.33
M. Project Reserve (20% of L)	42,218,131.27
N. Total Cost in 1992 Dollars (L + M)	253,308,787.59
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 7 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	142,581,496.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	7,129,074.80
D. Testing and Operations Mobilization (2% of A)	2,851,629.92
E. Owners Insurance (8% of A + 2% of B)	11,406,519.68
F. Mitigation (2% of A)	2,851,629.92
G. Right-of-Way	2,880,000.00
H. Force Account (8% of A)	11,406,519.68
I. Employee Training (3% of A)	4,277,444.88
J. Construction Change Orders (12% of A & F, 2% of B)	17,451,975.11
K. Project Services (25% of A & F, 1% of B, 10% of J)	38,103,478.99
L. Subtotal (A thru K)	240,939,768.98
M. Project Reserve (20% of L)	48,187,953.80
N. Total Cost in 1992 Dollars (L + M)	289,127,722.78
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 8 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	54,387,174.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	2,719,358.70
D. Testing and Operations Mobilization (2% of A)	1,087,743.48
E. Owners Insurance (8% of A + 2% of B)	4,350,973.92
F. Mitigation (2% of A)	1,087,743.48
G. Right-of-Way	960,000.00
H. Force Account (8% of A)	4,350,973.92
I. Employee Training (3% of A)	1,631,615.22
J. Construction Change Orders (12% of A & F, 2% of B)	6,656,990.10
K. Project Services (25% of A & F, 1% of B, 10% of J)	14,534,428.38
L. Subtotal (A thru K)	91,767,001.20
M. Project Reserve (20% of L)	18,353,400.24
N. Total Cost in 1992 Dollars (L + M)	110,120,401.44
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops and Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 9 PROJECT ADD - ONS

	<u>AMT.</u>
A. Construction	126,635,550.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	6,331,777.50
D. Testing and Operations Mobilization (2% of A)	2,532,711.00
E. Owners Insurance (8% of A)	10,130,844.00
F. Mitigation (2% of A)	2,532,711.00
G. Right-of-Way	2,880,000.00
H. Force Account (8% of A)	10,130,844.00
I. Employee Training (3% of A)	3,799,066.50
J. Construction Change Orders (12% of A & F, 2% of B)	15,500,191.32
K. Project Services (25% of A & F, 1% of B, 10% of J)	33,842,084.38
L. Subtotal (A thru K)	214,315,779.70
M. Project Reserve (20% of L)	42,863,155.94
N. Total Cost in 1992 Dollars (L + M)	257,178,935.64
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 10 PROJECT ADD - ONS

	<u>AMT.</u>
A. Construction	18,917,216.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	945,860.80
D. Testing and Operations Mobilization (2% of A)	378,344.32
E. Owners Insurance (8% of A)	1,513,377.28
F. Mitigation (2% of A)	378,344.32
G. Right-of-Way	960,000.00
H. Force Account (8% of A)	1,513,377.28
I. Employee Training (3% of A)	567,516.48
J. Construction Change Orders (12% of A & F, 2% of B)	2,315,467.24
K. Project Services (25% of A & F, 1% of B, 10% of J)	5,055,436.80
L. Subtotal (A thru K)	32,544,940.52
M. Project Reserve (20% of L)	6,508,988.10
N. Total Cost in 1992 Dollars (L + M)	39,053,928.63
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 11 PROJECT ADD - ONS

	<u>AMT.</u>
A. Construction	511,363,224.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	25,568,161.20
D. Testing and Operations Mobilization (2% of A)	10,227,264.48
E. Owners Insurance (8% of A)	40,909,057.92
F. Mitigation (2% of A)	10,227,264.48
G. Right-of-Way	13,440,000.00
H. Force Account (8% of A)	40,909,057.92
I. Employee Training (3% of A)	15,340,896.72
J. Construction Change Orders (12% of A & F, 2% of B)	62,590,858.62
K. Project Services (25% of A & F, 1% of B, 10% of J)	136,656,707.98
L. Subtotal (A thru K)	867,232,493.32
M. Project Reserve (20% of L)	173,446,498.66
N. Total Cost in 1992 Dollars (L + M)	1,040,678,991.98
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 12 PROJECT ADD - ONS

	<u>AMT.</u>
A. Construction	369,135,726.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	18,456,786.30
D. Testing and Operations Mobilization (2% of A)	7,382,714.52
E. Owners Insurance (8% of A)	29,530,858.08
F. Mitigation (2% of A)	7,382,714.52
G. Right-of-Way	7,680,000.00
H. Force Account (8% of A)	29,530,858.08
I. Employee Training (3% of A)	11,074,071.78
J. Construction Change Orders (12% of A & F, 2% of B)	45,182,212.86
K. Project Services (25% of A & F, 1% of B, 10% of J)	98,647,831.42
L. Subtotal (A thru K)	624,003,773.56
M. Project Reserve (20% of L)	124,800,754.71
N. Total Cost in 1992 Dollars (L + M)	748,804,528.27
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops and Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 13 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	394,749,044.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	19,737,452.20
D. Testing and Operations Mobilization (2% of A)	7,894,980.88
E. Owners Insurance (8% of A)	31,579,923.52
F. Mitigation (2% of A)	7,894,980.88
G. Right-of-Way	8,640,000.00
H. Force Account (8% of A)	31,579,923.52
I. Employee Training (3% of A)	11,842,471.32
J. Construction Change Orders (12% of A & F, 2% of B)	48,317,282.99
K. Project Services (25% of A & F, 1% of B, 10% of J)	105,492,734.52
L. Subtotal (A thru K)	667,728,793.82
M. Project Reserve (20% of L)	133,545,758.76
N. Total Cost in 1992 Dollars (L + M)	801,274,552.59
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops and Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 1 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	285,894,526.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	14,294,726.30
D. Testing and Operations Mobilization (2% of A)	5,717,890.52
E. Owners Insurance (8% of A)	22,871,562.08
F. Mitigation (2% of A)	5,717,890.52
G. Right-of-Way	
H. Force Account (8% of A)	22,871,562.08
I. Employee Training (3% of A)	8,576,835.78
J. Construction Change Orders (12% of A & F, 2% of B)	34,993,489.98
K. Project Services (25% of A & F, 1% of B, 10% of J)	76,402,453.13
L. Subtotal (A thru K)	477,340,936.39
M. Project Reserve (20% of L)	95,468,187.28
N. Total Cost in 1992 Dollars (L + M)	572,809,123.67
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 2 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	44,493,320.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	2,224,666.00
D. Testing and Operations Mobilization (2% of A)	889,866.40
E. Owners Insurance (8% of A)	3,559,465.60
F. Mitigation (2% of A)	889,866.40
G. Right-of-Way	
H. Force Account (8% of A)	3,559,465.60
I. Employee Training (3% of A)	1,334,799.60
J. Construction Change Orders (12% of A & F, 2% of B)	5,445,982.37
K. Project Services (25% of A & F, 1% of B, 10% of J)	11,890,394.84
L. Subtotal (A thru K)	74,287,826.80
M. Project Reserve (20% of L)	14,857,565.36
N. Total Cost in 1992 Dollars (L + M)	89,145,392.17
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 3 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	39,835,032.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	1,991,751.60
D. Testing and Operations Mobilization (2% of A)	796,700.64
E. Owners Insurance (8% of A)	3,186,802.56
F. Mitigation (2% of A)	796,700.64
G. Right-of-Way	
H. Force Account (8% of A)	3,186,802.56
I. Employee Training (3% of A)	1,195,050.96
J. Construction Change Orders (12% of A & F, 2% of B)	4,875,807.92
K. Project Services (25% of A & F, 1% of B, 10% of J)	10,645,513.95
L. Subtotal (A thru K)	66,510,162.83
M. Project Reserve (20% of L)	13,302,032.57
N. Total Cost in 1992 Dollars (L + M)	79,812,195.39
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 4 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	19,550,888.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	977,544.40
D. Testing and Operations Mobilization (2% of A)	391,017.76
E. Owners Insurance (8% of A)	1,564,071.04
F. Mitigation (2% of A)	391,017.76
G. Right-of-Way	
H. Force Account (8% of A)	1,564,071.04
I. Employee Training (3% of A)	586,526.64
J. Construction Change Orders (12% of A & F, 2% of B)	2,393,028.69
K. Project Services (25% of A & F, 1% of B, 10% of J)	5,224,779.31
L. Subtotal (A thru K)	32,642,944.64
M. Project Reserve (20% of L)	6,528,588.93
N. Total Cost in 1992 Dollars (L + M)	39,171,533.57
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops and Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 5 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	113,747,364.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	5,687,368.20
D. Testing and Operations Mobilization (2% of A)	2,274,947.28
E. Owners Insurance (8% of A)	9,099,789.12
F. Mitigation (2% of A)	2,274,947.28
G. Right-of-Way	
H. Force Account (8% of A)	9,099,789.12
I. Employee Training (3% of A)	3,412,420.92
J. Construction Change Orders (12% of A & F, 2% of B)	13,922,677.35
K. Project Services (25% of A & F, 1% of B, 10% of J)	30,397,845.56
L. Subtotal (A thru K)	189,917,148.83
M. Project Reserve (20% of L)	37,983,429.77
N. Total Cost in 1992 Dollars (L + M)	227,900,578.59
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 6 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	20,266,320.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	1,013,316.00
D. Testing and Operations Mobilization (2% of A)	405,326.40
E. Owners Insurance (8% of A)	1,621,305.60
F. Mitigation (2% of A)	405,326.40
G. Right-of-Way	
H. Force Account (8% of A)	1,621,305.60
I. Employee Training (3% of A)	607,989.60
J. Construction Change Orders (12% of A & F, 2% of B)	2,480,597.57
K. Project Services (25% of A & F, 1% of B, 10% of J)	5,415,971.36
L. Subtotal (A thru K)	33,837,458.52
M. Project Reserve (20% of L)	6,767,491.70
N. Total Cost in 1992 Dollars (L + M)	40,604,950.23
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 7 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	32,894,624.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	1,644,731.20
D. Testing and Operations Mobilization (2% of A)	657,892.48
E. Owners Insurance (8% of A + 2% of B)	2,631,569.92
F. Mitigation (2% of A)	657,892.48
G. Right-of-Way	
H. Force Account (8% of A)	2,631,569.92
I. Employee Training (3% of A)	986,838.72
J. Construction Change Orders (12% of A & F, 2% of B)	4,026,301.98
K. Project Services (25% of A & F, 1% of B, 10% of J)	8,790,759.32
L. Subtotal (A thru K)	54,922,180.02
M. Project Reserve (20% of L)	10,984,436.00
N. Total Cost in 1992 Dollars (L + M)	65,906,616.02
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 8 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	27,483,174.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	1,374,158.70
D. Testing and Operations Mobilization (2% of A)	549,663.48
E. Owners Insurance (8% of A + 2% of B)	2,198,653.92
F. Mitigation (2% of A)	549,663.48
G. Right-of-Way	
H. Force Account (8% of A)	2,198,653.92
I. Employee Training (3% of A)	824,495.22
J. Construction Change Orders (12% of A & F, 2% of B)	3,363,940.50
K. Project Services (25% of A & F, 1% of B, 10% of J)	7,344,603.42
L. Subtotal (A thru K)	45,887,006.64
M. Project Reserve (20% of L)	9,177,401.33
N. Total Cost in 1992 Dollars (L + M)	55,064,407.96
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops and Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 9 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	10,529,712.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	526,485.60
D. Testing and Operations Mobilization (2% of A)	210,594.24
E. Owners Insurance (8% of A)	842,376.96
F. Mitigation (2% of A)	210,594.24
G. Right-of-Way	
H. Force Account (8% of A)	842,376.96
I. Employee Training (3% of A)	315,891.36
J. Construction Change Orders (12% of A & F, 2% of B)	1,288,836.75
K. Project Services (25% of A & F, 1% of B, 10% of J)	2,813,960.23
L. Subtotal (A thru K)	17,580,828.34
M. Project Reserve (20% of L)	3,516,165.67
N. Total Cost in 1992 Dollars (L + M)	21,096,994.01
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 10 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	10,567,216.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	528,360.80
D. Testing and Operations Mobilization (2% of A)	211,344.32
E. Owners Insurance (8% of A)	845,377.28
F. Mitigation (2% of A)	211,344.32
G. Right-of-Way	
H. Force Account (8% of A)	845,377.28
I. Employee Training (3% of A)	317,016.48
J. Construction Change Orders (12% of A & F, 2% of B)	1,293,427.24
K. Project Services (25% of A & F, 1% of B, 10% of J)	2,823,982.80
L. Subtotal (A thru K)	17,643,446.52
M. Project Reserve (20% of L)	3,528,689.30
N. Total Cost in 1992 Dollars (L + M)	21,172,135.83
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 11 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	13,702,336.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	685,116.80
D. Testing and Operations Mobilization (2% of A)	274,046.72
E. Owners Insurance (8% of A)	1,096,186.88
F. Mitigation (2% of A)	274,046.72
G. Right-of-Way	
H. Force Account (8% of A)	1,096,186.88
I. Employee Training (3% of A)	411,070.08
J. Construction Change Orders (12% of A & F, 2% of B)	1,677,165.93
K. Project Services (25% of A & F, 1% of B, 10% of J)	3,661,812.27
L. Subtotal (A thru K)	22,877,968.28
M. Project Reserve (20% of L)	4,575,593.66
N. Total Cost in 1992 Dollars (L + M)	27,453,561.93
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 12 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	10,286,432.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	514,321.60
D. Testing and Operations Mobilization (2% of A)	205,728.64
E. Owners Insurance (8% of A)	822,914.56
F. Mitigation (2% of A)	205,728.64
G. Right-of-Way	
H. Force Account (8% of A)	822,914.56
I. Employee Training (3% of A)	308,592.96
J. Construction Change Orders (12% of A & F, 2% of B)	1,259,059.28
K. Project Services (25% of A & F, 1% of B, 10% of J)	2,748,946.09
L. Subtotal (A thru K)	17,174,638.32
M. Project Reserve (20% of L)	3,434,927.66
N. Total Cost in 1992 Dollars (L + M)	20,609,565.99
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops and Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 13 PROJECT ADD - ONS

	<u>AMT.</u>
A. Construction	0.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	0.00
D. Testing and Operations Mobilization (2% of A)	0.00
E. Owners Insurance (8% of A)	0.00
F. Mitigation (2% of A)	0.00
G. Right-of-Way	
H. Force Account (8% of A)	0.00
I. Employee Training (3% of A)	0.00
J. Construction Change Orders (12% of A & F, 2% of B)	0.00
K. Project Services (25% of A & F, 1% of B, 10% of J)	0.00
L. Subtotal (A thru K)	0.00
M. Project Reserve (20% of L)	0.00
N. Total Cost in 1992 Dollars (L + M)	0.00
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops and Ancillary Fac., Locomotive Change Fac., and Control Center not included

**CIVIL, STRUCTURAL, SIGNAL & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
(NO SEGMENTS DUPLICATED) COMMUTER & FREIGHT
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u> #1	<u>Cost</u>	<u>Quantity</u> #2	<u>Cost</u>	<u>Quantity</u> #3	<u>Cost</u>	<u>Quantity</u> #4	<u>Cost</u>	<u>Quantity</u> #5	<u>Cost</u>
<u>Stabilize Track for Electrification</u>												
Single Track	T.F.	6	4,008,576	24,051,456	422,400	2,534,400	403,392	2,420,352	161,568	969,408	1,325,280	7,951,680
<u>Overhead Utility Relocations</u>	L.S.	16,000	48	768,000	37	592,000	16	256,000	12	192,000	49	784,000
<u>Underground Utility Relocations</u>	L.F.	0	0	0	0	0	0	0	0	0	0	0
<u>Right-of-Way Acquisition</u>	Ac.	800,000	0	0	0	0	0	0	0	0	0	0
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>		0.20	0	0	0	0	0	0	0	0	0	0
<u>Site Demolition</u>	C.Y.	80	0	0	0	0	0	0	0	0	0	0
<u>Shops & Ancillary Facilities</u>	L.S.	40,000,000	0	0	0	0	0	0	0	0	0	0
<u>Locomotive Change Facilities</u>	L.S.	4,000,000 / 6,000,000	0	0	0	0	0	0	0	0	0	0
<u>Electric Locomotives</u>	L.S.		0	0	0	0	0	0	0	0	0	0
Passenger	EA	5,250,000	0	0	0	0	0	0	0	0	0	0
Freight	EA	4,000,000	0	0	0	0	0	0	0	0	0	0
<u>Crossing Warning Systems</u>	EA	100,000	105	10,500,000	78	7,800,000	33	3,300,000	25	2,500,000	101	10,100,000

**CIVIL, STRUCTURAL, SIGNAL & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
(NO SEGMENTS DUPLICATED) COMMUTER & FREIGHT
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#1		#2		#3		#4		#5	
Communications												
SCADA (Supervisory Control)												
	R.F.	30	2,082,970	62,489,100	299,904	8,997,120	246,048	7,381,440	125,136	3,754,080	702,768	21,083,040
Control Center	L.S.	10,000,000	0	0	0	0	0	0	0	0	0	0
Overhead Bridge Clearance Improvements (Including Approaches)												
Vertical Clearance Improvements												
	L.S.	600,000	0	0	0	0	0	0	0	0	0	0
	L.S.	700,000										
	L.S.	1,000,000										
Track Lowering												
Single Track (12"Av)	T.F.	40	18,000	720,000	6,000	240,000	2,000	80,000	1,000	40,000	44,000	1,760,000
Tunnel Modifications												
Track Lowering	T.F.	500	0	0	0	0	7,940	3,970,000	7,000	3,500,000	0	0
Structural Mod.	R.F.	3,000	0	0	0	0	770	2,310,000	0	0	0	0
Signals (Wayside)												
Phase Sel & Tru-II	T.F.	55	3,406,654	187,365,970	442,360	24,329,800	365,768	20,117,240	156,280	8,595,400	1,246,080	68,534,400
Cab Signals	T.F.	7	0	0	0	0	0	0	0	0	504,892	3,534,244
TOTAL COST				285,894,526		44,493,320		39,835,032		19,550,888		113,747,364

**CIVIL, STRUCTURAL, SIGNAL & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
(NO SEGMENTS DUPLICATED) COMMUTER & FREIGHT
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u> #6	<u>Cost</u>	<u>Quantity</u> #7	<u>Cost</u>	<u>Quantity</u> #8	<u>Cost</u>	<u>Quantity</u> #9	<u>Cost</u>	<u>Quantity</u> #10	<u>Cost</u>
<u>Stabilize Track for Electrification</u>												
Single Track	T.F.	6	240,240	1,441,440	373,824	2,242,944	236,544	1,419,264	120,912	725,472	67,056	402,336
<u>Overhead Utility Relocations</u>	L.S.	16,000	13	208,000	19	304,000	30	480,000	9	144,000	21	336,000
<u>Underground Utility Relocations</u>	L.F.	0	0	0	0	0	0	0	0	0	0	0
<u>Right-of-Way Acquisition</u>	Ac.	800,000	0	0	0	0	0	0	0	0	0	0
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>		0.20	0	0	0	0	0	0	0	0	0	0
<u>Site Demolition</u>	C.Y.	80	0	0	0	0	0	0	0	0	0	0
<u>Shops & Ancillary Facilities</u>	L.S.	40,000,000	0	0	0	0	0	0	0	0	0	0
<u>Locomotive Change Facilities</u>	L.S.	4,000,000 / 6,000,000	0	0	0	0	0	0	0	0	0	0
<u>Electric Locomotives</u>	L.S.		0	0	0	0	0	0	0	0	0	0
Passenger	EA	5,250,000	0	0	0	0	0	0	0	0	0	0
Freight	EA	4,000,000	0	0	0	0	0	0	0	0	0	0
<u>Crossing Warning Systems</u>	EA	100,000	27	2,700,000	39	3,900,000	61	6,100,000	20	2,000,000	42	4,200,000

**CIVIL, STRUCTURAL, SIGNAL & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
(NO SEGMENTS DUPLICATED) COMMUTER & FREIGHT
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u> #6	<u>Cost</u>	<u>Quantity</u> #7	<u>Cost</u>	<u>Quantity</u> #8	<u>Cost</u>	<u>Quantity</u> #9	<u>Cost</u>	<u>Quantity</u> #10	<u>Cost</u>
Communications												
SCADA (Supervisory Control)	R.F.	30	119,856	3,595,680	186,912	5,607,360	206,448	6,193,440	67,056	2,011,680	63,360	1,900,800
Control Center	L.S.	10,000,000	0	0	0	0	0	0	0	0	0	0
Overhead Bridge Clearance Improvements (Including Approaches)												
Vertical Clearance Improvements	L.S.	600,000	0	0	0	0	0	0	0	0	0	0
	L.S.	700,000										
	L.S.	1,000,000										
Track Lowering												
Single Track (12"Av)	T.F.	40	14,000	560,000	7,000	280,000	7,000	280,000	4,000	160,000	1,000	40,000
Tunnel Modifications												
Track Lowering	T.F.	500	0	0	0	0	0	0	0	0	0	0
Structural Mod.	R.F.	3,000	0	0	0	0	0	0	0	0	0	0
Signals (Wayside)												
Phase Sel & Tru-II	T.F.	55	213,840	11,761,200	373,824	20,560,320	236,554	13,010,470	99,792	5,488,560	67,056	3,688,080
Cab Signals	T.F.	7	0	0	0	0	0	0	0	0	0	0
TOTAL COST				20,266,320	32,894,624	27,483,174	10,529,712	10,567,216				

**CIVIL, STRUCTURAL, SIGNAL & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
(NO SEGMENTS DUPLICATED) COMMUTER & FREIGHT
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>#11</u>		<u>#12</u>		<u>#13</u>		<u>TOTAL QUANTITY</u>	<u>TOTAL COST</u>
			<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>		
<u>Stabilize Track for Electrification</u>										
Single Track	T.F.	6	170,016	1,020,096	139,392	836,352	0	0	7,669,200	46,015,200
<u>Overhead Utility Relocations</u>	L.S.	16,000	11	176,000	1	16,000	0	0	266	4,256,000
<u>Underground Utility Relocations</u>	L.F.	0	0	0	0	0	0	0	0	0
<u>Right-of-Way Acquisition</u>	Ac.	800,000	0	0	0	0	0	0	0	0
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>		0.20	0	0	0	0	0	0	0	0
<u>Site Demolition</u>	C.Y.	80	0	0	0	0	0	0	0	0
<u>Shops & Ancillary Facilities</u>	L.S.	40,000,000	0	0	0	0	0	0	0	0
<u>Locomotive Change Facilities</u>	L.S.	4,000,000 / 6,000,000	0	0	0	0	0	0	0	0
<u>Electric Locomotives</u>	L.S.		0	0	0	0	0	0	0	0
Passenger	EA	5,250,000	0	0	0	0	0	0	0	0
Freight	EA	4,000,000	0	0	0	0	0	0	0	0
<u>Crossing Warning Systems</u>	EA	100,000	23	2,300,000	4	400,000	0	0	558	55,800,000

**CIVIL, STRUCTURAL, SIGNAL & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
(NO SEGMENTS DUPLICATED) COMMUTER & FREIGHT
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>TOTAL QUANTITY</u>	<u>TOTAL COST</u>
			#11		#12		#13			
Communications										
SCADA (Supervisory Control)										
	R.F.	30	86,592	2,597,760	64,944	1,948,320		0	4,251,994	127,559,820
Control Center	L.S.	10,000,000	0	0	0	0		0	0	0
Overhead Bridge Clearance Improvements (Including Approaches)										
Vertical Clearance Improvements										
	L.S.	600,000	0	0	0	0		0	0	0
	L.S.	700,000								
	L.S.	1,000,000								
Track Lowering										
Single Track (12"Av)	T.F.	40	0	0	0	0		0	104,000	4,160,000
Tunnel Modifications										
Track Lowering	T.F.	500	0	0	0	0		0	14,940	7,470,000
Structural Mod.	R.F.	3,000	0	0	0	0		0	770	2,310,000
Signals (Wayside)										
Phase Sel & Tru-II	T.F.	55	138,336	7,608,480	128,832	7,085,760		0	6,875,376	378,145,680
Cab Signals	T.F.	7	0	0	0	0		0	504,892	3,534,244
TOTAL COST				13,702,336		10,286,432		0	19,421,996	629,250,944

**CIVIL, STRUCTURAL, SIGNAL & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
COMMUTER & FREIGHT
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u> #1	<u>Cost</u>	<u>Quantity</u> #2	<u>Cost</u>	<u>Quantity</u> #3	<u>Cost</u>	<u>Quantity</u> #4	<u>Cost</u>	<u>Quantity</u> #5	<u>Cost</u>
<u>Stabilize Track for Electrification</u>												
Single Track	T.F.	6	4,008,576	24,051,456	422,400	2,534,400	434,016	2,604,096	327,360	1,964,160	1,352,736	8,116,416
<u>Overhead Utility Relocations</u>	L.S.	16,000	48	768,000	37	592,000	16	256,000	16	256,000	49	784,000
<u>Underground Utility Relocations</u>	L.F.	0	0	0	0	0	0	0	0	0	0	0
<u>Right-of-Way Acquisition</u>	Ac.	800,000	0	0	0	0	0	0	0	0	0	0
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>		0.20	0	0	0	0	0	0	0	0	0	0
<u>Site Demolition</u>	C.Y.	80	0	0	0	0	0	0	0	0	0	0
<u>Shops & Ancillary Facilities</u>	L.S.	40,000,000	0	0	0	0	0	0	0	0	0	0
<u>Locomotive Change Facilities</u>	L.S.	4,000,000 / 6,000,000	0	0	0	0	0	0	0	0	0	0
<u>Electric Locomotives</u>	L.S.		0	0	0	0	0	0	0	0	0	0
Passenger	EA	5,250,000	0	0	0	0	0	0	0	0	0	0
Freight	EA	4,000,000	0	0	0	0	0	0	0	0	0	0
<u>Crossing Warning Systems</u>	EA	100,000	105	10,500,000	78	7,800,000	33	3,300,000	34	3,400,000	101	10,100,000

**CIVIL, STRUCTURAL, SIGNAL & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
COMMUTER & FREIGHT
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#1		#2		#3		#4		#5	
Communications												
SCADA (Supervisory Control)												
	R.F.	30	2,082,970	62,489,100	299,904	8,997,120	250,800	7,524,000	184,272	5,528,160	705,936	21,178,080
Control Center	L.S.	10,000,000	0	0	0	0	0	0	0	0	0	0
Overhead Bridge Clearance Improvements (Including Approaches) Vertical Clearance Improvements												
	L.S.	600,000	0	0	0	0	0	0	0	0	0	0
	L.S.	700,000										
	L.S.	1,000,000										
Track Lowering												
Single Track (12"Av)	T.F.	40	18,000	720,000	6,000	240,000	2,000	80,000	1,000	40,000	44,000	1,760,000
Tunnel Modifications												
Track Lowering	T.F.	500	0	0	0	0	7,940	3,970,000	7,000	3,500,000	0	0
Structural Mod.	R.F.	3,000	0	0	0	0	770	2,310,000	0	0	0	0
Signals (Wayside)												
Phase Sel & Tru-II	T.F.	55	3,406,654	187,365,970	442,360	24,329,800	426,912	23,480,160	326,192	17,940,560	1,300,992	71,554,560
Cab Signals	T.F.	7	0	0	0	0	0	0	0	0	504,892	3,534,244
TOTAL COST				285,894,526		44,493,320		43,524,256		32,628,880		117,027,300

**CIVIL, STRUCTURAL, SIGNAL & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
COMMUTER & FREIGHT
25Kv, Minimum Vertical Clearance**

	Units	Unit Costs	#6		#7		#8		#9		#10	
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
Stabilize Track for Electrification												
Single Track	T.F.	6	667,392	4,004,352	758,736	4,552,416	236,544	1,419,264	555,456	3,332,736	67,056	402,336
Overhead Utility Relocations	L.S.	16,000	23	368,000	26	416,000	30	480,000	34	544,000	21	336,000
Underground Utility Relocations	L.F.	0	0	0	0	0	0	0	0	0	0	0
Right-of-Way Acquisition	Ac.	800,000	0	0	0	0	0	0	0	0	0	0
Relocation Costs, Legal Fees, Other ROW Costs		0.20	0	0	0	0	0	0	0	0	0	0
Site Demolition	C.Y.	80	0	0	0	0	0	0	0	0	0	0
Shops & Ancillary Facilities	L.S.	40,000,000	0	0	0	0	0	0	0	0	0	0
Locomotive Change Facilities	L.S.	4,000,000 / 6,000,000	0	0	0	0	0	0	0	0	0	0
Electric Locomotives	L.S.		0	0	0	0	0	0	0	0	0	0
Passenger	EA	5,250,000	0	0	0	0	0	0	0	0	0	0
Freight	EA	4,000,000	0	0	0	0	0	0	0	0	0	0
Crossing Warning Systems	EA	100,000	51	5,100,000	54	5,400,000	61	6,100,000	71	7,100,000	42	4,200,000

**CIVIL, STRUCTURAL, SIGNAL & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
COMMUTER & FREIGHT
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#6		#7		#8		#9		#10	
Communications												
SCADA (Supervisory Control)												
	R.F.	30	313,104	9,393,120	326,304	9,789,120	206,448	6,193,440	278,784	8,363,520	63,360	1,900,800
Control Center	L.S.	10,000,000	0	0	0	0	0	0	0	0	0	0
Overhead Bridge Clearance Improvements (Including Approaches)												
Vertical Clearance Improvements												
	L.S.	600,000	0	0	0	0	0	0	0	0	0	0
	L.S.	700,000										
	L.S.	1,000,000										
Track Lowering												
Single Track (12"Av)	T.F.	40	16,000	640,000	15,000	600,000	7,000	280,000	13,000	520,000	1,000	40,000
Tunnel Modifications												
Track Lowering	T.F.	500	0	0	0	0	0	0	0	0	0	0
Structural Mod.	R.F.	3,000	0	0	0	0	0	0	0	0	0	0
Signals (Wayside)												
Phase Sel & Tru-II	T.F.	55	571,190	31,415,450	712,272	39,174,960	236,554	13,010,470	534,346	29,389,030	67,056	3,688,080
Cab Signals	T.F.	7	0	0	0	0	0	0	70,752	495,264	0	0
TOTAL COST				50,920,922		59,932,496		27,483,174		49,744,550		10,567,216

**CIVIL, STRUCTURAL, SIGNAL & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
COMMUTER & FREIGHT
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>TOTAL QUANTITY</u>	<u>TOTAL COST</u>
			#11		#12		#13			
<u>Stabilize Track for Electrification</u>										
Single Track	T.F.	6	2,662,704	15,976,224	1,994,256	11,965,536	2,248,224	13,489,344	15,735,456	94,412,736
<u>Overhead Utility Relocations</u>	L.S.	16,000	47	752,000	39	624,000	36	576,000	422	6,752,000
<u>Underground Utility Relocations</u>	L.F.	0	0	0	0	0	0	0	0	0
<u>Right-of-Way Acquisition</u>	Ac.	800,000	0	0	0	0	0	0	0	0
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>		0.20	0	0	0	0	0	0	0	0
<u>Site Demolition</u>	C.Y.	80	0	0	0	0	0	0	0	0
<u>Shops & Ancillary Facilities</u>	L.S.	40,000,000	0	0	0	0	0	0	0	0
<u>Locomotive Change Facilities</u>	L.S.	4,000,000 / 6,000,000	0	0	0	0	0	0	0	0
<u>Electric Locomotives</u>	L.S.		0	0	0	0	0	0	0	0
Passenger	EA	5,250,000	0	0	0	0	0	0	0	0
Freight	EA	4,000,000	0	0	0	0	0	0	0	0
<u>Crossing Warning Systems</u>	EA	100,000	99	9,900,000	85	8,500,000	81	8,100,000	895	89,500,000

**CIVIL, STRUCTURAL, SIGNAL & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
COMMUTER & FREIGHT
25Kv, Minimum Vertical Clearance**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>TOTAL QUANTITY</u>	<u>TOTAL COST</u>
			#11		#12		#13			
Communications										
SCADA (Supervisory Control)										
	R.F.	30	1,482,096	44,462,880	928,752	27,862,560	990,538	29,716,140	8,113,268	243,398,040
Control Center	L.S.	10,000,000	0	0	0	0	0	0	0	0
Overhead Bridge Clearance Improvements (Including Approaches)										
Vertical Clearance Improvements										
	L.S.	600,000	0	0	0	0	0	0	0	0
	L.S.	700,000								
	L.S.	1,000,000								
Track Lowering										
Single Track (12"Av)	T.F.	40	19,000	760,000	21,000	840,000	16,000	640,000	179,000	7,160,000
Tunnel Modifications										
Track Lowering	T.F.	500	0	0	0	0	0	0	14,940	7,470,000
Structural Mod.	R.F.	3,000	0	0	0	0	0	0	770	2,310,000
Signals (Wayside)										
Phase Sel & Tru-II	T.F.	55	2,324,784	127,863,120	1,862,266	102,424,630	1,862,792	102,453,560	14,074,370	774,090,350
Cab Signals	T.F.	7	0	0	0	0	0	0	575,644	4,029,508
TOTAL COST				199,714,224		152,216,726		154,975,044	38,694,765	1,229,122,634

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
 COMMUTER & FREIGHT
 SEGMENT COSTS RELATED TO ELECTRIFICATION**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u> #1	<u>Cost</u>	<u>Quantity</u> #2	<u>Cost</u>	<u>Quantity</u> #3	<u>Cost</u>	<u>Quantity</u> #4	<u>Cost</u>	<u>Quantity</u> #5	<u>Cost</u>
<u>Stabilize Track for Electrification</u>												
Single Track	T.F.	6	27,456	164,736	3,168	19,008	2,112	12,672	67,056	402,336	33,792	202,752
<u>Overhead Utility Relocations</u>	L.S.	16,000		0		0		0		0	3	48,000
<u>Underground Utility Relocations</u>	L.F.	0		0		0		0		0		0
<u>Right-of-Way Acquisition</u>	Ac.	800,000		0		0		0		0		0
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>		0.20		0		0		0		0		0
<u>Site Demolition</u>	C.Y.	80		0		0		0		0		0
<u>Shops & Ancillary Facilities</u>	L.S.	40,000,000		0		0		0		0		0
<u>Locomotive Change Facilities</u>	L.S.	4,000,000 / 6,000,000		0		0		0		0		0
<u>Electric Locomotives</u>	L.S.			0		0		0		0		0
Passenger	EA	5,250,000		0		0		0		0		0
Freight	EA	4,000,000		0		0		0		0		0
<u>Crossing Warning Systems</u>	EA	100,000		0		0		0		0	7	700,000

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER & FREIGHT
SEGMENT COSTS RELATED TO ELECTRIFICATION**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#1		#2		#3		#4		#5	
Communications												
SCADA (Supervisory Control)												
	R.F.	30	3,168	95,040	1,584	47,520	1,056	31,680	61,248	1,837,440	13,200	396,000
Control Center	L.S.	10,000,000		0		0		0		0		0
Overhead Bridge Clearance Improvements (Including Approaches)												
Vertical Clearance Improvements												
	L.S.	600,000		0		0		0		0		0
	L.S.	700,000										
	L.S.	1,000,000										
Track Lowering												
Single Track (12"Av)	T.F.	40		0		0		0		0		0
Tunnel Modifications												
Track Lowering	T.F.	500		0		0		0		0		0
Structural Mod.	R.F.	3,000		0		0		0		0		0
Signals (Wayside)												
Phase Sel & Tru-II	T.F.	55	54,912	3,020,160	6,232	342,760	2,112	116,160	67,056	3,688,080	28,512	1,568,160
Cab Signals	T.F.	7		0		0		0		0		0
TOTAL COST				3,279,936		409,288		160,512		5,927,856		2,914,912

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
 COMMUTER & FREIGHT
 SEGMENT COSTS RELATED TO ELECTRIFICATION**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#6		#7		#8		#9		#10	
<u>Stabilize Track for Electrification</u>												
Single Track	T.F.	6	130,944	785,664	6,336	38,016	0	151,536	909,216	12,672	76,032	
<u>Overhead Utility Relocations</u>	L.S.	16,000	13	208,000	1	16,000	0	20	320,000	0	0	
<u>Underground Utility Relocations</u>	L.F.	0		0		0			0		0	
<u>Right-of-Way Acquisition</u>	Ac.	800,000		0		0			0		0	
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>		0.20		0		0			0		0	
<u>Site Demolition</u>	C.Y.	80		0		0			0		0	
<u>Shops & Ancillary Facilities</u>	L.S.	40,000,000		0		0			0		0	
<u>Locomotive Change Facilities</u>	L.S.	4,000,000 / 6,000,000		0		0			0		0	
<u>Electric Locomotives</u>	L.S.			0		0			0		0	
Passenger	EA	5,250,000		0		0			0		0	
Freight	EA	4,000,000		0		0			0		0	
<u>Crossing Warning Systems</u>	EA	100,000	27	2,700,000	3	300,000	0	41	4,100,000	1	100,000	

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER & FREIGHT
SEGMENT COSTS RELATED TO ELECTRIFICATION**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u> #6	<u>Cost</u>	<u>Quantity</u> #7	<u>Cost</u>	<u>Quantity</u> #8	<u>Cost</u>	<u>Quantity</u> #9	<u>Cost</u>	<u>Quantity</u> #10	<u>Cost</u>
Communications												
SCADA (Supervisory Control)												
	R.F.	30	90,816	2,724,480	6,336	190,080	0	122,496	3,674,880	6,336	190,080	
Control Center												
	L.S.	10,000,000		0		0		0		0		0
Overhead Bridge Clearance Improvements (Including Approaches)												
Vertical Clearance Improvements												
	L.S.	600,000		0		0		0		0		0
	L.S.	700,000										
	L.S.	1,000,000										
Track Lowering												
	T.F.	40		0		0		6,000	240,000			0
Tunnel Modifications												
	T.F.	500		0		0		0	0			0
	R.F.	3,000		0		0		0	0			0
Signals (Wayside)												
	T.F.	55	130,944	7,201,920	6,336	348,480	0	146,256	8,044,080	12,672	696,960	
	T.F.	7		0		0		0	0		0	
TOTAL COST				13,620,064		892,576	0		17,288,176		1,063,072	

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER & FREIGHT
SEGMENT COSTS RELATED TO ELECTRIFICATION**

	Units	Unit Costs	#11		#12		#13		#14		#15	
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
Stabilize Track for Electrification												
Single Track	T.F.	6		0	122,496	734,976	161,568	969,408	77,088	462,528	191,136	1,146,816
Overhead Utility Relocations												
	L.S.	16,000		0	4	64,000	12	192,000	3	48,000	9	144,000
Underground Utility Relocations												
	L.F.	0		0		0		0		0		0
Right-of-Way Acquisition												
	Ac.	800,000		0		0		0		0		0
Relocation Costs, Legal Fees, Other ROW Costs												
		0.20		0		0		0		0		0
Site Demolition												
	C.Y.	80		0		0		0		0		0
Shops & Ancillary Facilities												
	L.S.	40,000,000		0		0		0		0		0
Locomotive Change Facilities												
	L.S.	4,000,000 / 6,000,000		0		0		0		0		0
Electric Locomotives												
Passenger	L.S.			0		0		0		0		0
Freight	EA	5,250,000		0		0		0		0		0
	EA	4,000,000		0		0		0		0		0
Crossing Warning Systems												
	EA	100,000		0	8	800,000	25	2,500,000	6	600,000	18	1,800,000

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
 COMMUTER & FREIGHT
 SEGMENT COSTS RELATED TO ELECTRIFICATION**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#11		#12		#13		#14		#15	
Communications												
SCADA (Supervisory Control)												
	R.F.	30	0	48,048	1,441,440	125,136	3,754,080	38,544	1,156,320	153,120	4,593,600	
Control Center	L.S.	10,000,000	0		0		0		0		0	
Overhead Bridge Clearance Improvements (Including Approaches)												
Vertical Clearance Improvements												
	L.S.	600,000	0		0		0		0		0	
	L.S.	700,000										
	L.S.	1,000,000										
Track Lowering												
Single Track (12"Av)	T.F.	40	0		0	1,000	40,000		0	2,000	80,000	
Tunnel Modifications												
Track Lowering	T.F.	500	0		0	7,000	3,500,000		0	7,940	3,970,000	
Structural Mod.	R.F.	3,000	0		0		0		0	770	2,310,000	
Signals (Wayside)												
Phase Sel & Tru-II	T.F.	55	0	96,096	5,285,280	156,280	8,595,400	70,088	3,854,840	186,912	10,280,160	
Cab Signals	T.F.	7	0		0		0		0		0	
TOTAL COST			0		8,325,696		19,550,888		6,121,688		24,324,576	

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
 COMMUTER & FREIGHT
 SEGMENT COSTS RELATED TO ELECTRIFICATION**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#16		#17		#18		#19		#20	
<u>Stabilize Track for Electrification</u>												
Single Track	T.F.	6	0	54,912	329,472	13,728	82,368	117,216	703,296	157,344	944,064	
<u>Overhead Utility Relocations</u>	L.S.	16,000	0		0		0	1	16,000	5	80,000	
<u>Underground Utility Relocations</u>	L.F.	0	0		0		0		0		0	
<u>Right-of-Way Acquisition</u>	Ac.	800,000	0		0		0		0		0	
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>		0.20	0		0		0		0		0	
<u>Site Demolition</u>	C.Y.	80	0		0		0		0		0	
<u>Shops & Ancillary Facilities</u>	L.S.	40,000,000	0		0		0		0		0	
<u>Locomotive Change Facilities</u>	L.S.	4,000,000 / 6,000,000	0		0		0		0		0	
<u>Electric Locomotives</u>	L.S.		0		0		0		0		0	
Passenger	EA	5,250,000	0		0		0		0		0	
Freight	EA	4,000,000	0		0		0		0		0	
<u>Crossing Warning Systems</u>	EA	100,000	0		0		0	2	200,000	11	1,100,000	

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
 COMMUTER & FREIGHT
 SEGMENT COSTS RELATED TO ELECTRIFICATION**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#16		#17		#18		#19		#20	
Communications												
SCADA (Supervisory Control)												
R.F.		30	0	16,896	506,880	6,864	205,920	40,128	1,203,840	68,112	2,043,360	
Control Center	L.S.	10,000,000	0		0		0		0		0	
Overhead Bridge Clearance Improvements (Including Approaches)												
Vertical Clearance Improvements												
L.S.		600,000	0		0		0		0		0	
L.S.		700,000										
L.S.		1,000,000										
Track Lowering												
Single Track (12"Av)	T.F.	40	0	4,000	160,000	4,000	160,000		0		0	
Tunnel Modifications												
Track Lowering	T.F.	500	0		0		0		0		0	
Structural Mod.	R.F.	3,000	0		0		0		0		0	
Signals (Wayside)												
Phase Sel & Tru-II	T.F.	55	0	33,792	1,858,560	13,728	755,040	80,256	4,414,080	141,504	7,782,720	
Cab Signals	T.F.	7	0		0		0		0		0	
TOTAL COST			0		2,854,912		1,203,328		6,537,216		11,950,144	

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER & FREIGHT
SEGMENT COSTS RELATED TO ELECTRIFICATION**

	Units	Unit Costs	#21		#22		#23		#24		#25	
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
Stabilize Track for Electrification												
Single Track	T.F.	6	91,344	548,064	70,752	424,512	226,512	1,359,072	334,224	2,005,344	68,112	408,672
Overhead Utility Relocations												
	L.S.	16,000	8	128,000	7	112,000	3	48,000	14	224,000	8	128,000
Underground Utility Relocations												
	L.F.	0		0		0		0		0		0
Right-of-Way Acquisition												
	Ac.	800,000		0		0		0		0		0
Relocation Costs, Legal Fees, Other ROW Costs												
		0.20		0		0		0		0		0
Site Demolition												
	C.Y.	80		0		0		0		0		0
Shops & Ancillary Facilities												
	L.S.	40,000,000		0		0		0		0		0
Locomotive Change Facilities												
	L.S.	4,000,000 / 6,000,000		0		0		0		0		0
Electric Locomotives												
Passenger	EA	5,250,000		0		0		0		0		0
Freight	EA	4,000,000		0		0		0		0		0
Crossing Warning Systems												
	EA	100,000	17	1,700,000	14	1,400,000	7	700,000	28	2,800,000	16	1,600,000

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER & FREIGHT
SEGMENT COSTS RELATED TO ELECTRIFICATION**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#21		#22		#23		#24		#25	
Communications												
SCADA (Supervisory Control)												
	R.F.	30	41,712	1,251,360	32,736	982,080	154,176	4,625,280	217,008	6,510,240	29,568	887,040
Control Center												
	L.S.	10,000,000		0		0		0		0		0
Overhead Bridge Clearance Improvements (Including Approaches)												
Vertical Clearance Improvements												
	L.S.	600,000		0		0		0		0		0
	L.S.	700,000										
	L.S.	1,000,000										
Track Lowering												
Single Track (12"Av)												
	T.F.	40	4,000	160,000	2,000	80,000	10,000	400,000	15,000	600,000	2,000	80,000
Tunnel Modifications												
Track Lowering												
	T.F.	500		0		0		0		0		0
Structural Mod.												
	R.F.	3,000		0		0		0		0		0
Signals (Wayside)												
Phase Sel & Tru-II												
	T.F.	55	86,064	4,733,520	70,752	3,891,360	226,512	12,458,160	334,224	18,382,320	68,112	3,746,160
Cab Signals												
	T.F.	7		0	70,752	495,264	226,512	1,585,584	207,628	1,453,396		0
TOTAL COST				8,520,944	7,385,216	21,176,096	31,975,300	6,849,872				

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER & FREIGHT
SEGMENT COSTS RELATED TO ELECTRIFICATION**

	<u>Units</u>	<u>Unit Costs</u>	#26		#27		#28		#29		#30	
			<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
<u>Stabilize Track for Electrification</u>												
Single Track	T.F.	6	57,024	342,144	316,800	1,900,800	284,064	1,704,384	15,840	95,040	15,840	95,040
<u>Overhead Utility Relocations</u>	L.S.	16,000	5	80,000	14	224,000	0	0	0	0	0	0
<u>Underground Utility Relocations</u>	L.F.	0		0		0		0		0		0
<u>Right-of-Way Acquisition</u>	Ac.	800,000		0		0		0		0		0
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>		0.20		0		0		0		0		0
<u>Site Demolition</u>	C.Y.	80		0		0		0		0		0
<u>Shops & Ancillary Facilities</u>	L.S.	40,000,000		0		0		0		0		0
<u>Locomotive Change Facilities</u>	L.S.	4,000,000 / 6,000,000		0		0		0		0		0
<u>Electric Locomotives</u>	L.S.			0		0		0		0		0
Passenger	EA	5,250,000		0		0		0		0		0
Freight	EA	4,000,000		0		0		0		0		0
<u>Crossing Warning Systems</u>	EA	100,000	11	1,100,000	28	2,800,000		0		0	1	100,000

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
 COMMUTER & FREIGHT
 SEGMENT COSTS RELATED TO ELECTRIFICATION**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#26		#27		#28		#29		#30	
Communications												
SCADA (Supervisory Control)												
	R.F.	30	28,512	855,360	158,400	4,752,000	128,832	3,864,960	7,920	237,600	5,280	158,400
Control Center												
	L.S.	10,000,000		0		0		0		0		0
Overhead Bridge Clearance Improvements (Including Approaches)												
Vertical Clearance Improvements												
	L.S.	600,000		0		0		0		0		0
	L.S.	700,000										
	L.S.	1,000,000										
Track Lowering												
	T.F.	40		0	7,000	280,000		0		0		0
Tunnel Modifications												
	T.F.	500		0		0		0		0		0
	R.F.	3,000		0		0		0		0		0
Signals (Wayside)												
	T.F.	55	57,024	3,136,320	316,800	17,424,000	257,664	14,171,520	15,840	871,200	10,560	580,800
	T.F.	7		0		0		0		0		0
TOTAL COST				5,513,824		27,380,800		19,740,864		1,203,840		934,240

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER & FREIGHT
SEGMENT COSTS RELATED TO ELECTRIFICATION**

	<u>Units</u>	<u>Unit Costs</u>	#31		#32		#33		#34		#35	
			<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
<u>Stabilize Track for Electrification</u>												
Single Track	T.F.	6	131,472	788,832	72,864	437,184	110,880	665,280	65,472	392,832	191,136	1,146,816
<u>Overhead Utility Relocations</u>	L.S.	16,000	2	32,000	2	32,000	3	48,000	3	48,000	12	192,000
<u>Underground Utility Relocations</u>	L.F.	0		0		0		0		0		0
<u>Right-of-Way Acquisition</u>	Ac.	800,000		0		0		0		0		0
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>		0.20		0		0		0		0		0
<u>Site Demolition</u>	C.Y.	80		0		0		0		0		0
<u>Shops & Ancillary Facilities</u>	L.S.	40,000,000		0		0		0		0		0
<u>Locomotive Change Facilities</u>	L.S.	4,000,000 / 6,000,000		0		0		0		0		0
<u>Electric Locomotives</u>	L.S.			0		0		0		0		0
Passenger	EA	5,250,000		0		0		0		0		0
Freight	EA	4,000,000		0		0		0		0		0
<u>Crossing Warning Systems</u>	EA	100,000	5	500,000	5	500,000	7	700,000	6	600,000	25	2,500,000

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER & FREIGHT
SEGMENT COSTS RELATED TO ELECTRIFICATION**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#31		#32		#33		#34		#35	
Communications												
SCADA (Supervisory Control)												
	R.F.	30	49,632	1,488,960	33,792	1,013,760	61,776	1,853,280	38,016	1,140,480	105,072	3,152,160
Control Center												
	L.S.	10,000,000		0		0		0		0		0
Overhead Bridge Clearance Improvements (Including Approaches)												
Vertical Clearance Improvements												
	L.S.	600,000		0		0		0		0		0
	L.S.	700,000										
	L.S.	1,000,000										
Track Lowering												
	T.F.	40		0		0		0	2,000	80,000	4,000	160,000
Tunnel Modifications												
	T.F.	500		0		0		0		0		0
	R.F.	3,000		0		0		0		0		0
Signals (Wayside)												
	T.F.	55	78,672	4,326,960	67,582	3,717,010	84,480	4,646,400	54,912	3,020,160	170,016	9,350,880
	T.F.	7		0		0		0		0		0
TOTAL COST				7,136,752	5,699,954	7,912,960	5,281,472	16,501,856				

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER & FREIGHT
SEGMENT COSTS RELATED TO ELECTRIFICATION**

	Units	Unit Costs	#36		#37		#38		#39		#40	
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
Stabilize Track for Electrification												
Single Track	T.F.	6	3,168	19,008	34,848	209,088	92,928	557,568	49,632	297,792	159,456	956,736
Overhead Utility Relocations	L.S.	16,000		0		0	3	48,000	5	80,000	5	80,000
Underground Utility Relocations	L.F.	0		0		0		0		0		0
Right-of-Way Acquisition	Ac.	800,000		0		0		0		0		0
Relocation Costs, Legal Fees, Other ROW Costs		0.20		0		0		0		0		0
Site Demolition	C.Y.	80		0		0		0		0		0
Shops & Ancillary Facilities	L.S.	40,000,000		0		0		0		0		0
Locomotive Change Facilities	L.S.	4,000,000 / 6,000,000		0		0		0		0		0
Electric Locomotives	L.S.			0		0		0		0		0
Passenger	EA	5,250,000		0		0		0		0		0
Freight	EA	4,000,000		0		0		0		0		0
Crossing Warning Systems	EA	100,000	1	100,000		0	6	600,000	11	1,100,000	10	1,000,000

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
 COMMUTER & FREIGHT
 SEGMENT COSTS RELATED TO ELECTRIFICATION**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#36		#37		#38		#39		#40	
Communications												
SCADA (Supervisory Control)												
	R.F.	30	3,168	95,040	10,560	316,800	30,624	918,720	36,432	1,092,960	70,224	2,106,720
Control Center	L.S.	10,000,000		0		0		0		0		0
Overhead Bridge Clearance Improvements (Including Approaches)												
Vertical Clearance Improvements												
	L.S.	600,000		0		0		0		0		0
	L.S.	700,000										
	L.S.	1,000,000										
Track Lowering												
Single Track (12"Av)	T.F.	40		0	10,000	400,000		0		0	2,000	80,000
Tunnel Modifications												
Track Lowering	T.F.	500		0		0		0		0		0
Structural Mod.	R.F.	3,000		0		0		0		0		0
Signals (Wayside)												
Phase Sel & Tru-II	T.F.	55	3,168	174,240	29,568	1,626,240	61,248	3,368,640	49,632	2,729,760	106,656	5,866,080
Cab Signals	T.F.	7		0		0		0		0		0
TOTAL COST				388,288		2,552,128		5,492,928		5,300,512		10,089,536

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
 COMMUTER & FREIGHT
 SEGMENT COSTS RELATED TO ELECTRIFICATION**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#41		#42		#43		#44		#45	
<u>Stabilize Track for Electrification</u>												
Single Track	T.F.	6	29,040	174,240	304,128	1,824,768	15,840	95,040	671,616	4,029,696	944,064	5,664,384
<u>Overhead Utility Relocations</u>	L.S.	16,000	2	32,000	5	80,000		0	10	160,000	11	176,000
<u>Underground Utility Relocations</u>	L.F.	0		0		0		0		0		0
<u>Right-of-Way Acquisition</u>	Ac.	800,000		0		0		0		0		0
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>		0.20		0		0		0		0		0
<u>Site Demolition</u>	C.Y.	80		0		0		0		0		0
<u>Shops & Ancillary Facilities</u>	L.S.	40,000,000		0		0		0		0		0
<u>Locomotive Change Facilities</u>	L.S.	4,000,000 / 6,000,000		0		0		0		0		0
<u>Electric Locomotives</u>	L.S.			0		0		0		0		0
Passenger	EA	5,250,000		0		0		0		0		0
Freight	EA	4,000,000		0		0		0		0		0
<u>Crossing Warning Systems</u>	EA	100,000	5	500,000	10	1,000,000		0	21	2,100,000	23	2,300,000

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
 COMMUTER & FREIGHT
 SEGMENT COSTS RELATED TO ELECTRIFICATION**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#41		#42		#43		#44		#45	
Communications												
SCADA (Supervisory Control)												
	R.F.	30	18,480	554,400	105,072	3,152,160	5,280	158,400	381,216	11,436,480	654,720	19,641,600
Control Center	L.S.	10,000,000		0		0		0		0		0
Overhead Bridge Clearance Improvements (Including Approaches)												
Vertical Clearance Improvements												
	L.S.	600,000		0		0		0		0		0
	L.S.	700,000										
	L.S.	1,000,000										
Track Lowering												
Single Track (12"Av)	T.F.	40	0	0	1,000	40,000		0	4,000	160,000	2,000	80,000
Tunnel Modifications												
Track Lowering	T.F.	500		0		0		0		0		0
Structural Mod.	R.F.	3,000		0		0		0		0		0
Signals (Wayside)												
Phase Sel & Tru-II	T.F.	55	29,040	1,597,200	172,128	9,467,040	10,560	580,800	645,216	35,486,880	891,264	49,019,520
Cab Signals	T.F.	7		0		0		0		0		0
TOTAL COST				2,857,840		15,563,968		834,240		53,373,056		76,881,504

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER & FREIGHT
SEGMENT COSTS RELATED TO ELECTRIFICATION**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#46		#47		#48		#49		#50	
<u>Stabilize Track for Electrification</u>												
Single Track	T.F.	6	1,056	6,336	0	0	29,040	174,240	8,448	50,688	528	3,168
<u>Overhead Utility Relocations</u>	L.S.	16,000	0	0	0	0	5	80,000		0		0
<u>Underground Utility Relocations</u>	L.F.	0		0		0		0		0		0
<u>Right-of-Way Acquisition</u>	Ac.	800,000		0		0		0		0		0
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>		0.20		0		0		0		0		0
<u>Site Demolition</u>	C.Y.	80		0		0		0		0		0
<u>Shops & Ancillary Facilities</u>	L.S.	40,000,000		0		0		0		0		0
<u>Locomotive Change Facilities</u>	L.S.	4,000,000 / 6,000,000		0		0		0		0		0
<u>Electric Locomotives</u>	L.S.			0		0		0		0		0
Passenger	EA	5,250,000		0		0		0		0		0
Freight	EA	4,000,000		0		0		0		0		0
<u>Crossing Warning Systems</u>	EA	100,000		0		0	11	1,100,000		0		0

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER & FREIGHT
SEGMENT COSTS RELATED TO ELECTRIFICATION**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#46		#47		#48		#49		#50	
Communications												
SCADA (Supervisory Control)												
	R.F.	30	1,056	31,680	0	29,040	871,200	8,448	253,440	528	15,840	
Control Center	L.S.	10,000,000		0	0	0	0	0	0	0	0	
Overhead Bridge Clearance Improvements (Including Approaches)												
Vertical Clearance Improvements												
	L.S.	600,000		0	0	0	0	0	0	0	0	
	L.S.	700,000										
	L.S.	1,000,000										
Track Lowering												
Single Track (12"Av)	T.F.	40		0	0	0	0	0	0	0	0	
Tunnel Modifications												
Track Lowering	T.F.	500		0	0	0	0	0	0	0	0	
Structural Mod.	R.F.	3,000		0	0	0	0	0	0	0	0	
Signals (Wayside)												
Phase Sel & Tru-II	T.F.	55	1,056	58,080	0	29,040	1,597,200	8,448	464,640	528	29,040	
Cab Signals	T.F.	7		0	0	0	0	0	0	0	0	
TOTAL COST				96,096	0		3,822,640		768,768		48,048	

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
 COMMUTER & FREIGHT
 SEGMENT COSTS RELATED TO ELECTRIFICATION**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#51		#52		#53		#54		#55	
<u>Stabilize Track for Electrification</u>												
Single Track	T.F.	6	528	3,168	32,736	196,416	42,240	253,440	33,792	202,752	15,840	95,040
<u>Overhead Utility Relocations</u>	L.S.	16,000		0	3	48,000	1	16,000	3	48,000	0	0
<u>Underground Utility Relocations</u>	L.F.	0		0		0		0		0		0
<u>Right-of-Way Acquisition</u>	Ac.	800,000		0		0		0		0		0
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>		0.20		0		0		0		0		0
<u>Site Demolition</u>	C.Y.	80		0		0		0		0		0
<u>Shops & Ancillary Facilities</u>	L.S.	40,000,000		0		0		0		0		0
<u>Locomotive Change Facilities</u>	L.S.	4,000,000 / 6,000,000		0		0		0		0		0
<u>Electric Locomotives</u>	L.S.			0		0		0		0		0
Passenger	EA	5,250,000		0		0		0		0		0
Freight	EA	4,000,000		0		0		0		0		0
<u>Crossing Warning Systems</u>	EA	100,000		0	7	700,000	2	200,000	7	700,000		0

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER & FREIGHT
SEGMENT COSTS RELATED TO ELECTRIFICATION**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#51		#52		#53		#54		#55	
Communications												
SCADA (Supervisory Control)												
	R.F.	30	528	15,840	16,368	491,040	18,480	554,400	14,256	427,680	5,280	158,400
Control Center	L.S.	10,000,000		0		0		0		0		0
Overhead Bridge Clearance Improvements (Including Approaches)												
Vertical Clearance Improvements												
	L.S.	600,000		0		0		0		0		0
	L.S.	700,000										
	L.S.	1,000,000										
Track Lowering												
Single Track (12"Av)	T.F.	40		0		0	2,000	80,000	2,000	80,000		0
Tunnel Modifications												
Track Lowering	T.F.	500		0		0		0		0		0
Structural Mod.	R.F.	3,000		0		0		0		0		0
Signals (Wayside)												
Phase Sel & Tru-II	T.F.	55	528	29,040	32,746	1,801,030	36,960	2,032,800	28,512	1,568,160	5,280	290,400
Cab Signals	T.F.	7		0		0		0		0		0
TOTAL COST				48,048		3,236,486		3,136,640		3,026,592		543,840

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
 COMMUTER & FREIGHT
 SEGMENT COSTS RELATED TO ELECTRIFICATION**

	Units	Unit Costs	#56		#57		#58		#59		#60	
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
<u>Stabilize Track for Electrification</u>												
Single Track	T.F.	6	136,224	817,344	158,400	950,400	216,480	1,298,880	394,944	2,369,664	208,032	1,248,192
<u>Overhead Utility Relocations</u>	L.S.	16,000	1	16,000	0	0	0	0	5	80,000		0
<u>Underground Utility Relocations</u>	L.F.	0		0		0		0		0		0
<u>Right-of-Way Acquisition</u>	Ac.	800,000		0		0		0		0		0
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>		0.20		0		0		0		0		0
<u>Site Demolition</u>	C.Y.	80		0		0		0		0		0
<u>Shops & Ancillary Facilities</u>	L.S.	40,000,000		0		0		0		0		0
<u>Locomotive Change Facilities</u>	L.S.	4,000,000 / 6,000,000		0		0		0		0		0
<u>Electric Locomotives</u>	L.S.			0		0		0		0		0
Passenger	EA	5,250,000		0		0		0		0		0
Freight	EA	4,000,000		0		0		0		0		0
<u>Crossing Warning Systems</u>	EA	100,000	3	300,000	1	100,000		0	10	1,000,000		0

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER & FREIGHT
SEGMENT COSTS RELATED TO ELECTRIFICATION**

	Units	Unit Costs	#56		#57		#58		#59		#60	
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
Communications												
<u>SCADA (Supervisory Control)</u>	R.F.	30	61,776	1,853,280	76,560	2,296,800	102,960	3,088,800	194,832	5,844,960	38,016	1,140,480
<u>Control Center</u>	L.S.	10,000,000		0		0		0		0		0
Overhead Bridge Clearance Improvements (Including Approaches)												
Vertical Clearance Improvements	L.S.	600,000		0		0		0		0		0
	L.S.	700,000										
	L.S.	1,000,000										
Track Lowering												
Single Track (12"Av)	T.F.	40		0	2,000	80,000	4,000	160,000		0		0
Tunnel Modifications												
Track Lowering	T.F.	500		0		0		0		0		0
Structural Mod.	R.F.	3,000		0		0		0		0		0
Signals (Wayside)												
Phase Sel & Tru-II	T.F.	55	125,664	6,911,520	153,120	8,421,600	205,920	11,325,600	389,664	21,431,520	76,032	4,181,760
Cab Signals	T.F.	7		0		0		0		0		0
TOTAL COST				9,898,144		11,848,800		15,873,280		30,726,144		6,570,432

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
 COMMUTER & FREIGHT
 SEGMENT COSTS RELATED TO ELECTRIFICATION**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#61		#62		#63		#64		#65	
<u>Stabilize Track for Electrification</u>												
Single Track	T.F.	6	107,712	646,272	41,184	247,104	50,160	300,960		0		0
<u>Overhead Utility Relocations</u>	L.S.	16,000		0		0		0		0		0
<u>Underground Utility Relocations</u>	L.F.	0		0		0		0		0		0
<u>Right-of-Way Acquisition</u>	Ac.	800,000		0		0		0		0		0
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>		0.20		0		0		0		0		0
<u>Site Demolition</u>	C.Y.	80		0		0		0		0		0
<u>Shops & Ancillary Facilities</u>	L.S.	40,000,000		0		0		0		0		0
<u>Locomotive Change Facilities</u>	L.S.	4,000,000 / 6,000,000		0		0		0		0		0
<u>Electric Locomotives</u>	L.S.			0		0		0		0		0
Passenger	EA	5,250,000		0		0		0		0		0
Freight	EA	4,000,000		0		0		0		0		0
<u>Crossing Warning Systems</u>	EA	100,000		0		0	1	100,000		0		0

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER & FREIGHT
SEGMENT COSTS RELATED TO ELECTRIFICATION**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#61		#62		#63		#64		#65	
Communications												
SCADA (Supervisory Control)												
	R.F.	30	27,466	823,980	30,624	918,720	41,184	1,235,520		0		0
Control Center												
	L.S.	10,000,000		0		0		0		0		0
Overhead Bridge Clearance Improvements (Including Approaches)												
Vertical Clearance Improvements												
	L.S.	600,000		0		0		0		0		0
	L.S.	700,000										
	L.S.	1,000,000										
Track Lowering												
	T.F.	40		0	1,000	40,000		0		0		0
Tunnel Modifications												
	T.F.	500		0		0		0		0		0
	R.F.	3,000		0		0		0		0		0
Signals (Wayside)												
	T.F.	55	54,912	3,020,160	41,184	2,265,120	50,160	2,758,800		0		0
	T.F.	7		0		0		0		0		0
TOTAL COST				4,490,412	3,470,944	4,395,280		0		0		0

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
 COMMUTER & FREIGHT
 SEGMENT COSTS RELATED TO ELECTRIFICATION**

	Units	Unit Costs	#66		#67		#68		#69		#70	
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
<u>Stabilize Track for Electrification</u>												
Single Track	T.F.	6	528	3,168	0	67,056	402,336	203,808	1,222,848	27,456	164,736	
<u>Overhead Utility Relocations</u>	L.S.	16,000		0	0	21	336,000	27	432,000	3	48,000	
<u>Underground Utility Relocations</u>	L.F.	0		0	0		0		0		0	
<u>Right-of-Way Acquisition</u>	Ac.	800,000		0	0		0		0		0	
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>		0.20		0	0		0		0		0	
<u>Site Demolition</u>	C.Y.	80		0	0		0		0		0	
<u>Shops & Ancillary Facilities</u>	L.S.	40,000,000		0	0		0		0		0	
<u>Locomotive Change Facilities</u>	L.S.	4,000,000 / 6,000,000		0	0		0		0		0	
<u>Electric Locomotives</u>	L.S.			0	0		0		0		0	
Passenger	EA	5,250,000		0	0		0		0		0	
Freight	EA	4,000,000		0	0		0		0		0	
<u>Crossing Warning Systems</u>	EA	100,000		0	0	42	4,200,000	54	5,400,000	6	600,000	

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER & FREIGHT
SEGMENT COSTS RELATED TO ELECTRIFICATION**

	Units	Unit Costs	#66		#67		#68		#69		#70	
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
Communications												
SCADA (Supervisory Control)												
R.F.	30		528	15,840	0	0	63,360	1,900,800	190,080	5,702,400	19,536	586,080
Control Center	L.S.	10,000,000		0	0	0	0	0	0	0	0	0
Overhead Bridge Clearance Improvements (Including Approaches)												
Vertical Clearance Improvements												
L.S.	600,000			0	0	0	0	0	0	0	0	0
L.S.	700,000											
L.S.	1,000,000											
Track Lowering												
Single Track (12"Av)	T.F.	40		0	0	1,000	40,000	7,000	280,000			0
Tunnel Modifications												
Track Lowering	T.F.	500		0	0	0	0	0	0	0	0	0
Structural Mod.	R.F.	3,000		0	0	0	0	0	0	0	0	0
Signals (Wayside)												
Phase Sel & Tru-II	T.F.	55	528	29,040	0	67,056	3,688,080	203,808	11,209,440	27,456	1,510,080	0
Cab Signals	T.F.	7		0	0	0	0	0	0	0	0	0
TOTAL COST				48,048	0		10,567,216		24,246,688			2,908,896

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICA
COMMUTER & FREIGHT
SEGMENT COSTS RELATED TO ELECTRIFICATION**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>TOTAL QUANTITY</u>	<u>TOTAL COST</u>
			#71		#72			
<u>Stabilize Track for Electrification</u>								
Single Track	T.F.	6	14,256	85,536	191,136	1,146,816	7,669,200	46,015,200
<u>Overhead Utility Relocations</u>	L.S.	16,000	1	16,000	3	48,000	266	4,256,000
<u>Underground Utility Relocations</u>	L.F.	0		0		0	0	0
<u>Right-of-Way Acquisition</u>	Ac.	800,000		0		0	0	0
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>		0.20		0		0	0	0
<u>Site Demolition</u>	C.Y.	80		0		0	0	0
<u>Shops & Ancillary Facilities</u>	L.S.	40,000,000		0		0	0	0
<u>Locomotive Change Facilities</u>	L.S.	4,000,000 / 6,000,000		0		0	0	0
<u>Electric Locomotives</u>	L.S.			0		0	0	0
Passenger	EA	5,250,000		0		0	0	0
Freight	EA	4,000,000		0		0	0	0
<u>Crossing Warning Systems</u>	EA	100,000	2	200,000	6	600,000	558	55,800,000

SEG72.WK! 28-Jan-92

**CIVIL, STRUCTURAL, SIGNAL & SCADA SEGMENT COSTS RELATED TO ELECTRIFICA
COMMUTER & FREIGHT
SEGMENT COSTS RELATED TO ELECTRIFICATION**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u> #71	<u>Cost</u>	<u>Quantity</u> #72	<u>Cost</u>	<u>TOTAL QUANTITY</u>	<u>TOTAL COST</u>
Communications								
SCADA (Supervisory Control)	R.F.	30	4,224	126,720	95,568	2,867,040	4,251,994	127,559,820
Control Center	L.S.	10,000,000		0		0	0	0
Overhead Bridge Clearance Improvements (Including Approaches)								
Vertical Clearance Improvements	L.S.	600,000		0		0	0	0
	L.S.	700,000						
	L.S.	1,000,000						
Track Lowering								
Single Track (12"Av)	T.F.	40		0	3,000	120,000	104,000	4,160,000
Tunnel Modifications								
Track Lowering	T.F.	500		0		0	14,940	7,470,000
Structural Mod.	R.F.	3,000		0		0	770	2,310,000
Signals (Wayside)								
Phase Sel & Tru-II	T.F.	55	14,256	784,080	191,136	10,512,480	6,875,376	378,145,680
Cab Signals	T.F.	7		0		0	504,892	3,534,244
TOTAL COST				1,212,336		15,294,336	19,421,996	629,250,944

APPENDIX 7-3

TOTAL COSTS* RELATED TO ELECTRIFICATION
(No Segments Duplicated)
25Kv Desirable

<u>ELEMENTS</u>	COMMUTER ONLY		COMMUTER & FREIGHT	
	<u>CONSTRUCTION COST</u> (A)	<u>TOTAL COST</u> (N)	<u>CONSTRUCTION COST</u> (A)	<u>TOTAL COST</u> (N)
CIVIL, STRUCTURAL & SIGNAL COSTS	385,754,212.00	772,884,795.03	675,580,944.00	1,353,572,360.81
SYS.-WIDE TRACTION ELECT. COSTS	371,306,000.00	758,912,819.81	888,988,000.00	1,831,835,909.18
SHOPS & ANCILLARY FACILITIES	0.00	0.00	40,000,000.00	80,142,720.00
LOCOMOTIVE CHANGE FACILITIES	0.00	0.00	34,000,000.00	68,121,312.00
CONTROL CENTER	5,000,000.00	10,017,840.00	10,000,000.00	20,035,680.00
TOTAL	762,060,212.00	1,541,815,454.84	1,648,568,944.00	3,353,707,981.99

*(Locomotives not included)

SYSTEM-WIDE TRACTION ELECTRIFICATION COSTS (NO SEGMENTS DUPLICATED)
25Kv Desirable

<u>PROJECT ADD-ONS</u>	<u>COMMUTER ONLY</u> <u>AMT.</u>	<u>COMMUTER & FREIGHT</u> <u>AMT.</u>
A. Construction	371,306,000.00	888,988,000.00
B. Locomotives		
C. Contractors Mobilization/Demobilization (5% of A)	18,565,300.00	44,449,400.00
D. Testing and Operations Mobilization (2% of A)	7,426,120.00	17,779,760.00
E. Owners Insurance (8% of A)	29,704,480.00	71,119,040.00
F. Mitigation (2% of A)	7,426,120.00	17,779,760.00
G. Right-of-Way	12,480,000.00	42,240,000.00
H. Force Account (8% of A)	29,704,480.00	71,119,040.00
I. Employee Training (3% of A)	11,139,180.00	26,669,640.00
J. Construction Change Orders (12% of A & F, 2% of B)	45,447,854.40	108,812,131.20
K. Project Services (25% of A & F, 1% of B, 10% of J)	99,227,815.44	237,573,153.12
L. Subtotal (A thru K)	632,427,349.84	1,526,529,924.32
M. Project Reserve (20% of L)	126,485,469.97	305,305,984.86
N. Total Cost in 1992 Dollars (L + M)	758,912,819.81	1,831,835,909.18
O. Annual Inflation:		
4% 1992 thru 1995		
5% 1995 thru 2000		
6% 2001 thru 2010		

SUMMARY OF COSTS BY ROUTE* COSTS RELATED TO ELECTRIFICATION
25Kv Desirable

*Locomotives, Shops & Ancillary Facilities, Locomotive Change Facilities and Control Center not included

COMMUTER ONLY

<u>ROUTE</u>	<u>DESCRIPTION</u>	<u>RTE. MILES</u>	<u>UNDUPLICATED RTE. MILES</u>	<u>DUPLICATED CONSTRUCTION COSTS (A)</u>	<u>DUPLICATED TOTAL COST (N)</u>
1.	UP/SP Corridor	394	394	66,546,458.00	144,850,353.76
2.	Baldwin Park Commuter	57	57	93,494,320.00	189,626,227.73
3.	Moorpark Commuter	48	46	112,205,256.00	227,114,860.35
4.	Santa Clarita Commuter	35	24	86,664,880.00	174,790,980.29
5.	Lossan Corridor	134	133	251,709,820.00	508,925,740.64
6.	Riverside Via Ontario	59	24	110,279,602.00	223,256,681.62
7.	Riverside - Laupt via Fullerton	62	35	127,988,720.00	258,738,103.75
8.	Hemet - Riverside	39	39	54,627,174.00	110,601,257.76
9.	San Bernardino - Irvine	53	13	107,297,534.00	217,281,905.60
10.	Redlands Commuter	12	12	18,997,216.00	39,214,214.07
11.	Southern Pacific Routes Ports to Yuma	282	16	318,444,360.00	638,624,929.48
12.	Santa Fe Ports to Barstow	176	0	135,653,390.00	277,550,791.30
13.	Union Pacific Ports to Yermo	187	0	119,334,448.00	243,702,681.31

SUMMARY OF COSTS BY ROUTE* COSTS RELATED TO ELECTRIFICATION
25Kv Desirable

*Locomotives, Shops & Ancillary Facilities, Locomotive Change Facilities and Control Center not included

COMMUTER & FREIGHT

<u>ROUTE</u>	<u>DESCRIPTION</u>	<u>RTE. MILES</u>	<u>UNDUPLICATED RTE. MILES</u>	<u>DUPLICATED CONSTRUCTION COSTS (A)</u>	<u>DUPLICATED TOTAL COST (N)</u>
1.	UP/SP Corridor	394	394	746,725,526.00	1,518,003,368.68
2.	Baldwin Park Commuter	57	57	93,494,320.00	189,626,227.73
3.	Moorpark Commuter	48	46	112,205,256.00	227,114,860.35
4.	Santa Clarita Commuter	35	24	86,664,880.00	174,790,980.29
5.	Lossan Corridor	134	133	280,102,300.00	569,268,005.01
6.	Riverside Via Ontario	59	24	126,083,922.00	256,073,711.43
7.	Riverside - Laupt via Fullerton	62	35	143,801,496.00	291,572,075.74
8.	Hemet - Riverside	39	39	54,627,174.00	110,601,257.76
9.	San Bernardino - Irvine	53	13	127,935,550.00	259,783,574.04
10.	Redlands Commuter	12	12	18,997,216.00	39,214,214.07
11.	Southern Pacific Routes Ports to Yuma	282	16	512,363,224.00	1,042,682,559.98
12.	Santa Fe Ports to Barstow	176	0	370,955,726.00	752,451,022.03
13.	Union Pacific Ports to Yermo	187	0	396,729,044.00	805,241,617.23

SUMMARY OF COSTS BY ROUTE* COSTS RELATED TO ELECTRIFICATION
25Kv Desirable

*Locomotives, Shops & Ancillary Facilities, Locomotive Change Facilities and Control Center not included

COMMUTER ONLY (NO SEGMENTS DUPLICATED)

<u>ROUTE</u>	<u>DESCRIPTION</u>	<u>RTE. MILES</u>	<u>UNDUPLICATED RTE. MILES</u>	<u>UNDUPLICATED CONSTRUCTION COSTS</u> (A)	<u>UNDUPLICATED TOTAL COST</u> (N)
1.	UP/SP Corridor	394	394	29,143,458.00	58,390,899.86
2.	Baldwin Park Commuter	57	57	44,533,320.00	89,225,534.89
3.	Moorpark Commuter	48	46	60,245,032.00	120,705,018.27
4.	Santa Clarita Commuter	35	24	37,950,888.00	76,037,184.77
5.	Lossan Corridor	134	133	116,638,884.00	233,693,935.54
6.	Riverside Via Ontario	59	24	20,587,920.00	41,249,297.70
7.	Riverside - Laupt via Fullerton	62	35	27,449,648.00	54,997,236.34
8.	Hemet - Riverside	39	39	27,723,174.00	55,545,264.28
9.	San Bernardino - Irvine	53	13	10,674,672.00	21,387,431.23
10.	Redlands Commuter	12	12	10,647,216.00	21,332,421.27
11.	Southern Pacific Routes Ports to Yuma	282	16	0.00	0.00
12.	Santa Fe Ports to Barstow	176	0	160,000.00	320,570.88
13.	Union Pacific Ports to Yermo	187	0	0.00	0.00
TOTAL:				385,754,212.00	772,884,795.03

SUMMARY OF COSTS BY ROUTE* COSTS RELATED TO ELECTRIFICATION
25Kv Desirable

*Locomotives, Shops & Ancillary Facilities, Locomotive Change Facilities and Control Center not included

COMMUTER & FREIGHT (NO SEGMENTS DUPLICATED)

<u>ROUTE</u>	<u>DESCRIPTION</u>	<u>RTE. MILES</u>	<u>UNDUPLICATED RTE. MILES</u>	<u>UNDUPLICATED CONSTRUCTION COSTS (A)</u>	<u>UNDUPLICATED TOTAL COST (N)</u>
1.	UP/SP Corridor	394	394	288,034,526.00	577,096,759.19
2.	Baldwin Park Commuter	57	57	44,533,320.00	89,225,534.89
3.	Moorpark Commuter	48	46	60,245,032.00	120,705,018.27
4.	Santa Clarita Commuter	35	24	37,950,888.00	76,037,184.77
5.	Lossan Corridor	134	133	116,987,364.00	234,392,138.91
6.	Riverside Via Ontario	59	24	20,746,320.00	41,566,662.87
7.	Riverside - Laught via Fullerton	62	35	33,794,624.00	67,709,827.22
8.	Hemet - Riverside	39	39	27,723,174.00	55,545,264.28
9.	San Bernardino - Irvine	53	13	10,769,712.00	21,577,850.33
10.	Redlands Commuter	12	12	10,647,216.00	21,332,421.27
11.	Southern Pacific Routes Ports to Yuma	282	16	13,702,336.00	27,453,561.93
12.	Santa Fe Ports to Barstow	176	0	10,446,432.00	20,930,136.87
13.	Union Pacific Ports to Yermo	187	0	0.00	0.00
<u>TOTAL:</u>				675,580,944.00	1,353,572,360.81

ROUTE 1 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	746,725,526.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	37,336,276.30
D. Testing and Operations Mobilization (2% of A)	14,934,510.52
E. Owners Insurance (8% of A)	59,738,042.08
F. Mitigation (2% of A)	14,934,510.52
G. Right-of-Way	18,240,000.00
H. Force Account (8% of A)	59,738,042.08
I. Employee Training (3% of A)	22,401,765.78
J. Construction Change Orders (12% of A & F, 2% of B)	91,399,204.38
K. Project Services (25% of A & F, 1% of B, 10% of J)	199,554,929.57
L. Subtotal (A thru K)	1,265,002,807.23
M. Project Reserve (20% of L)	253,000,561.45
N. Total Cost in 1992 Dollars (L + M)	1,518,003,368.68
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 2 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	93,494,320.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	4,674,716.00
D. Testing and Operations Mobilization (2% of A)	1,869,886.40
E. Owners Insurance (8% of A)	7,479,545.60
F. Mitigation (2% of A)	1,869,886.40
G. Right-of-Way	1,920,000.00
H. Force Account (8% of A)	7,479,545.60
I. Employee Training (3% of A)	2,804,829.60
J. Construction Change Orders (12% of A & F, 2% of B)	11,443,704.77
K. Project Services (25% of A & F, 1% of B, 10% of J)	24,985,422.08
L. Subtotal (A thru K)	158,021,856.44
M. Project Reserve (20% of L)	31,604,371.29
N. Total Cost in 1992 Dollars (L + M)	189,626,227.73
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 3 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	112,205,256.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	5,610,262.80
D. Testing and Operations Mobilization (2% of A)	2,244,105.12
E. Owners Insurance (8% of A)	8,976,420.48
F. Mitigation (2% of A)	2,244,105.12
G. Right-of-Way	1,920,000.00
H. Force Account (8% of A)	8,976,420.48
I. Employee Training (3% of A)	3,366,157.68
J. Construction Change Orders (12% of A & F, 2% of B)	13,733,923.33
K. Project Services (25% of A & F, 1% of B, 10% of J)	29,985,732.61
L. Subtotal (A thru K)	189,262,383.63
M. Project Reserve (20% of L)	37,852,476.73
N. Total Cost in 1992 Dollars (L + M)	227,114,860.35
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 4 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	86,664,880.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	4,333,244.00
D. Testing and Operations Mobilization (2% of A)	1,733,297.60
E. Owners Insurance (8% of A)	6,933,190.40
F. Mitigation (2% of A)	1,733,297.60
G. Right-of-Way	960,000.00
H. Force Account (8% of A)	6,933,190.40
I. Employee Training (3% of A)	2,599,946.40
J. Construction Change Orders (12% of A & F, 2% of B)	10,607,781.31
K. Project Services (25% of A & F, 1% of B, 10% of J)	23,160,322.53
L. Subtotal (A thru K)	145,659,150.24
M. Project Reserve (20% of L)	29,131,830.05
N. Total Cost in 1992 Dollars (L + M)	174,790,980.29
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops and Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 5 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	280,102,300.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	14,005,115.00
D. Testing and Operations Mobilization (2% of A)	5,602,046.00
E. Owners Insurance (8% of A)	22,408,184.00
F. Mitigation (2% of A)	5,602,046.00
G. Right-of-Way	6,720,000.00
H. Force Account (8% of A)	22,408,184.00
I. Employee Training (3% of A)	8,403,069.00
J. Construction Change Orders (12% of A & F, 2% of B)	34,284,521.52
K. Project Services (25% of A & F, 1% of B, 10% of J)	74,854,538.65
L. Subtotal (A thru K)	474,390,004.17
M. Project Reserve (20% of L)	94,878,000.83
N. Total Cost in 1992 Dollars (L + M)	569,268,005.01
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 6 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	126,083,922.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	6,304,196.10
D. Testing and Operations Mobilization (2% of A)	2,521,678.44
E. Owners Insurance (8% of A)	10,086,713.76
F. Mitigation (2% of A)	2,521,678.44
G. Right-of-Way	2,880,000.00
H. Force Account (8% of A)	10,086,713.76
I. Employee Training (3% of A)	3,782,517.66
J. Construction Change Orders (12% of A & F, 2% of B)	15,432,672.05
K. Project Services (25% of A & F, 1% of B, 10% of J)	33,694,667.32
L. Subtotal (A thru K)	213,394,759.53
M. Project Reserve (20% of L)	42,678,951.91
N. Total Cost in 1992 Dollars (L + M)	256,073,711.43
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 7 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	143,801,496.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	7,190,074.80
D. Testing and Operations Mobilization (2% of A)	2,876,029.92
E. Owners Insurance (8% of A + 2% of B)	11,504,119.68
F. Mitigation (2% of A)	2,876,029.92
G. Right-of-Way	2,880,000.00
H. Force Account (8% of A)	11,504,119.68
I. Employee Training (3% of A)	4,314,044.88
J. Construction Change Orders (12% of A & F, 2% of B)	17,601,303.11
K. Project Services (25% of A & F, 1% of B, 10% of J)	38,429,511.79
L. Subtotal (A thru K)	242,976,729.78
M. Project Reserve (20% of L)	48,595,345.96
N. Total Cost in 1992 Dollars (L + M)	291,572,075.74
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 8 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	54,627,174.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	2,731,358.70
D. Testing and Operations Mobilization (2% of A)	1,092,543.48
E. Owners Insurance (8% of A + 2% of B)	4,370,173.92
F. Mitigation (2% of A)	1,092,543.48
G. Right-of-Way	960,000.00
H. Force Account (8% of A)	4,370,173.92
I. Employee Training (3% of A)	1,638,815.22
J. Construction Change Orders (12% of A & F, 2% of B)	6,686,366.10
K. Project Services (25% of A & F, 1% of B, 10% of J)	14,598,565.98
L. Subtotal (A thru K)	92,167,714.80
M. Project Reserve (20% of L)	18,433,542.96
N. Total Cost in 1992 Dollars (L + M)	110,601,257.76
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops and Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 9 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	127,935,550.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	6,396,777.50
D. Testing and Operations Mobilization (2% of A)	2,558,711.00
E. Owners Insurance (8% of A)	10,234,844.00
F. Mitigation (2% of A)	2,558,711.00
G. Right-of-Way	2,880,000.00
H. Force Account (8% of A)	10,234,844.00
I. Employee Training (3% of A)	3,838,066.50
J. Construction Change Orders (12% of A & F, 2% of B)	15,659,311.32
K. Project Services (25% of A & F, 1% of B, 10% of J)	34,189,496.38
L. Subtotal (A thru K)	216,486,311.70
M. Project Reserve (20% of L)	43,297,262.34
N. Total Cost in 1992 Dollars (L + M)	259,783,574.04
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 10 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	18,997,216.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	949,860.80
D. Testing and Operations Mobilization (2% of A)	379,944.32
E. Owners Insurance (8% of A)	1,519,777.28
F. Mitigation (2% of A)	379,944.32
G. Right-of-Way	960,000.00
H. Force Account (8% of A)	1,519,777.28
I. Employee Training (3% of A)	569,916.48
J. Construction Change Orders (12% of A & F, 2% of B)	2,325,259.24
K. Project Services (25% of A & F, 1% of B, 10% of J)	5,076,816.00
L. Subtotal (A thru K)	32,678,511.72
M. Project Reserve (20% of L)	6,535,702.34
N. Total Cost in 1992 Dollars (L + M)	39,214,214.07
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 11 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	512,363,224.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	25,618,161.20
D. Testing and Operations Mobilization (2% of A)	10,247,264.48
E. Owners Insurance (8% of A)	40,989,057.92
F. Mitigation (2% of A)	10,247,264.48
G. Right-of-Way	13,440,000.00
H. Force Account (8% of A)	40,989,057.92
I. Employee Training (3% of A)	15,370,896.72
J. Construction Change Orders (12% of A & F, 2% of B)	62,713,258.62
K. Project Services (25% of A & F, 1% of B, 10% of J)	136,923,947.98
L. Subtotal (A thru K)	868,902,133.32
M. Project Reserve (20% of L)	173,780,426.66
N. Total Cost in 1992 Dollars (L + M)	1,042,682,559.98
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 12 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	370,955,726.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	18,547,786.30
D. Testing and Operations Mobilization (2% of A)	7,419,114.52
E. Owners Insurance (8% of A)	29,676,458.08
F. Mitigation (2% of A)	7,419,114.52
G. Right-of-Way	7,680,000.00
H. Force Account (8% of A)	29,676,458.08
I. Employee Training (3% of A)	11,128,671.78
J. Construction Change Orders (12% of A & F, 2% of B)	45,404,980.86
K. Project Services (25% of A & F, 1% of B, 10% of J)	99,134,208.22
L. Subtotal (A thru K)	627,042,518.36
M. Project Reserve (20% of L)	125,408,503.67
N. Total Cost in 1992 Dollars (L + M)	752,451,022.03
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops and Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 13 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	396,729,044.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	19,836,452.20
D. Testing and Operations Mobilization (2% of A)	7,934,580.88
E. Owners Insurance (8% of A)	31,738,323.52
F. Mitigation (2% of A)	7,934,580.88
G. Right-of-Way	8,640,000.00
H. Force Account (8% of A)	31,738,323.52
I. Employee Training (3% of A)	11,901,871.32
J. Construction Change Orders (12% of A & F, 2% of B)	48,559,634.99
K. Project Services (25% of A & F, 1% of B, 10% of J)	106,021,869.72
L. Subtotal (A thru K)	671,034,681.02
M. Project Reserve (20% of L)	134,206,936.20
N. Total Cost in 1992 Dollars (L + M)	805,241,617.23
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops and Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 1 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	288,034,526.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	14,401,726.30
D. Testing and Operations Mobilization (2% of A)	5,760,690.52
E. Owners Insurance (8% of A)	23,042,762.08
F. Mitigation (2% of A)	5,760,690.52
G. Right-of-Way	
H. Force Account (8% of A)	23,042,762.08
I. Employee Training (3% of A)	8,641,035.78
J. Construction Change Orders (12% of A & F, 2% of B)	35,255,425.98
K. Project Services (25% of A & F, 1% of B, 10% of J)	76,974,346.73
L. Subtotal (A thru K)	480,913,965.99
M. Project Reserve (20% of L)	96,182,793.20
N. Total Cost in 1992 Dollars (L + M)	577,096,759.19
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 2 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	44,533,320.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	2,226,666.00
D. Testing and Operations Mobilization (2% of A)	890,666.40
E. Owners Insurance (8% of A)	3,562,665.60
F. Mitigation (2% of A)	890,666.40
G. Right-of-Way	
H. Force Account (8% of A)	3,562,665.60
I. Employee Training (3% of A)	1,335,999.60
J. Construction Change Orders (12% of A & F, 2% of B)	5,450,878.37
K. Project Services (25% of A & F, 1% of B, 10% of J)	11,901,084.44
L. Subtotal (A thru K)	74,354,612.40
M. Project Reserve (20% of L)	14,870,922.48
N. Total Cost in 1992 Dollars (L + M)	89,225,534.89
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 3 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	60,245,032.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	3,012,251.60
D. Testing and Operations Mobilization (2% of A)	1,204,900.64
E. Owners Insurance (8% of A)	4,819,602.56
F. Mitigation (2% of A)	1,204,900.64
G. Right-of-Way	
H. Force Account (8% of A)	4,819,602.56
I. Employee Training (3% of A)	1,807,350.96
J. Construction Change Orders (12% of A & F, 2% of B)	7,373,991.92
K. Project Services (25% of A & F, 1% of B, 10% of J)	16,099,882.35
L. Subtotal (A thru K)	100,587,515.23
M. Project Reserve (20% of L)	20,117,503.05
N. Total Cost in 1992 Dollars (L + M)	120,705,018.27
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 4 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	37,950,888.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	1,897,544.40
D. Testing and Operations Mobilization (2% of A)	759,017.76
E. Owners Insurance (8% of A)	3,036,071.04
F. Mitigation (2% of A)	759,017.76
G. Right-of-Way	
H. Force Account (8% of A)	3,036,071.04
I. Employee Training (3% of A)	1,138,526.64
J. Construction Change Orders (12% of A & F, 2% of B)	4,645,188.69
K. Project Services (25% of A & F, 1% of B, 10% of J)	10,141,995.31
L. Subtotal (A thru K)	63,364,320.64
M. Project Reserve (20% of L)	12,672,864.13
N. Total Cost in 1992 Dollars (L + M)	76,037,184.77
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops and Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 5 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	116,987,364.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	5,849,368.20
D. Testing and Operations Mobilization (2% of A)	2,339,747.28
E. Owners Insurance (8% of A)	9,358,989.12
F. Mitigation (2% of A)	2,339,747.28
G. Right-of-Way	
H. Force Account (8% of A)	9,358,989.12
I. Employee Training (3% of A)	3,509,620.92
J. Construction Change Orders (12% of A & F, 2% of B)	14,319,253.35
K. Project Services (25% of A & F, 1% of B, 10% of J)	31,263,703.16
L. Subtotal (A thru K)	195,326,782.43
M. Project Reserve (20% of L)	39,065,356.49
N. Total Cost in 1992 Dollars (L + M)	234,392,138.91
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 6 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	20,746,320.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	1,037,316.00
D. Testing and Operations Mobilization (2% of A)	414,926.40
E. Owners Insurance (8% of A)	1,659,705.60
F. Mitigation (2% of A)	414,926.40
G. Right-of-Way	
H. Force Account (8% of A)	1,659,705.60
I. Employee Training (3% of A)	622,389.60
J. Construction Change Orders (12% of A & F, 2% of B)	2,539,349.57
K. Project Services (25% of A & F, 1% of B, 10% of J)	5,544,246.56
L. Subtotal (A thru K)	34,638,885.72
M. Project Reserve (20% of L)	6,927,777.14
N. Total Cost in 1992 Dollars (L + M)	41,566,662.87
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 7 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	33,794,624.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	1,689,731.20
D. Testing and Operations Mobilization (2% of A)	675,892.48
E. Owners Insurance (8% of A + 2% of B)	2,703,569.92
F. Mitigation (2% of A)	675,892.48
G. Right-of-Way	
H. Force Account (8% of A)	2,703,569.92
I. Employee Training (3% of A)	1,013,838.72
J. Construction Change Orders (12% of A & F, 2% of B)	4,136,461.98
K. Project Services (25% of A & F, 1% of B, 10% of J)	9,031,275.32
L. Subtotal (A thru K)	56,424,856.02
M. Project Reserve (20% of L)	11,284,971.20
N. Total Cost in 1992 Dollars (L + M)	67,709,827.22
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 8 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	27,723,174.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	1,386,158.70
D. Testing and Operations Mobilization (2% of A)	554,463.48
E. Owners Insurance (8% of A + 2% of B)	2,217,853.92
F. Mitigation (2% of A)	554,463.48
G. Right-of-Way	
H. Force Account (8% of A)	2,217,853.92
I. Employee Training (3% of A)	831,695.22
J. Construction Change Orders (12% of A & F, 2% of B)	3,393,316.50
K. Project Services (25% of A & F, 1% of B, 10% of J)	7,408,741.02
L. Subtotal (A thru K)	46,287,720.24
M. Project Reserve (20% of L)	9,257,544.05
N. Total Cost in 1992 Dollars (L + M)	55,545,264.28
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops and Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 9 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	10,769,712.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	538,485.60
D. Testing and Operations Mobilization (2% of A)	215,394.24
E. Owners Insurance (8% of A)	861,576.96
F. Mitigation (2% of A)	215,394.24
G. Right-of-Way	
H. Force Account (8% of A)	861,576.96
I. Employee Training (3% of A)	323,091.36
J. Construction Change Orders (12% of A & F, 2% of B)	1,318,212.75
K. Project Services (25% of A & F, 1% of B, 10% of J)	2,878,097.83
L. Subtotal (A thru K)	17,981,541.94
M. Project Reserve (20% of L)	3,596,308.39
N. Total Cost in 1992 Dollars (L + M)	21,577,850.33
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 10 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	10,647,216.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	532,360.80
D. Testing and Operations Mobilization (2% of A)	212,944.32
E. Owners Insurance (8% of A)	851,777.28
F. Mitigation (2% of A)	212,944.32
G. Right-of-Way	
H. Force Account (8% of A)	851,777.28
I. Employee Training (3% of A)	319,416.48
J. Construction Change Orders (12% of A & F, 2% of B)	1,303,219.24
K. Project Services (25% of A & F, 1% of B, 10% of J)	2,845,362.00
L. Subtotal (A thru K)	17,777,017.72
M. Project Reserve (20% of L)	3,555,403.54
N. Total Cost in 1992 Dollars (L + M)	21,332,421.27
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 11 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	13,702,336.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	685,116.80
D. Testing and Operations Mobilization (2% of A)	274,046.72
E. Owners Insurance (8% of A)	1,096,186.88
F. Mitigation (2% of A)	274,046.72
G. Right-of-Way	
H. Force Account (8% of A)	1,096,186.88
I. Employee Training (3% of A)	411,070.08
J. Construction Change Orders (12% of A & F, 2% of B)	1,677,165.93
K. Project Services (25% of A & F, 1% of B, 10% of J)	3,661,812.27
L. Subtotal (A thru K)	22,877,968.28
M. Project Reserve (20% of L)	4,575,593.66
N. Total Cost in 1992 Dollars (L + M)	27,453,561.93
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 12 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	10,446,432.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	522,321.60
D. Testing and Operations Mobilization (2% of A)	208,928.64
E. Owners Insurance (8% of A)	835,714.56
F. Mitigation (2% of A)	208,928.64
G. Right-of-Way	
H. Force Account (8% of A)	835,714.56
I. Employee Training (3% of A)	313,392.96
J. Construction Change Orders (12% of A & F, 2% of B)	1,278,643.28
K. Project Services (25% of A & F, 1% of B, 10% of J)	2,791,704.49
L. Subtotal (A thru K)	17,441,780.72
M. Project Reserve (20% of L)	3,488,356.14
N. Total Cost in 1992 Dollars (L + M)	20,930,136.87
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops and Ancillary Fac., Locomotive Change Fac., and Control Center not included

<u>ROUTE 13 PROJECT ADD-ONS</u>	<u>AMT.</u>
A. Construction	0.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	0.00
D. Testing and Operations Mobilization (2% of A)	0.00
E. Owners Insurance (8% of A)	0.00
F. Mitigation (2% of A)	0.00
G. Right-of-Way	
H. Force Account (8% of A)	0.00
I. Employee Training (3% of A)	0.00
J. Construction Change Orders (12% of A & F, 2% of B)	0.00
K. Project Services (25% of A & F, 1% of B, 10% of J)	0.00
L. Subtotal (A thru K)	0.00
M. Project Reserve (20% of L)	0.00
N. Total Cost in 1992 Dollars (L + M)	0.00
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops and Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 1 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	66,546,458.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	3,327,322.90
D. Testing and Operations Mobilization (2% of A)	1,330,929.16
E. Owners Insurance (8% of A)	5,323,716.64
F. Mitigation (2% of A)	1,330,929.16
G. Right-of-Way	9,600,000.00
H. Force Account (8% of A)	5,323,716.64
I. Employee Training (3% of A)	1,996,393.74
J. Construction Change Orders (12% of A & F, 2% of B)	8,145,286.46
K. Project Services (25% of A & F, 1% of B, 10% of J)	17,783,875.44
L. Subtotal (A thru K)	120,708,628.14
M. Project Reserve (20% of L)	24,141,725.63
N. Total Cost in 1992 Dollars (L + M)	144,850,353.76
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 2 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	93,494,320.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	4,674,716.00
D. Testing and Operations Mobilization (2% of A)	1,869,886.40
E. Owners Insurance (8% of A)	7,479,545.60
F. Mitigation (2% of A)	1,869,886.40
G. Right-of-Way	1,920,000.00
H. Force Account (8% of A)	7,479,545.60
I. Employee Training (3% of A)	2,804,829.60
J. Construction Change Orders (12% of A & F, 2% of B)	11,443,704.77
K. Project Services (25% of A & F, 1% of B, 10% of J)	24,985,422.08
L. Subtotal (A thru K)	158,021,856.44
M. Project Reserve (20% of L)	31,604,371.29
N. Total Cost in 1992 Dollars (L + M)	189,626,227.73
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 3 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	112,205,256.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	5,610,262.80
D. Testing and Operations Mobilization (2% of A)	2,244,105.12
E. Owners Insurance (8% of A)	8,976,420.48
F. Mitigation (2% of A)	2,244,105.12
G. Right-of-Way	1,920,000.00
H. Force Account (8% of A)	8,976,420.48
I. Employee Training (3% of A)	3,366,157.68
J. Construction Change Orders (12% of A & F, 2% of B)	13,733,923.33
K. Project Services (25% of A & F, 1% of B, 10% of J)	29,985,732.61
L. Subtotal (A thru K)	189,262,383.63
M. Project Reserve (20% of L)	37,852,476.73
N. Total Cost in 1992 Dollars (L + M)	227,114,860.35
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 4 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	86,664,880.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	4,333,244.00
D. Testing and Operations Mobilization (2% of A)	1,733,297.60
E. Owners Insurance (8% of A)	6,933,190.40
F. Mitigation (2% of A)	1,733,297.60
G. Right-of-Way	960,000.00
H. Force Account (8% of A)	6,933,190.40
I. Employee Training (3% of A)	2,599,946.40
J. Construction Change Orders (12% of A & F, 2% of B)	10,607,781.31
K. Project Services (25% of A & F, 1% of B, 10% of J)	23,160,322.53
L. Subtotal (A thru K)	145,659,150.24
M. Project Reserve (20% of L)	29,131,830.05
N. Total Cost in 1992 Dollars (L + M)	174,790,980.29
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops & Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 5 PROJECT ADD - ONS

	<u>AMT.</u>
A. Construction	251,709,820.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	12,585,491.00
D. Testing and Operations Mobilization (2% of A)	5,034,196.40
E. Owners Insurance (8% of A)	20,136,785.60
F. Mitigation (2% of A)	5,034,196.40
G. Right-of-Way	3,840,000.00
H. Force Account (8% of A)	20,136,785.60
I. Employee Training (3% of A)	7,551,294.60
J. Construction Change Orders (12% of A & F, 2% of B)	30,809,281.97
K. Project Services (25% of A & F, 1% of B, 10% of J)	67,266,932.30
L. Subtotal (A thru K)	424,104,783.86
M. Project Reserve (20% of L)	84,820,956.77
N. Total Cost in 1992 Dollars (L + M)	508,925,740.64
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 6 PROJECT ADD - ONS

	<u>AMT.</u>
A. Construction	110,279,602.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	5,513,980.10
D. Testing and Operations Mobilization (2% of A)	2,205,592.04
E. Owners Insurance (8% of A)	8,822,368.16
F. Mitigation (2% of A)	2,205,592.04
G. Right-of-Way	1,920,000.00
H. Force Account (8% of A)	8,822,368.16
I. Employee Training (3% of A)	3,308,388.06
J. Construction Change Orders (12% of A & F, 2% of B)	13,498,223.28
K. Project Services (25% of A & F, 1% of B, 10% of J)	29,471,120.84
L. Subtotal (A thru K)	186,047,234.68
M. Project Reserve (20% of L)	37,209,446.94
N. Total Cost in 1992 Dollars (L + M)	223,256,681.62
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 7 PROJECT ADD - ONS

	<u>AMT.</u>
A. Construction	127,988,720.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	6,399,436.00
D. Testing and Operations Mobilization (2% of A)	2,559,774.40
E. Owners Insurance (8% of A)	10,239,097.60
F. Mitigation (2% of A)	2,559,774.40
G. Right-of-Way	1,920,000.00
H. Force Account (8% of A)	10,239,097.60
I. Employee Training (3% of A)	3,839,661.60
J. Construction Change Orders (12% of A & F, 2% of B)	15,665,819.33
K. Project Services (25% of A & F, 1% of B, 10% of J)	34,203,705.53
L. Subtotal (A thru K)	215,615,086.46
M. Project Reserve (20% of L)	43,123,017.29
N. Total Cost in 1992 Dollars (L + M)	258,738,103.75
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 8 PROJECT ADD - ONS

	<u>AMT.</u>
A. Construction	54,627,174.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	2,731,358.70
D. Testing and Operations Mobilization (2% of A)	1,092,543.48
E. Owners Insurance (8% of A)	4,370,173.92
F. Mitigation (2% of A)	1,092,543.48
G. Right-of-Way	960,000.00
H. Force Account (8% of A)	4,370,173.92
I. Employee Training (3% of A)	1,638,815.22
J. Construction Change Orders (12% of A & F, 2% of B)	6,686,366.10
K. Project Services (25% of A & F, 1% of B, 10% of J)	14,598,565.98
L. Subtotal (A thru K)	92,167,714.80
M. Project Reserve (20% of L)	18,433,542.96
N. Total Cost in 1992 Dollars (L + M)	110,601,257.76
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops & Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 9 PROJECT ADD-ONS

	AMT.
A. Construction	107,297,534.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	5,364,876.70
D. Testing and Operations Mobilization (2% of A)	2,145,950.68
E. Owners Insurance (8% of A)	8,583,802.72
F. Mitigation (2% of A)	2,145,950.68
G. Right-of-Way	1,920,000.00
H. Force Account (8% of A)	8,583,802.72
I. Employee Training (3% of A)	3,218,926.02
J. Construction Change Orders (12% of A & F, 2% of B)	13,133,218.16
K. Project Services (25% of A & F, 1% of B, 10% of J)	28,674,192.99
L. Subtotal (A thru K)	181,068,254.67
M. Project Reserve (20% of L)	36,213,650.93
N. Total Cost in 1992 Dollars (L + M)	217,281,905.60
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 10 PROJECT ADD-ONS

	AMT.
A. Construction	18,997,216.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	949,860.80
D. Testing and Operations Mobilization (2% of A)	379,944.32
E. Owners Insurance (8% of A)	1,519,777.28
F. Mitigation (2% of A)	379,944.32
G. Right-of-Way	960,000.00
H. Force Account (8% of A)	1,519,777.28
I. Employee Training (3% of A)	569,916.48
J. Construction Change Orders (12% of A & F, 2% of B)	2,325,259.24
K. Project Services (25% of A & F, 1% of B, 10% of J)	5,076,816.00
L. Subtotal (A thru K)	32,678,511.72
M. Project Reserve (20% of L)	6,535,702.34
N. Total Cost in 1992 Dollars (L + M)	39,214,214.07
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 11 PROJECT ADD-ONS

	AMT.
A. Construction	318,444,360.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	15,922,218.00
D. Testing and Operations Mobilization (2% of A)	6,368,887.20
E. Owners Insurance (8% of A)	25,475,548.80
F. Mitigation (2% of A)	6,368,887.20
G. Right-of-Way	500,000.00
H. Force Account (8% of A)	25,475,548.80
I. Employee Training (3% of A)	9,553,330.80
J. Construction Change Orders (12% of A & F, 2% of B)	38,977,589.66
K. Project Services (25% of A & F, 1% of B, 10% of J)	85,101,070.77
L. Subtotal (A thru K)	532,187,441.23
M. Project Reserve (20% of L)	106,437,488.25
N. Total Cost in 1992 Dollars (L + M)	638,624,929.48
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 12 PROJECT ADD-ONS

	AMT.
A. Construction	135,653,390.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	6,782,669.50
D. Testing and Operations Mobilization (2% of A)	2,713,067.80
E. Owners Insurance (8% of A)	10,852,271.20
F. Mitigation (2% of A)	2,713,067.80
G. Right-of-Way	4,800,000.00
H. Force Account (8% of A)	10,852,271.20
I. Employee Training (3% of A)	4,069,601.70
J. Construction Change Orders (12% of A & F, 2% of B)	16,603,974.94
K. Project Services (25% of A & F, 1% of B, 10% of J)	36,252,011.94
L. Subtotal (A thru K)	231,292,326.08
M. Project Reserve (20% of L)	46,258,465.22
N. Total Cost in 1992 Dollars (L + M)	277,550,791.30
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops & Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 13 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	119,334,448.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	5,966,722.40
D. Testing and Operations Mobilization (2% of A)	2,386,688.96
E. Owners Insurance (8% of A)	9,546,755.84
F. Mitigation (2% of A)	2,386,688.96
G. Right-of-Way	3,840,000.00
H. Force Account (8% of A)	9,546,755.84
I. Employee Training (3% of A)	3,580,033.44
J. Construction Change Orders (12% of A & F, 2% of B)	14,606,536.44
K. Project Services (25% of A & F, 1% of B, 10% of J)	31,890,937.88
L. Subtotal (A thru K)	203,085,567.76
M. Project Reserve (20% of L)	40,617,113.55
N. Total Cost in 1992 Dollars (L + M)	243,702,681.31
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops & Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 1 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	29,143,458.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	1,457,172.90
D. Testing and Operations Mobilization (2% of A)	582,869.16
E. Owners Insurance (8% of A)	2,331,476.64
F. Mitigation (2% of A)	582,869.16
G. Right-of-Way	
H. Force Account (8% of A)	2,331,476.64
I. Employee Training (3% of A)	874,303.74
J. Construction Change Orders (12% of A & F, 2% of B)	3,567,159.26
K. Project Services (25% of A & F, 1% of B, 10% of J)	7,788,297.72
L. Subtotal (A thru K)	48,659,083.22
M. Project Reserve (20% of L)	9,731,816.64
N. Total Cost in 1992 Dollars (L + M)	58,390,899.86
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 2 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	44,533,320.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	2,226,666.00
D. Testing and Operations Mobilization (2% of A)	890,666.40
E. Owners Insurance (8% of A)	3,562,665.60
F. Mitigation (2% of A)	890,666.40
G. Right-of-Way	
H. Force Account (8% of A)	3,562,665.60
I. Employee Training (3% of A)	1,335,999.60
J. Construction Change Orders (12% of A & F, 2% of B)	5,450,878.37
K. Project Services (25% of A & F, 1% of B, 10% of J)	11,901,084.44
L. Subtotal (A thru K)	74,354,612.40
M. Project Reserve (20% of L)	14,870,922.48
N. Total Cost in 1992 Dollars (L + M)	89,225,534.89
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 3 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	60,245,032.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	3,012,251.60
D. Testing and Operations Mobilization (2% of A)	1,204,900.64
E. Owners Insurance (8% of A)	4,819,602.56
F. Mitigation (2% of A)	1,204,900.64
G. Right-of-Way	
H. Force Account (8% of A)	4,819,602.56
I. Employee Training (3% of A)	1,807,350.96
J. Construction Change Orders (12% of A & F, 2% of B)	7,373,991.92
K. Project Services (25% of A & F, 1% of B, 10% of J)	16,099,882.35
L. Subtotal (A thru K)	100,587,515.23
M. Project Reserve (20% of L)	20,117,503.05
N. Total Cost in 1992 Dollars (L + M)	120,705,018.27
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 4 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	37,950,888.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	1,897,544.40
D. Testing and Operations Mobilization (2% of A)	759,017.76
E. Owners Insurance (8% of A)	3,036,071.04
F. Mitigation (2% of A)	759,017.76
G. Right-of-Way	
H. Force Account (8% of A)	3,036,071.04
I. Employee Training (3% of A)	1,138,526.64
J. Construction Change Orders (12% of A & F, 2% of B)	4,645,188.69
K. Project Services (25% of A & F, 1% of B, 10% of J)	10,141,995.31
L. Subtotal (A thru K)	63,364,320.64
M. Project Reserve (20% of L)	12,672,864.13
N. Total Cost in 1992 Dollars (L + M)	76,037,184.77
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops & Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 5 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	116,638,884.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	5,831,944.20
D. Testing and Operations Mobilization (2% of A)	2,332,777.68
E. Owners Insurance (8% of A)	9,331,110.72
F. Mitigation (2% of A)	2,332,777.68
G. Right-of-Way	
H. Force Account (8% of A)	9,331,110.72
I. Employee Training (3% of A)	3,499,166.52
J. Construction Change Orders (12% of A & F, 2% of B)	14,276,599.40
K. Project Services (25% of A & F, 1% of B, 10% of J)	31,170,575.36
L. Subtotal (A thru K)	194,744,946.28
M. Project Reserve (20% of L)	38,948,989.26
N. Total Cost in 1992 Dollars (L + M)	233,693,935.54
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 6 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	20,587,920.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	1,029,396.00
D. Testing and Operations Mobilization (2% of A)	411,758.40
E. Owners Insurance (8% of A)	1,647,033.60
F. Mitigation (2% of A)	411,758.40
G. Right-of-Way	
H. Force Account (8% of A)	1,647,033.60
I. Employee Training (3% of A)	617,637.60
J. Construction Change Orders (12% of A & F, 2% of B)	2,519,961.41
K. Project Services (25% of A & F, 1% of B, 10% of J)	5,501,915.74
L. Subtotal (A thru K)	34,374,414.75
M. Project Reserve (20% of L)	6,874,882.95
N. Total Cost in 1992 Dollars (L + M)	41,249,297.70
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 7 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	27,449,648.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	1,372,482.40
D. Testing and Operations Mobilization (2% of A)	548,992.96
E. Owners Insurance (8% of A)	2,195,971.84
F. Mitigation (2% of A)	548,992.96
G. Right-of-Way	
H. Force Account (8% of A)	2,195,971.84
I. Employee Training (3% of A)	823,489.44
J. Construction Change Orders (12% of A & F, 2% of B)	3,359,836.92
K. Project Services (25% of A & F, 1% of B, 10% of J)	7,335,643.93
L. Subtotal (A thru K)	45,831,030.29
M. Project Reserve (20% of L)	9,166,206.06
N. Total Cost in 1992 Dollars (L + M)	54,997,236.34
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 8 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	27,723,174.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	1,386,158.70
D. Testing and Operations Mobilization (2% of A)	554,463.48
E. Owners Insurance (8% of A)	2,217,853.92
F. Mitigation (2% of A)	554,463.48
G. Right-of-Way	
H. Force Account (8% of A)	2,217,853.92
I. Employee Training (3% of A)	831,695.22
J. Construction Change Orders (12% of A & F, 2% of B)	3,393,316.50
K. Project Services (25% of A & F, 1% of B, 10% of J)	7,408,741.02
L. Subtotal (A thru K)	46,287,720.24
M. Project Reserve (20% of L)	9,257,544.05
N. Total Cost in 1992 Dollars (L + M)	55,545,264.28
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops & Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 9 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	10,674,672.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	533,733.60
D. Testing and Operations Mobilization (2% of A)	213,493.44
E. Owners Insurance (8% of A)	853,973.76
F. Mitigation (2% of A)	213,493.44
G. Right-of-Way	
H. Force Account (8% of A)	853,973.76
I. Employee Training (3% of A)	320,240.16
J. Construction Change Orders (12% of A & F, 2% of B)	1,306,579.85
K. Project Services (25% of A & F, 1% of B, 10% of J)	2,852,699.35
L. Subtotal (A thru K)	17,822,859.36
M. Project Reserve (20% of L)	3,564,571.87
N. Total Cost in 1992 Dollars (L + M)	21,387,431.23
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 10 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	10,647,216.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	532,360.80
D. Testing and Operations Mobilization (2% of A)	212,944.32
E. Owners Insurance (8% of A)	851,777.28
F. Mitigation (2% of A)	212,944.32
G. Right-of-Way	
H. Force Account (8% of A)	851,777.28
I. Employee Training (3% of A)	319,416.48
J. Construction Change Orders (12% of A & F, 2% of B)	1,303,219.24
K. Project Services (25% of A & F, 1% of B, 10% of J)	2,845,362.00
L. Subtotal (A thru K)	17,777,017.72
M. Project Reserve (20% of L)	3,555,403.54
N. Total Cost in 1992 Dollars (L + M)	21,332,421.27
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 11 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	0.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	0.00
D. Testing and Operations Mobilization (2% of A)	0.00
E. Owners Insurance (8% of A)	0.00
F. Mitigation (2% of A)	0.00
G. Right-of-Way	
H. Force Account (8% of A)	0.00
I. Employee Training (3% of A)	0.00
J. Construction Change Orders (12% of A & F, 2% of B)	0.00
K. Project Services (25% of A & F, 1% of B, 10% of J)	0.00
L. Subtotal (A thru K)	0.00
M. Project Reserve (20% of L)	0.00
N. Total Cost in 1992 Dollars (L + M)	0.00
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 12 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	160,000.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	8,000.00
D. Testing and Operations Mobilization (2% of A)	3,200.00
E. Owners Insurance (8% of A)	12,800.00
F. Mitigation (2% of A)	3,200.00
G. Right-of-Way	
H. Force Account (8% of A)	12,800.00
I. Employee Training (3% of A)	4,800.00
J. Construction Change Orders (12% of A & F, 2% of B)	19,584.00
K. Project Services (25% of A & F, 1% of B, 10% of J)	42,758.40
L. Subtotal (A thru K)	267,142.40
M. Project Reserve (20% of L)	53,428.48
N. Total Cost in 1992 Dollars (L + M)	320,570.88
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops & Ancillary Fac., Locomotive Change Fac., and Control Center not included

<u>ROUTE 13 PROJECT ADD-ONS</u>	<u>AMT.</u>
A. Construction	0.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	0.00
D. Testing and Operations Mobilization (2% of A)	0.00
E. Owners Insurance (8% of A)	0.00
F. Mitigation (2% of A)	0.00
G. Right-of-Way	
H. Force Account (8% of A)	0.00
I. Employee Training (3% of A)	0.00
J. Construction Change Orders (12% of A & F, 2% of B)	0.00
K. Project Services (25% of A & F, 1% of B, 10% of J)	0.00
L. Subtotal (A thru K)	0.00
M. Project Reserve (20% of L)	0.00
N. Total Cost in 1992 Dollars (L + M)	0.00
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops & Ancillary Fac., Locomotive Change Fac., and Control Center not included

TOTAL COSTS* RELATED TO ELECTRIFICATION
(No Segments Duplicated)
50Kv Minimum

<u>ELEMENTS</u>	<u>COMMUTER ONLY</u>		<u>COMMUTER & FREIGHT</u>	
	<u>CONSTRUCTION</u>	<u>TOTAL</u>	<u>CONSTRUCTION</u>	<u>TOTAL</u>
	<u>COST</u>	<u>COST</u>	<u>COST</u>	<u>COST</u>
	(A)	(N)	(A)	(N)
CIVIL, STRUCTURAL & SIGNAL COSTS	385,754,212.00	772,884,795.03	675,580,944.00	1,353,572,360.81
SYS.-WIDE TRACTION ELECT. COSTS	357,604,000.00	731,459,931.07	837,299,000.00	1,728,273,482.83
SHOPS & ANCILLARY FACILITIES	0.00	0.00	40,000,000.00	80,142,720.00
LOCOMOTIVE CHANGE FACILITIES	0.00	0.00	34,000,000.00	68,121,312.00
CONTROL CENTER	5,000,000.00	10,017,840.00	10,000,000.00	20,035,680.00
TOTAL	748,358,212.00	1,514,362,566.10	1,596,879,944.00	3,250,145,555.64

*(Locomotives not included)

SYSTEM-WIDE TRACTION ELECTRIFICATION COSTS (NO SEGMENTS DUPLICATED)
50Kv Minimum

<u>PROJECT ADD-ONS</u>	<u>COMMUTER ONLY</u> <u>AMT.</u>	<u>COMMUTER & FREIGHT</u> <u>AMT.</u>
A. Construction	357,604,000.00	837,299,000.00
B. Locomotives		
C. Contractors Mobilization/Demobilization (5% of A)	17,880,200.00	41,864,950.00
D. Testing and Operations Mobilization (2% of A)	7,152,080.00	16,745,980.00
E. Owners Insurance (8% of A)	28,608,320.00	66,983,920.00
F. Mitigation (2% of A)	7,152,080.00	16,745,980.00
G. Right-of-Way	12,480,000.00	42,240,000.00
H. Force Account (8% of A)	28,608,320.00	66,983,920.00
I. Employee Training (3% of A)	10,728,120.00	25,118,970.00
J. Construction Change Orders (12% of A & F, 2% of B)	43,770,729.60	102,485,397.60
K. Project Services (25% of A & F, 1% of B, 10% of J)	95,566,092.96	223,759,784.76
L. Subtotal (A thru K)	609,549,942.56	1,440,227,902.36
M. Project Reserve (20% of L)	121,909,988.51	288,045,580.47
N. Total Cost in 1992 Dollars (L + M)	731,459,931.07	1,728,273,482.83
O. Annual Inflation:		
4% 1992 thru 1995		
5% 1995 thru 2000		
6% 2001 thru 2010		

SUMMARY OF COSTS BY ROUTE* COSTS RELATED TO ELECTRIFICATION
50Kv Minimum

*Locomotives, Shops & Ancillary Facilities, Locomotive Change Facilities and Control Center not included

COMMUTER ONLY

<u>ROUTE</u>	<u>DESCRIPTION</u>	<u>RTE. MILES</u>	<u>UNDUPLICATED RTE. MILES</u>	<u>DUPPLICATED CONSTRUCTION COSTS (A)</u>	<u>DUPPLICATED TOTAL COST (N)</u>
1.	UP/SP Corridor	394	394	62,891,458.00	127,159,312.72
2.	Baldwin Park Commuter	57	57	94,127,320.00	189,742,486.28
3.	Moorpark Commuter	48	46	112,817,256.00	227,189,043.97
4.	Santa Clarita Commuter	35	24	87,987,880.00	177,441,700.76
5.	Lossan Corridor	134	133	251,541,820.00	506,285,141.21
6.	Riverside Via Ontario	59	24	111,206,602.00	223,961,989.16
7.	Riverside - Laupt via Fullerton	62	35	129,357,720.00	260,328,988.34
8.	Hemet - Riverside	39	39	55,670,174.00	112,690,979.18
9.	San Bernardino - Irvine	53	13	105,134,534.00	211,796,188.02
10.	Redlands Commuter	12	12	19,323,216.00	39,867,377.23
11.	Southern Pacific Routes Ports to Yuma	282	16	283,047,360.00	568,256,632.98
12.	Santa Fe Ports to Barstow	176	0	138,418,390.00	279,634,656.82
13.	Union Pacific Ports to Yermo	187	0	125,878,448.00	254,510,030.30

SUMMARY OF COSTS BY ROUTE* COSTS RELATED TO ELECTRIFICATION
50Kv Minimum

*Locomotives, Shops & Ancillary Facilities, Locomotive Change Facilities and Control Center not included

COMMUTER & FREIGHT

<u>ROUTE</u>	<u>DESCRIPTION</u>	<u>RTE. MILES</u>	<u>UNDUPLICATED RTE. MILES</u>	<u>DUPLICATED CONSTRUCTION COSTS (A)</u>	<u>DUPLICATED TOTAL COST (N)</u>
1.	UP/SP Corridor	394	394	714,139,526.00	1,440,043,101.83
2.	Baldwin Park Commuter	57	57	94,127,320.00	189,742,486.28
3.	Moorpark Commuter	48	46	112,817,256.00	227,189,043.97
4.	Santa Clarita Commuter	35	24	87,987,880.00	177,441,700.76
5.	Lossan Corridor	134	133	265,844,300.00	536,093,132.46
6.	Riverside Via Ontario	59	24	124,285,922.00	251,319,296.17
7.	Riverside - Laupt via Fullerton	62	35	142,269,496.00	287,350,609.56
8.	Hemet - Riverside	39	39	55,670,174.00	112,690,979.18
9.	San Bernardino - Irvine	53	13	117,636,550.00	237,996,827.21
10.	Redlands Commuter	12	12	19,323,216.00	39,867,377.23
11.	Southern Pacific Routes Ports to Yuma	282	16	476,966,224.00	962,546,263.49
12.	Santa Fe Ports to Barstow	176	0	367,055,726.00	740,029,106.83
13.	Union Pacific Ports to Yermo	187	0	387,309,044.00	780,608,006.67

SUMMARY OF COSTS BY ROUTE* COSTS RELATED TO ELECTRIFICATION
50Kv Minimum

*Locomotives, Shops & Ancillary Facilities, Locomotive Change Facilities and Control Center not included

COMMUTER ONLY (NO SEGMENTS DUPLICATED)

<u>ROUTE</u>	<u>DESCRIPTION</u>	<u>RTE. MILES</u>	<u>UNDUPLICATED RTE. MILES</u>	<u>UNDUPLICATED CONSTRUCTION COSTS (A)</u>	<u>UNDUPLICATED TOTAL COST (N)</u>
1.	UP/SP Corridor	394	394	29,143,458.00	58,390,899.86
2.	Baldwin Park Commuter	57	57	44,533,320.00	89,225,534.89
3.	Moorpark Commuter	48	46	60,245,032.00	120,705,018.27
4.	Santa Clarita Commuter	35	24	37,950,888.00	76,037,184.77
5.	Lossan Corridor	134	133	116,638,884.00	233,693,935.54
6.	Riverside Via Ontario	59	24	20,587,920.00	41,249,297.70
7.	Riverside - Laughton via Fullerton	62	35	27,449,648.00	54,997,236.34
8.	Hemet - Riverside	39	39	27,723,174.00	55,545,264.28
9.	San Bernardino - Irvine	53	13	10,674,672.00	21,387,431.23
10.	Redlands Commuter	12	12	10,647,216.00	21,332,421.27
11.	Southern Pacific Routes Ports to Yuma	282	16	0.00	0.00
12.	Santa Fe Ports to Barstow	176	0	160,000.00	320,570.88
13.	Union Pacific Ports to Yermo	187	0	0.00	0.00
TOTAL:				385,754,212.00	772,884,795.03

SUMMARY OF COSTS BY ROUTE* COSTS RELATED TO ELECTRIFICATION
50Kv Minimum

*Locomotives, Shops & Ancillary Facilities, Locomotive Change Facilities and Control Center not included

COMMUTER & FREIGHT (NO SEGMENTS DUPLICATED)

<u>ROUTE</u>	<u>DESCRIPTION</u>	<u>RTE. MILES</u>	<u>UNDUPLICATED RTE. MILES</u>	<u>UNDUPLICATED CONSTRUCTION COSTS (A)</u>	<u>UNDUPLICATED TOTAL COST (N)</u>
1.	UP/SP Corridor	394	394	288,034,526.00	577,096,759.19
2.	Baldwin Park Commuter	57	57	44,533,320.00	89,225,534.89
3.	Moorpark Commuter	48	46	60,245,032.00	120,705,018.27
4.	Santa Clarita Commuter	35	24	37,950,888.00	76,037,184.77
5.	Lossan Corridor	134	133	116,987,364.00	234,392,138.91
6.	Riverside Via Ontario	59	24	20,746,320.00	41,566,662.87
7.	Riverside - Laupt via Fullerton	62	35	33,794,624.00	67,709,827.22
8.	Hemet - Riverside	39	39	27,723,174.00	55,545,264.28
9.	San Bernardino - Irvine	53	13	10,769,712.00	21,577,850.33
10.	Redlands Commuter	12	12	10,647,216.00	21,332,421.27
11.	Southern Pacific Routes Ports to Yuma	282	16	13,702,336.00	27,453,561.93
12.	Santa Fe Ports to Barstow	176	0	10,446,432.00	20,930,136.87
13.	Union Pacific Ports to Yermo	187	0	0.00	0.00
TOTAL:				675,580,944.00	1,353,572,360.81

ROUTE 1 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	714,139,526.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	35,706,976.30
D. Testing and Operations Mobilization (2% of A)	14,282,790.52
E. Owners Insurance (8% of A)	57,131,162.08
F. Mitigation (2% of A)	14,282,790.52
G. Right-of-Way	7,680,000.00
H. Force Account (8% of A)	57,131,162.08
I. Employee Training (3% of A)	21,424,185.78
J. Construction Change Orders (12% of A & F, 2% of B)	87,410,677.98
K. Project Services (25% of A & F, 1% of B, 10% of J)	190,846,646.93
L. Subtotal (A thru K)	1,200,035,918.19
M. Project Reserve (20% of L)	240,007,183.64
N. Total Cost in 1992 Dollars (L + M)	1,440,043,101.83
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 2 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	94,127,320.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	4,706,366.00
D. Testing and Operations Mobilization (2% of A)	1,882,546.40
E. Owners Insurance (8% of A)	7,530,185.60
F. Mitigation (2% of A)	1,882,546.40
G. Right-of-Way	960,000.00
H. Force Account (8% of A)	7,530,185.60
I. Employee Training (3% of A)	2,823,819.60
J. Construction Change Orders (12% of A & F, 2% of B)	11,521,183.97
K. Project Services (25% of A & F, 1% of B, 10% of J)	25,154,585.00
L. Subtotal (A thru K)	158,118,738.56
M. Project Reserve (20% of L)	31,623,747.71
N. Total Cost in 1992 Dollars (L + M)	189,742,486.28
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 3 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	112,817,256.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	5,640,862.80
D. Testing and Operations Mobilization (2% of A)	2,256,345.12
E. Owners Insurance (8% of A)	9,025,380.48
F. Mitigation (2% of A)	2,256,345.12
G. Right-of-Way	960,000.00
H. Force Account (8% of A)	9,025,380.48
I. Employee Training (3% of A)	3,384,517.68
J. Construction Change Orders (12% of A & F, 2% of B)	13,808,832.13
K. Project Services (25% of A & F, 1% of B, 10% of J)	30,149,283.49
L. Subtotal (A thru K)	189,324,203.31
M. Project Reserve (20% of L)	37,864,840.66
N. Total Cost in 1992 Dollars (L + M)	227,189,043.97
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 4 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	87,987,880.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	4,399,394.00
D. Testing and Operations Mobilization (2% of A)	1,759,757.60
E. Owners Insurance (8% of A)	7,039,030.40
F. Mitigation (2% of A)	1,759,757.60
G. Right-of-Way	960,000.00
H. Force Account (8% of A)	7,039,030.40
I. Employee Training (3% of A)	2,639,636.40
J. Construction Change Orders (12% of A & F, 2% of B)	10,769,716.51
K. Project Services (25% of A & F, 1% of B, 10% of J)	23,513,881.05
L. Subtotal (A thru K)	147,868,083.96
M. Project Reserve (20% of L)	29,573,616.79
N. Total Cost in 1992 Dollars (L + M)	177,441,700.76
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops and Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 5 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	265,844,300.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	13,292,215.00
D. Testing and Operations Mobilization (2% of A)	5,316,886.00
E. Owners Insurance (8% of A)	21,267,544.00
F. Mitigation (2% of A)	5,316,886.00
G. Right-of-Way	2,880,000.00
H. Force Account (8% of A)	21,267,544.00
I. Employee Training (3% of A)	7,975,329.00
J. Construction Change Orders (12% of A & F, 2% of B)	32,539,342.32
K. Project Services (25% of A & F, 1% of B, 10% of J)	71,044,230.73
L. Subtotal (A thru K)	446,744,277.05
M. Project Reserve (20% of L)	89,348,855.41
N. Total Cost in 1992 Dollars (L + M)	536,093,132.46
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 6 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	124,285,922.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	6,214,296.10
D. Testing and Operations Mobilization (2% of A)	2,485,718.44
E. Owners Insurance (8% of A)	9,942,873.76
F. Mitigation (2% of A)	2,485,718.44
G. Right-of-Way	1,920,000.00
H. Force Account (8% of A)	9,942,873.76
I. Employee Training (3% of A)	3,728,577.66
J. Construction Change Orders (12% of A & F, 2% of B)	15,212,596.85
K. Project Services (25% of A & F, 1% of B, 10% of J)	33,214,169.80
L. Subtotal (A thru K)	209,432,746.81
M. Project Reserve (20% of L)	41,886,549.36
N. Total Cost in 1992 Dollars (L + M)	251,319,296.17
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 7 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	142,269,496.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	7,113,474.80
D. Testing and Operations Mobilization (2% of A)	2,845,389.92
E. Owners Insurance (8% of A + 2% of B)	11,381,559.68
F. Mitigation (2% of A)	2,845,389.92
G. Right-of-Way	1,920,000.00
H. Force Account (8% of A)	11,381,559.68
I. Employee Training (3% of A)	4,268,084.88
J. Construction Change Orders (12% of A & F, 2% of B)	17,413,786.31
K. Project Services (25% of A & F, 1% of B, 10% of J)	38,020,100.11
L. Subtotal (A thru K)	239,458,841.30
M. Project Reserve (20% of L)	47,891,768.26
N. Total Cost in 1992 Dollars (L + M)	287,350,609.56
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 8 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	55,670,174.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	2,783,508.70
D. Testing and Operations Mobilization (2% of A)	1,113,403.48
E. Owners Insurance (8% of A + 2% of B)	4,453,613.92
F. Mitigation (2% of A)	1,113,403.48
G. Right-of-Way	960,000.00
H. Force Account (8% of A)	4,453,613.92
I. Employee Training (3% of A)	1,670,105.22
J. Construction Change Orders (12% of A & F, 2% of B)	6,814,029.30
K. Project Services (25% of A & F, 1% of B, 10% of J)	14,877,297.30
L. Subtotal (A thru K)	93,909,149.32
M. Project Reserve (20% of L)	18,781,829.86
N. Total Cost in 1992 Dollars (L + M)	112,690,979.18
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops and Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 9 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	117,636,550.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	5,881,827.50
D. Testing and Operations Mobilization (2% of A)	2,352,731.00
E. Owners Insurance (8% of A)	9,410,924.00
F. Mitigation (2% of A)	2,352,731.00
G. Right-of-Way	1,920,000.00
H. Force Account (8% of A)	9,410,924.00
I. Employee Training (3% of A)	3,529,096.50
J. Construction Change Orders (12% of A & F, 2% of B)	14,398,713.72
K. Project Services (25% of A & F, 1% of B, 10% of J)	31,437,191.62
L. Subtotal (A thru K)	198,330,689.34
M. Project Reserve (20% of L)	39,666,137.87
N. Total Cost in 1992 Dollars (L + M)	237,996,827.21
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 10 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	19,323,216.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	966,160.80
D. Testing and Operations Mobilization (2% of A)	386,464.32
E. Owners Insurance (8% of A)	1,545,857.28
F. Mitigation (2% of A)	386,464.32
G. Right-of-Way	960,000.00
H. Force Account (8% of A)	1,545,857.28
I. Employee Training (3% of A)	579,696.48
J. Construction Change Orders (12% of A & F, 2% of B)	2,365,161.64
K. Project Services (25% of A & F, 1% of B, 10% of J)	5,163,936.24
L. Subtotal (A thru K)	33,222,814.36
M. Project Reserve (20% of L)	6,644,562.87
N. Total Cost in 1992 Dollars (L + M)	39,867,377.23
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 11 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	476,966,224.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	23,848,311.20
D. Testing and Operations Mobilization (2% of A)	9,539,324.48
E. Owners Insurance (8% of A)	38,157,297.92
F. Mitigation (2% of A)	9,539,324.48
G. Right-of-Way	5,760,000.00
H. Force Account (8% of A)	38,157,297.92
I. Employee Training (3% of A)	14,308,986.72
J. Construction Change Orders (12% of A & F, 2% of B)	58,380,665.82
K. Project Services (25% of A & F, 1% of B, 10% of J)	127,464,453.70
L. Subtotal (A thru K)	802,121,886.24
M. Project Reserve (20% of L)	160,424,377.25
N. Total Cost in 1992 Dollars (L + M)	962,546,263.49
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 12 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	367,055,726.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	18,352,786.30
D. Testing and Operations Mobilization (2% of A)	7,341,114.52
E. Owners Insurance (8% of A)	29,364,458.08
F. Mitigation (2% of A)	7,341,114.52
G. Right-of-Way	3,840,000.00
H. Force Account (8% of A)	29,364,458.08
I. Employee Training (3% of A)	11,011,671.78
J. Construction Change Orders (12% of A & F, 2% of B)	44,927,620.86
K. Project Services (25% of A & F, 1% of B, 10% of J)	98,091,972.22
L. Subtotal (A thru K)	616,690,922.36
M. Project Reserve (20% of L)	123,338,184.47
N. Total Cost in 1992 Dollars (L + M)	740,029,106.83
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops and Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 13 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	387,309,044.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	19,365,452.20
D. Testing and Operations Mobilization (2% of A)	7,746,180.88
E. Owners Insurance (8% of A)	30,984,723.52
F. Mitigation (2% of A)	7,746,180.88
G. Right-of-Way	3,840,000.00
H. Force Account (8% of A)	30,984,723.52
I. Employee Training (3% of A)	11,619,271.32
J. Construction Change Orders (12% of A & F, 2% of B)	47,406,626.99
K. Project Services (25% of A & F, 1% of B, 10% of J)	103,504,468.92
L. Subtotal (A thru K)	650,506,672.22
M. Project Reserve (20% of L)	130,101,334.44
N. Total Cost in 1992 Dollars (L + M)	780,608,006.67
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops and Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 1 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	288,034,526.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	14,401,726.30
D. Testing and Operations Mobilization (2% of A)	5,760,690.52
E. Owners Insurance (8% of A)	23,042,762.08
F. Mitigation (2% of A)	5,760,690.52
G. Right-of-Way	
H. Force Account (8% of A)	23,042,762.08
I. Employee Training (3% of A)	8,641,035.78
J. Construction Change Orders (12% of A & F, 2% of B)	35,255,425.98
K. Project Services (25% of A & F, 1% of B, 10% of J)	76,974,346.73
L. Subtotal (A thru K)	480,913,965.99
M. Project Reserve (20% of L)	96,182,793.20
N. Total Cost in 1992 Dollars (L + M)	577,096,759.19
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 2 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	44,533,320.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	2,226,666.00
D. Testing and Operations Mobilization (2% of A)	890,666.40
E. Owners Insurance (8% of A)	3,562,665.60
F. Mitigation (2% of A)	890,666.40
G. Right-of-Way	
H. Force Account (8% of A)	3,562,665.60
I. Employee Training (3% of A)	1,335,999.60
J. Construction Change Orders (12% of A & F, 2% of B)	5,450,878.37
K. Project Services (25% of A & F, 1% of B, 10% of J)	11,901,084.44
L. Subtotal (A thru K)	74,354,612.40
M. Project Reserve (20% of L)	14,870,922.48
N. Total Cost in 1992 Dollars (L + M)	89,225,534.89
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 3 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	60,245,032.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	3,012,251.60
D. Testing and Operations Mobilization (2% of A)	1,204,900.64
E. Owners Insurance (8% of A)	4,819,602.56
F. Mitigation (2% of A)	1,204,900.64
G. Right-of-Way	
H. Force Account (8% of A)	4,819,602.56
I. Employee Training (3% of A)	1,807,350.96
J. Construction Change Orders (12% of A & F, 2% of B)	7,373,991.92
K. Project Services (25% of A & F, 1% of B, 10% of J)	16,099,882.35
L. Subtotal (A thru K)	100,587,515.23
M. Project Reserve (20% of L)	20,117,503.05
N. Total Cost in 1992 Dollars (L + M)	120,705,018.27
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 4 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	37,950,888.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	1,897,544.40
D. Testing and Operations Mobilization (2% of A)	759,017.76
E. Owners Insurance (8% of A)	3,036,071.04
F. Mitigation (2% of A)	759,017.76
G. Right-of-Way	
H. Force Account (8% of A)	3,036,071.04
I. Employee Training (3% of A)	1,138,526.64
J. Construction Change Orders (12% of A & F, 2% of B)	4,645,188.69
K. Project Services (25% of A & F, 1% of B, 10% of J)	10,141,995.31
L. Subtotal (A thru K)	63,364,320.64
M. Project Reserve (20% of L)	12,672,864.13
N. Total Cost in 1992 Dollars (L + M)	76,037,184.77
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops and Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 5 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	116,987,364.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	5,849,368.20
D. Testing and Operations Mobilization (2% of A)	2,339,747.28
E. Owners Insurance (8% of A)	9,358,989.12
F. Mitigation (2% of A)	2,339,747.28
G. Right-of-Way	
H. Force Account (8% of A)	9,358,989.12
I. Employee Training (3% of A)	3,509,620.92
J. Construction Change Orders (12% of A & F, 2% of B)	14,319,253.35
K. Project Services (25% of A & F, 1% of B, 10% of J)	31,263,703.16
L. Subtotal (A thru K)	195,326,782.43
M. Project Reserve (20% of L)	39,065,356.49
N. Total Cost in 1992 Dollars (L + M)	234,392,138.91
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 6 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	20,746,320.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	1,037,316.00
D. Testing and Operations Mobilization (2% of A)	414,926.40
E. Owners Insurance (8% of A)	1,659,705.60
F. Mitigation (2% of A)	414,926.40
G. Right-of-Way	
H. Force Account (8% of A)	1,659,705.60
I. Employee Training (3% of A)	622,389.60
J. Construction Change Orders (12% of A & F, 2% of B)	2,539,349.57
K. Project Services (25% of A & F, 1% of B, 10% of J)	5,544,246.56
L. Subtotal (A thru K)	34,638,885.72
M. Project Reserve (20% of L)	6,927,777.14
N. Total Cost in 1992 Dollars (L + M)	41,566,662.87
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 7 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	33,794,624.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	1,689,731.20
D. Testing and Operations Mobilization (2% of A)	675,892.48
E. Owners Insurance (8% of A + 2% of B)	2,703,569.92
F. Mitigation (2% of A)	675,892.48
G. Right-of-Way	
H. Force Account (8% of A)	2,703,569.92
I. Employee Training (3% of A)	1,013,838.72
J. Construction Change Orders (12% of A & F, 2% of B)	4,136,461.98
K. Project Services (25% of A & F, 1% of B, 10% of J)	9,031,275.32
L. Subtotal (A thru K)	56,424,856.02
M. Project Reserve (20% of L)	11,284,971.20
N. Total Cost in 1992 Dollars (L + M)	67,709,827.22
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 8 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	27,723,174.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	1,386,158.70
D. Testing and Operations Mobilization (2% of A)	554,463.48
E. Owners Insurance (8% of A + 2% of B)	2,217,853.92
F. Mitigation (2% of A)	554,463.48
G. Right-of-Way	
H. Force Account (8% of A)	2,217,853.92
I. Employee Training (3% of A)	831,695.22
J. Construction Change Orders (12% of A & F, 2% of B)	3,393,316.50
K. Project Services (25% of A & F, 1% of B, 10% of J)	7,408,741.02
L. Subtotal (A thru K)	46,287,720.24
M. Project Reserve (20% of L)	9,257,544.05
N. Total Cost in 1992 Dollars (L + M)	55,545,264.28
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops and Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 9 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	10,769,712.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	538,485.60
D. Testing and Operations Mobilization (2% of A)	215,394.24
E. Owners Insurance (8% of A)	861,576.96
F. Mitigation (2% of A)	215,394.24
G. Right-of-Way	
H. Force Account (8% of A)	861,576.96
I. Employee Training (3% of A)	323,091.36
J. Construction Change Orders (12% of A & F, 2% of B)	1,318,212.75
K. Project Services (25% of A & F, 1% of B, 10% of J)	2,878,097.83
L. Subtotal (A thru K)	17,981,541.94
M. Project Reserve (20% of L)	3,596,308.39
N. Total Cost in 1992 Dollars (L + M)	21,577,850.33
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 10 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	10,647,216.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	532,360.80
D. Testing and Operations Mobilization (2% of A)	212,944.32
E. Owners Insurance (8% of A)	851,777.28
F. Mitigation (2% of A)	212,944.32
G. Right-of-Way	
H. Force Account (8% of A)	851,777.28
I. Employee Training (3% of A)	319,416.48
J. Construction Change Orders (12% of A & F, 2% of B)	1,303,219.24
K. Project Services (25% of A & F, 1% of B, 10% of J)	2,845,362.00
L. Subtotal (A thru K)	17,777,017.72
M. Project Reserve (20% of L)	3,555,403.54
N. Total Cost in 1992 Dollars (L + M)	21,332,421.27
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 11 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	13,702,336.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	685,116.80
D. Testing and Operations Mobilization (2% of A)	274,046.72
E. Owners Insurance (8% of A)	1,096,186.88
F. Mitigation (2% of A)	274,046.72
G. Right-of-Way	
H. Force Account (8% of A)	1,096,186.88
I. Employee Training (3% of A)	411,070.08
J. Construction Change Orders (12% of A & F, 2% of B)	1,677,165.93
K. Project Services (25% of A & F, 1% of B, 10% of J)	3,661,812.27
L. Subtotal (A thru K)	22,877,968.28
M. Project Reserve (20% of L)	4,575,593.66
N. Total Cost in 1992 Dollars (L + M)	27,453,561.93
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 12 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	10,446,432.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	522,321.60
D. Testing and Operations Mobilization (2% of A)	208,928.64
E. Owners Insurance (8% of A)	835,714.56
F. Mitigation (2% of A)	208,928.64
G. Right-of-Way	
H. Force Account (8% of A)	835,714.56
I. Employee Training (3% of A)	313,392.96
J. Construction Change Orders (12% of A & F, 2% of B)	1,278,643.28
K. Project Services (25% of A & F, 1% of B, 10% of J)	2,791,704.49
L. Subtotal (A thru K)	17,441,780.72
M. Project Reserve (20% of L)	3,488,356.14
N. Total Cost in 1992 Dollars (L + M)	20,930,136.87
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops and Ancillary Fac., Locomotive Change Fac., and Control Center not included

<u>ROUTE 13 PROJECT ADD-ONS</u>	<u>AMT.</u>
A. Construction	0.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	0.00
D. Testing and Operations Mobilization (2% of A)	0.00
E. Owners Insurance (8% of A)	0.00
F. Mitigation (2% of A)	0.00
G. Right-of-Way	
H. Force Account (8% of A)	0.00
I. Employee Training (3% of A)	0.00
J. Construction Change Orders (12% of A & F, 2% of B)	0.00
K. Project Services (25% of A & F, 1% of B, 10% of J)	0.00
L. Subtotal (A thru K)	0.00
M. Project Reserve (20% of L)	0.00
N. Total Cost in 1992 Dollars (L + M)	0.00
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops and Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 1 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	62,891,458.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	3,144,572.90
D. Testing and Operations Mobilization (2% of A)	1,257,829.16
E. Owners Insurance (8% of A)	5,031,316.64
F. Mitigation (2% of A)	1,257,829.16
G. Right-of-Way	960,000.00
H. Force Account (8% of A)	5,031,316.64
I. Employee Training (3% of A)	1,886,743.74
J. Construction Change Orders (12% of A & F, 2% of B)	7,697,914.46
K. Project Services (25% of A & F, 1% of B, 10% of J)	16,807,113.24
L. Subtotal (A thru K)	105,966,093.94
M. Project Reserve (20% of L)	21,193,218.79
N. Total Cost in 1992 Dollars (L + M)	127,159,312.72
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 2 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	94,127,320.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	4,706,366.00
D. Testing and Operations Mobilization (2% of A)	1,882,546.40
E. Owners Insurance (8% of A)	7,530,185.60
F. Mitigation (2% of A)	1,882,546.40
G. Right-of-Way	960,000.00
H. Force Account (8% of A)	7,530,185.60
I. Employee Training (3% of A)	2,823,819.60
J. Construction Change Orders (12% of A & F, 2% of B)	11,521,183.97
K. Project Services (25% of A & F, 1% of B, 10% of J)	25,154,585.00
L. Subtotal (A thru K)	158,118,738.56
M. Project Reserve (20% of L)	31,623,747.71
N. Total Cost in 1992 Dollars (L + M)	189,742,486.28
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 3 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	112,817,256.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	5,640,862.80
D. Testing and Operations Mobilization (2% of A)	2,256,345.12
E. Owners Insurance (8% of A)	9,025,380.48
F. Mitigation (2% of A)	2,256,345.12
G. Right-of-Way	960,000.00
H. Force Account (8% of A)	9,025,380.48
I. Employee Training (3% of A)	3,384,517.68
J. Construction Change Orders (12% of A & F, 2% of B)	13,808,832.13
K. Project Services (25% of A & F, 1% of B, 10% of J)	30,149,283.49
L. Subtotal (A thru K)	189,324,203.31
M. Project Reserve (20% of L)	37,864,840.66
N. Total Cost in 1992 Dollars (L + M)	227,189,043.97
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 4 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	87,987,880.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	4,399,394.00
D. Testing and Operations Mobilization (2% of A)	1,759,757.60
E. Owners Insurance (8% of A)	7,039,030.40
F. Mitigation (2% of A)	1,759,757.60
G. Right-of-Way	960,000.00
H. Force Account (8% of A)	7,039,030.40
I. Employee Training (3% of A)	2,639,636.40
J. Construction Change Orders (12% of A & F, 2% of B)	10,769,716.51
K. Project Services (25% of A & F, 1% of B, 10% of J)	23,513,881.05
L. Subtotal (A thru K)	147,868,083.96
M. Project Reserve (20% of L)	29,573,616.79
N. Total Cost in 1992 Dollars (L + M)	177,441,700.76
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops & Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 5 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	251,541,820.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	12,577,091.00
D. Testing and Operations Mobilization (2% of A)	5,030,836.40
E. Owners Insurance (8% of A)	20,123,345.60
F. Mitigation (2% of A)	5,030,836.40
G. Right-of-Way	1,920,000.00
H. Force Account (8% of A)	20,123,345.60
I. Employee Training (3% of A)	7,546,254.60
J. Construction Change Orders (12% of A & F, 2% of B)	30,788,718.77
K. Project Services (25% of A & F, 1% of B, 10% of J)	67,222,035.98
L. Subtotal (A thru K)	421,904,284.34
M. Project Reserve (20% of L)	84,380,856.87
N. Total Cost in 1992 Dollars (L + M)	506,285,141.21
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 6 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	111,206,602.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	5,560,330.10
D. Testing and Operations Mobilization (2% of A)	2,224,132.04
E. Owners Insurance (8% of A)	8,896,528.16
F. Mitigation (2% of A)	2,224,132.04
G. Right-of-Way	960,000.00
H. Force Account (8% of A)	8,896,528.16
I. Employee Training (3% of A)	3,336,198.06
J. Construction Change Orders (12% of A & F, 2% of B)	13,611,688.08
K. Project Services (25% of A & F, 1% of B, 10% of J)	29,718,852.32
L. Subtotal (A thru K)	186,634,990.96
M. Project Reserve (20% of L)	37,326,998.19
N. Total Cost in 1992 Dollars (L + M)	223,961,989.16
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 7 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	129,357,720.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	6,467,886.00
D. Testing and Operations Mobilization (2% of A)	2,587,154.40
E. Owners Insurance (8% of A)	10,348,617.60
F. Mitigation (2% of A)	2,587,154.40
G. Right-of-Way	960,000.00
H. Force Account (8% of A)	10,348,617.60
I. Employee Training (3% of A)	3,880,731.60
J. Construction Change Orders (12% of A & F, 2% of B)	15,833,384.93
K. Project Services (25% of A & F, 1% of B, 10% of J)	34,569,557.09
L. Subtotal (A thru K)	216,940,823.62
M. Project Reserve (20% of L)	43,388,164.72
N. Total Cost in 1992 Dollars (L + M)	260,328,988.34
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 8 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	55,670,174.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	2,783,508.70
D. Testing and Operations Mobilization (2% of A)	1,113,403.48
E. Owners Insurance (8% of A)	4,453,613.92
F. Mitigation (2% of A)	1,113,403.48
G. Right-of-Way	960,000.00
H. Force Account (8% of A)	4,453,613.92
I. Employee Training (3% of A)	1,670,105.22
J. Construction Change Orders (12% of A & F, 2% of B)	6,814,029.30
K. Project Services (25% of A & F, 1% of B, 10% of J)	14,877,297.30
L. Subtotal (A thru K)	93,909,149.32
M. Project Reserve (20% of L)	18,781,829.86
N. Total Cost in 1992 Dollars (L + M)	112,690,979.18
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops & Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 9 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	105,134,534.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	5,256,726.70
D. Testing and Operations Mobilization (2% of A)	2,102,690.68
E. Owners Insurance (8% of A)	8,410,762.72
F. Mitigation (2% of A)	2,102,690.68
G. Right-of-Way	960,000.00
H. Force Account (8% of A)	8,410,762.72
I. Employee Training (3% of A)	3,154,036.02
J. Construction Change Orders (12% of A & F, 2% of B)	12,868,466.96
K. Project Services (25% of A & F, 1% of B, 10% of J)	28,096,152.87
L. Subtotal (A thru K)	176,496,823.35
M. Project Reserve (20% of L)	35,299,364.67
N. Total Cost in 1992 Dollars (L + M)	211,796,188.02
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 10 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	19,323,216.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	966,160.80
D. Testing and Operations Mobilization (2% of A)	386,464.32
E. Owners Insurance (8% of A)	1,545,857.28
F. Mitigation (2% of A)	386,464.32
G. Right-of-Way	960,000.00
H. Force Account (8% of A)	1,545,857.28
I. Employee Training (3% of A)	579,696.48
J. Construction Change Orders (12% of A & F, 2% of B)	2,365,161.64
K. Project Services (25% of A & F, 1% of B, 10% of J)	5,163,936.24
L. Subtotal (A thru K)	33,222,814.36
M. Project Reserve (20% of L)	6,644,562.87
N. Total Cost in 1992 Dollars (L + M)	39,867,377.23
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 11 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	283,047,360.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	14,152,368.00
D. Testing and Operations Mobilization (2% of A)	5,660,947.20
E. Owners Insurance (8% of A)	22,643,788.80
F. Mitigation (2% of A)	5,660,947.20
G. Right-of-Way	960,000.00
H. Force Account (8% of A)	22,643,788.80
I. Employee Training (3% of A)	8,491,420.80
J. Construction Change Orders (12% of A & F, 2% of B)	34,644,996.86
K. Project Services (25% of A & F, 1% of B, 10% of J)	75,641,576.49
L. Subtotal (A thru K)	473,547,194.15
M. Project Reserve (20% of L)	94,709,438.83
N. Total Cost in 1992 Dollars (L + M)	568,256,632.98
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 12 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	138,418,390.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	6,920,919.50
D. Testing and Operations Mobilization (2% of A)	2,768,367.80
E. Owners Insurance (8% of A)	11,073,471.20
F. Mitigation (2% of A)	2,768,367.80
G. Right-of-Way	1,920,000.00
H. Force Account (8% of A)	11,073,471.20
I. Employee Training (3% of A)	4,152,551.70
J. Construction Change Orders (12% of A & F, 2% of B)	16,942,410.94
K. Project Services (25% of A & F, 1% of B, 10% of J)	36,990,930.54
L. Subtotal (A thru K)	233,028,880.68
M. Project Reserve (20% of L)	46,605,776.14
N. Total Cost in 1992 Dollars (L + M)	279,634,656.82
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops & Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 13 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	125,878,448.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	6,293,922.40
D. Testing and Operations Mobilization (2% of A)	2,517,568.96
E. Owners Insurance (8% of A)	10,070,275.84
F. Mitigation (2% of A)	2,517,568.96
G. Right-of-Way	1,920,000.00
H. Force Account (8% of A)	10,070,275.84
I. Employee Training (3% of A)	3,776,353.44
J. Construction Change Orders (12% of A & F, 2% of B)	15,407,522.04
K. Project Services (25% of A & F, 1% of B, 10% of J)	33,639,756.44
L. Subtotal (A thru K)	212,091,691.92
M. Project Reserve (20% of L)	42,418,338.38
N. Total Cost in 1992 Dollars (L + M)	254,510,030.30
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops & Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 1 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	29,143,458.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	1,457,172.90
D. Testing and Operations Mobilization (2% of A)	582,869.16
E. Owners Insurance (8% of A)	2,331,476.64
F. Mitigation (2% of A)	582,869.16
G. Right-of-Way	
H. Force Account (8% of A)	2,331,476.64
I. Employee Training (3% of A)	874,303.74
J. Construction Change Orders (12% of A & F, 2% of B)	3,567,159.26
K. Project Services (25% of A & F, 1% of B, 10% of J)	7,788,297.72
L. Subtotal (A thru K)	48,659,083.22
M. Project Reserve (20% of L)	9,731,816.64
N. Total Cost in 1992 Dollars (L + M)	58,390,899.86
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 2 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	44,533,320.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	2,226,666.00
D. Testing and Operations Mobilization (2% of A)	890,666.40
E. Owners Insurance (8% of A)	3,562,665.60
F. Mitigation (2% of A)	890,666.40
G. Right-of-Way	
H. Force Account (8% of A)	3,562,665.60
I. Employee Training (3% of A)	1,335,999.60
J. Construction Change Orders (12% of A & F, 2% of B)	5,450,878.37
K. Project Services (25% of A & F, 1% of B, 10% of J)	11,901,084.44
L. Subtotal (A thru K)	74,354,612.40
M. Project Reserve (20% of L)	14,870,922.48
N. Total Cost in 1992 Dollars (L + M)	89,225,534.89
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 3 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	60,245,032.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	3,012,251.60
D. Testing and Operations Mobilization (2% of A)	1,204,900.64
E. Owners Insurance (8% of A)	4,819,602.56
F. Mitigation (2% of A)	1,204,900.64
G. Right-of-Way	
H. Force Account (8% of A)	4,819,602.56
I. Employee Training (3% of A)	1,807,350.96
J. Construction Change Orders (12% of A & F, 2% of B)	7,373,991.92
K. Project Services (25% of A & F, 1% of B, 10% of J)	16,099,882.35
L. Subtotal (A thru K)	100,587,515.23
M. Project Reserve (20% of L)	20,117,503.05
N. Total Cost in 1992 Dollars (L + M)	120,705,018.27
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 4 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	37,950,888.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	1,897,544.40
D. Testing and Operations Mobilization (2% of A)	759,017.76
E. Owners Insurance (8% of A)	3,036,071.04
F. Mitigation (2% of A)	759,017.76
G. Right-of-Way	
H. Force Account (8% of A)	3,036,071.04
I. Employee Training (3% of A)	1,138,526.64
J. Construction Change Orders (12% of A & F, 2% of B)	4,645,188.69
K. Project Services (25% of A & F, 1% of B, 10% of J)	10,141,995.31
L. Subtotal (A thru K)	63,364,320.64
M. Project Reserve (20% of L)	12,672,864.13
N. Total Cost in 1992 Dollars (L + M)	76,037,184.77
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops & Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 5 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	116,638,884.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	5,831,944.20
D. Testing and Operations Mobilization (2% of A)	2,332,777.68
E. Owners Insurance (8% of A)	9,331,110.72
F. Mitigation (2% of A)	2,332,777.68
G. Right-of-Way	
H. Force Account (8% of A)	9,331,110.72
I. Employee Training (3% of A)	3,499,166.52
J. Construction Change Orders (12% of A & F, 2% of B)	14,276,599.40
K. Project Services (25% of A & F, 1% of B, 10% of J)	31,170,575.36
L. Subtotal (A thru K)	194,744,946.28
M. Project Reserve (20% of L)	38,948,989.26
N. Total Cost in 1992 Dollars (L + M)	233,693,935.54
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 6 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	20,587,920.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	1,029,396.00
D. Testing and Operations Mobilization (2% of A)	411,758.40
E. Owners Insurance (8% of A)	1,647,033.60
F. Mitigation (2% of A)	411,758.40
G. Right-of-Way	
H. Force Account (8% of A)	1,647,033.60
I. Employee Training (3% of A)	617,637.60
J. Construction Change Orders (12% of A & F, 2% of B)	2,519,961.41
K. Project Services (25% of A & F, 1% of B, 10% of J)	5,501,915.74
L. Subtotal (A thru K)	34,374,414.75
M. Project Reserve (20% of L)	6,874,882.95
N. Total Cost in 1992 Dollars (L + M)	41,249,297.70
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 7 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	27,449,648.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	1,372,482.40
D. Testing and Operations Mobilization (2% of A)	548,992.96
E. Owners Insurance (8% of A)	2,195,971.84
F. Mitigation (2% of A)	548,992.96
G. Right-of-Way	
H. Force Account (8% of A)	2,195,971.84
I. Employee Training (3% of A)	823,489.44
J. Construction Change Orders (12% of A & F, 2% of B)	3,359,836.92
K. Project Services (25% of A & F, 1% of B, 10% of J)	7,335,643.93
L. Subtotal (A thru K)	45,831,030.29
M. Project Reserve (20% of L)	9,166,206.06
N. Total Cost in 1992 Dollars (L + M)	54,997,236.34
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 8 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	27,723,174.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	1,386,158.70
D. Testing and Operations Mobilization (2% of A)	554,463.48
E. Owners Insurance (8% of A)	2,217,853.92
F. Mitigation (2% of A)	554,463.48
G. Right-of-Way	
H. Force Account (8% of A)	2,217,853.92
I. Employee Training (3% of A)	831,695.22
J. Construction Change Orders (12% of A & F, 2% of B)	3,393,316.50
K. Project Services (25% of A & F, 1% of B, 10% of J)	7,408,741.02
L. Subtotal (A thru K)	46,287,720.24
M. Project Reserve (20% of L)	9,257,544.05
N. Total Cost in 1992 Dollars (L + M)	55,545,264.28
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops & Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 9 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	10,674,672.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	533,733.60
D. Testing and Operations Mobilization (2% of A)	213,493.44
E. Owners Insurance (8% of A)	853,973.76
F. Mitigation (2% of A)	213,493.44
G. Right-of-Way	
H. Force Account (8% of A)	853,973.76
I. Employee Training (3% of A)	320,240.16
J. Construction Change Orders (12% of A & F, 2% of B)	1,306,579.85
K. Project Services (25% of A & F, 1% of B, 10% of J)	2,852,699.35
L. Subtotal (A thru K)	17,822,859.36
M. Project Reserve (20% of L)	3,564,571.87
N. Total Cost in 1992 Dollars (L + M)	21,387,431.23
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 10 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	10,647,216.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	532,360.80
D. Testing and Operations Mobilization (2% of A)	212,944.32
E. Owners Insurance (8% of A)	851,777.28
F. Mitigation (2% of A)	212,944.32
G. Right-of-Way	
H. Force Account (8% of A)	851,777.28
I. Employee Training (3% of A)	319,416.48
J. Construction Change Orders (12% of A & F, 2% of B)	1,303,219.24
K. Project Services (25% of A & F, 1% of B, 10% of J)	2,845,362.00
L. Subtotal (A thru K)	17,777,017.72
M. Project Reserve (20% of L)	3,555,403.54
N. Total Cost in 1992 Dollars (L + M)	21,332,421.27
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 11 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	0.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	0.00
D. Testing and Operations Mobilization (2% of A)	0.00
E. Owners Insurance (8% of A)	0.00
F. Mitigation (2% of A)	0.00
G. Right-of-Way	
H. Force Account (8% of A)	0.00
I. Employee Training (3% of A)	0.00
J. Construction Change Orders (12% of A & F, 2% of B)	0.00
K. Project Services (25% of A & F, 1% of B, 10% of J)	0.00
L. Subtotal (A thru K)	0.00
M. Project Reserve (20% of L)	0.00
N. Total Cost in 1992 Dollars (L + M)	0.00
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

ROUTE 12 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	160,000.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	8,000.00
D. Testing and Operations Mobilization (2% of A)	3,200.00
E. Owners Insurance (8% of A)	12,800.00
F. Mitigation (2% of A)	3,200.00
G. Right-of-Way	
H. Force Account (8% of A)	12,800.00
I. Employee Training (3% of A)	4,800.00
J. Construction Change Orders (12% of A & F, 2% of B)	19,584.00
K. Project Services (25% of A & F, 1% of B, 10% of J)	42,758.40
L. Subtotal (A thru K)	267,142.40
M. Project Reserve (20% of L)	53,428.48
N. Total Cost in 1992 Dollars (L + M)	320,570.88
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

*Locomotives, Shops & Ancillary Fac., Locomotive Change Fac., and Control Center not included

ROUTE 13 PROJECT ADD-ONS

	<u>AMT.</u>
A. Construction	0.00
B. Locomotives	
C. Contractors Mobilization/Demobilization (5% of A)	0.00
D. Testing and Operations Mobilization (2% of A)	0.00
E. Owners Insurance (8% of A)	0.00
F. Mitigation (2% of A)	0.00
G. Right-of-Way	
H. Force Account (8% of A)	0.00
I. Employee Training (3% of A)	0.00
J. Construction Change Orders (12% of A & F, 2% of B)	0.00
K. Project Services (25% of A & F, 1% of B, 10% of J)	0.00
L. Subtotal (A thru K)	0.00
M. Project Reserve (20% of L)	0.00
N. Total Cost in 1992 Dollars (L + M)	0.00
O. Annual Inflation:	
4% 1992 thru 1995	
5% 1995 thru 2000	
6% 2001 thru 2010	

**CIVIL, STRUCTURAL, SIGNAL, & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv Desirable and 50Kv Min.**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u> #1	<u>Cost</u>	<u>Quantity</u> #2	<u>Cost</u>	<u>Quantity</u> #3	<u>Cost</u>	<u>Quantity</u> #4	<u>Cost</u>	<u>Quantity</u> #5	<u>Cost</u>
<u>Stabilize Track for Electrification</u>												
Single Track	T.F.	6	296,208	1,777,248	422,400	2,534,400	434,016	2,604,096	327,360	1,964,160	1,294,656	7,767,936
<u>Overhead Utility Relocations</u>	L.S.	16,000	10	160,000	37	592,000	16	256,000	16	256,000	49	784,000
<u>Underground Utility Relocations</u>	L.F.	0	0	0	0	0	0	0	0	0	0	0
<u>Right-of-Way Acquisition</u>	Ac.	800,000	0	0	0	0	0	0	0	0	0	0
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>		0.20	0	0	0	0	0	0	0	0	0	0
<u>Site Demolition</u>	C.Y.	80	0	0	0	0	0	0	0	0	0	0
<u>Shops & Ancillary Facilities</u>	L.S.	40,000,000	0	0	0	0	0	0	0	0	0	0
<u>Locomotive Change Facilities</u>	L.S.	4,000,000 / 6,000,000	0	0	0	0	0	0	0	0	0	0
<u>Electric Locomotives</u>	L.S.		0	0	0	0	0	0	0	0	0	0
Passenger	EA	5,250,000	0	0	0	0	0	0	0	0	0	0
Freight	EA	4,000,000	0	0	0	0	0	0	0	0	0	0
<u>Crossing Warning Systems</u>	EA	100,000	24	2,400,000	78	7,800,000	33	3,300,000	34	3,400,000	101	10,100,000
<u>Communications SCADA (Supervisory Control)</u>	R.F.	30	188,496	5,654,880	299,904	8,997,120	250,800	7,524,000	184,272	5,528,160	705,936	21,178,080

**CIVIL, STRUCTURAL, SIGNAL, & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv Desirable and 50Kv Min.**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u> #1	<u>Cost</u>	<u>Quantity</u> #2	<u>Cost</u>	<u>Quantity</u> #3	<u>Cost</u>	<u>Quantity</u> #4	<u>Cost</u>	<u>Quantity</u> #5	<u>Cost</u>
Control Center	L.S.	10,000,000	0	0	0	0	0	0	0	0	0	0
Overhead Bridge												
Clearance Improvements												
(Including Approaches)												
Vertical Clearance												
Improvements	L.S.	600,000	0	0	0	0	1	600,000	0	0	2	1,200,000
	L.S.	700,000	1	700,000	0	0	0	0	1	700,000	0	0
	L.S.	1,000,000	0	0	0	0	0	0	0	0	0	0
Track Lowering												
Single Track (12"Av)	T.F.	40	54,000	2,160,000	7,000	280,000	1,000	40,000	6,000	240,000	95,000	3,800,000
Tunnel Modifications												
Track Lowering	T.F.	500	0	0	0	0	0	0	0	0	0	0
Structural Mod.	R.F.	3,000	0	0	0	0	8,710	26,130,000	7,000	21,000,000	0	0
Signals (Wayside)												
Phase Sel & Tru-II	T.F.	55	296,206	16,291,330	442,360	24,329,800	426,912	23,480,160	326,192	17,940,560	1,300,992	71,554,560
Cab Signals	T.F.	7	0	0	0	0	0	0	0	0	504,892	3,534,244
TOTAL COST				29,143,458		44,533,320		63,934,256		51,028,880		119,918,820

**CIVIL, STRUCTURAL, SIGNAL, & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv Desirable and 50Kv Min.**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#6		#7		#8		#9		#10	
<u>Stabilize Track for Electrification</u>												
Single Track	T.F.	6	540,672	3,244,032	601,920	3,611,520	236,544	1,419,264	435,600	2,613,600	67,056	402,336
<u>Overhead Utility Relocations</u>	L.S.	16,000	23	368,000	26	416,000	30	480,000	34	544,000	21	336,000
<u>Underground Utility Relocations</u>	L.F.	0	0	0	0	0	0	0	0	0	0	0
<u>Right-of-Way Acquisition</u>	Ac.	800,000	0	0	0	0	0	0	0	0	0	0
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>		0.20	0	0	0	0	0	0	0	0	0	0
<u>Site Demolition</u>	C.Y.	80	0	0	0	0	0	0	0	0	0	0
<u>Shops & Ancillary Facilities</u>	L.S.	40,000,000	0	0	0	0	0	0	0	0	0	0
<u>Locomotive Change Facilities</u>	L.S.	4,000,000 / 6,000,000	0	0	0	0	0	0	0	0	0	0
<u>Electric Locomotives</u>	L.S.		0	0	0	0	0	0	0	0	0	0
Passenger	EA	5,250,000	0	0	0	0	0	0	0	0	0	0
Freight	EA	4,000,000	0	0	0	0	0	0	0	0	0	0
<u>Crossing Warning Systems</u>	EA	100,000	51	5,100,000	54	5,400,000	61	6,100,000	71	7,100,000	42	4,200,000
<u>Communications SCADA (Supervisory Control)</u>	R.F.	30	313,104	9,393,120	326,304	9,789,120	206,448	6,193,440	278,784	8,363,520	63,360	1,900,800

**CIVIL, STRUCTURAL, SIGNAL, & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv Desirable and 50Kv Min.**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#6		#7		#8		#9		#10	
Control Center	L.S.	10,000,000	0	0	0	0	0	0	0	0	0	0
Overhead Bridge Clearance Improvements (Including Approaches)												
Vertical Clearance Improvements												
	L.S.	600,000	0	0	0	0	0	0	0	0	0	0
	L.S.	700,000	1	700,000	1	700,000	0	0	1	700,000	0	0
	L.S.	1,000,000	0	0	0	0	0	0	0	0	0	0
Track Lowering												
Single Track (12"Av)	T.F.	40	33,000	1,320,000	28,000	1,120,000	13,000	520,000	28,000	1,120,000	3,000	120,000
Tunnel Modifications												
Track Lowering	T.F.	500	0	0	0	0	0	0	0	0	0	0
Structural Mod.	R.F.	3,000	0	0	0	0	0	0	0	0	0	0
Signals (Wayside)												
Phase Sel & Tru-II	T.F.	55	571,190	31,415,450	608,256	33,454,080	236,554	13,010,470	430,330	23,668,150	67,056	3,688,080
Cab Signals	T.F.	7	0	0	0	0	0	0	70,752	495,264	0	0
TOTAL COST				51,540,602		54,490,720		27,723,174		44,604,534		10,647,216

**CIVIL, STRUCTURAL, SIGNAL, & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv Desirable and 50Kv Min.**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>TOTAL QUANTITY</u>	<u>TOTAL COST</u>
			#11		#12		#13			
<u>Stabilize Track for Electrification</u>										
Single Track	T.F.	6	63,360	380,160	628,320	3,769,920	589,248	3,535,488	5,937,360	35,624,160
<u>Overhead Utility Relocations</u>										
	L.S.	16,000	3	48,000	33	528,000	30	480,000	328	5,248,000
<u>Underground Utility Relocations</u>										
	L.F.	0	0	0	0	0	0	0	0	0
<u>Right-of-Way Acquisition</u>										
	Ac.	800,000	0	0	0	0	0	0	0	0
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>										
		0.20	0	0	0	0	0	0	0	0
<u>Site Demolition</u>										
	C.Y.	80	0	0	0	0	0	0	0	0
<u>Shops & Ancillary Facilities</u>										
	L.S.	40,000,000	0	0	0	0	0	0	0	0
<u>Locomotive Change Facilities</u>										
	L.S.	4,000,000 / 6,000,000	0	0	0	0	0	0	0	0
<u>Electric Locomotives</u>										
Passenger	EA	5,250,000	0	0	0	0	0	0	0	0
Freight	EA	4,000,000	0	0	0	0	0	0	0	0
<u>Crossing Warning Systems</u>										
	EA	100,000	7	700,000	70	7,000,000	67	6,700,000	693	69,300,000
<u>Communications SCADA (Supervisory Control)</u>										
	R.F.	30	23,760	712,800	360,624	10,818,720	352,176	10,565,280	3,553,968	106,619,040

**CIVIL, STRUCTURAL, SIGNAL, & SCADA ROUTE COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv Desirable and 50Kv Min.**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>TOTAL QUANTITY</u>	<u>TOTAL COST</u>
			#11		#12		#13			
Control Center	L.S.	10,000,000	0	0	0	0	0	0	0	0
Overhead Bridge Clearance Improvements (Including Approaches)										
Vertical Clearance Improvements										
	L.S.	600,000	0	0	0	0	0	0	3	1,800,000
	L.S.	700,000	0	0	1	700,000	1	700,000	7	
	L.S.	1,000,000	0	0	0	0	0	0	0	
Track Lowering										
Single Track (12"Av)	T.F.	40	44,000	1,760,000	49,000	1,960,000	48,000	1,920,000	409,000	16,360,000
Tunnel Modifications										
Track Lowering	T.F.	500	0	0	0	0	0	0	0	0
Structural Mod.	R.F.	3,000	0	0	0	0	0	0	15,710	47,130,000
Signals (Wayside)										
Phase Sel & Tru-II	T.F.	55	58,080	3,194,400	623,050	34,267,750	583,976	32,118,680	5,971,154	328,413,470
Cab Signals	T.F.	7	0	0	0	0	0	0	575,644	4,029,508
TOTAL COST				6,795,360		59,044,390		56,019,448	16,463,867	614,524,178

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv Desirable and 50 Kv Min.**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#1		#2		#3		#4		#5	
<u>Control</u>)	R.F.	30	3,168	95,040	1,584	47,520	1,056	31,680	61,248	1,837,440	13,200	396,000
<u>Control Center</u>	L.S.	10,000,000		0		0		0		0		0
<u>Overhead Bridge Clearance Improvements</u> (Including Approaches)												
Vertical Clearance Improvements												
	L.S.	600,000		0		0		0		0		0
	L.S.	700,000										
	L.S.	1,000,000										
<u>Track Lowering</u>												
Single Track (12"Av)	T.F.	40		0		0		0		0		0
<u>Tunnel Modifications</u>												
Track Lowering	T.F.	500		0		0		0		0		0
Structural Mod.	R.F.	3,000		0		0		0		0		0
<u>Signals (Wayside)</u>												
Phase Sel & Tru-II	T.F.	55	54,912	3,020,160	6,232	342,760	2,112	116,160	67,056	3,688,080	28,512	1,568,160
Cab Signals	T.F.	7		0		0		0		0		0
TOTAL COST				3,279,936		409,288		160,512		5,927,856		2,914,912

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv Desirable and 50 Kv Min.**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#6		#7		#8		#9		#10	
<u>Control)</u>	R.F.	30	90,816	2,724,480	6,336	190,080	0	122,496	3,674,880	6,336	190,080	
<u>Control Center</u>	L.S.	10,000,000		0		0	0		0		0	
<u>Overhead Bridge</u>												
<u>Clearance Improvements</u>												
(Including Approaches)												
Vertical Clearance												
Improvements	L.S.	600,000		0		0	0		0		0	
	L.S.	700,000										
	L.S.	1,000,000										
<u>Track Lowering</u>												
Single Track (12"Av)	T.F.	40		0		0	0	7,000	280,000			0
<u>Tunnel Modifications</u>												
Track Lowering	T.F.	500		0		0	0		0			0
Structural Mod.	R.F.	3,000		0		0	0		0			0
<u>Signals (Wayside)</u>												
Phase Sel & Tru-II	T.F.	55	130,944	7,201,920	6,336	348,480	0	146,256	8,044,080	12,672	696,960	
Cab Signals	T.F.	7		0		0	0		0		0	
TOTAL COST				13,620,064		892,576	0		17,328,176		1,063,072	

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv Desirable and 50 Kv Min.**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#11	#11	#12	#12	#13	#13	#14	#14	#15	#15
<u>Control</u>)	R.F.	30		0	48,048	1,441,440	125,136	3,754,080	38,544	1,156,320	153,120	4,593,600
<u>Control Center</u>	L.S.	10,000,000		0		0		0		0		0
<u>Overhead Bridge</u>												
<u>Clearance Improvements</u> (Including Approaches)												
Vertical Clearance												
Improvements	L.S.	600,000		0		0		0		0	1	600,000
	L.S.	700,000					1	700,000				
	L.S.	1,000,000						0				
<u>Track Lowering</u>												
Single Track (12"Av)	T.F.	40		0		0	6,000	240,000		0	1,000	40,000
<u>Tunnel Modifications</u>												
Track Lowering	T.F.	500		0		0	0	0		0	0	0
Structural Mod.	R.F.	3,000		0		0	7,000	21,000,000		0	8,710	26,130,000
<u>Signals (Wayside)</u>												
Phase Sel & Tru-II	T.F.	55		0	96,096	5,285,280	156,280	8,595,400	70,088	3,854,840	186,912	10,280,160
Cab Signals	T.F.	7		0		0		0		0		0
TOTAL COST				0		8,325,696		37,950,888		6,121,688		44,734,576

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
 COMMUTER ONLY
 25Kv Desirable and 50 Kv Min.**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#16		#17		#18		#19		#20	
<u>Stabilize Track for Electrification</u>												
Single Track	T.F.	6	0	54,912	329,472	13,728	82,368	80,256	481,536	141,504	849,024	
<u>Overhead Utility Relocations</u>												
	L.S.	16,000	0		0		0	1	16,000	5	80,000	
<u>Underground Utility Relocations</u>												
	L.F.	0	0		0		0		0		0	
<u>Right-of-Way Acquisition</u>												
	Ac.	800,000	0		0		0		0		0	
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>												
		0.20	0		0		0		0		0	
<u>Site Demolition</u>												
	C.Y.	80	0		0		0		0		0	
<u>Shops & Ancillary Facilities</u>												
	L.S.	40,000,000	0		0		0		0		0	
<u>Locomotive Change Facilities</u>												
	L.S.	4,000,000 / 6,000,000	0		0		0		0		0	
<u>Electric Locomotives</u>												
Passenger	EA	5,250,000	0		0		0		0		0	
Freight	EA	4,000,000	0		0		0		0		0	
<u>Crossing Warning Systems</u>												
	EA	100,000	0		0		0	2	200,000	11	1,100,000	
<u>Communications SCADA (Supervisory</u>												

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv Desirable and 50 Kv Min.**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#16	#16	#17	#17	#18	#18	#19	#19	#20	#20
<u>Control)</u>	R.F.	30		0	16,896	506,880	6,864	205,920	40,128	1,203,840	68,112	2,043,360
<u>Control Center</u>	L.S.	10,000,000		0		0		0		0		0
<u>Overhead Bridge Clearance Improvements</u> (Including Approaches)												
Vertical Clearance Improvements												
	L.S.	600,000		0		0		0		0		0
	L.S.	700,000										
	L.S.	1,000,000										
<u>Track Lowering</u>												
Single Track (12"Av)	T.F.	40		0	12,000	480,000	4,000	160,000		0		0
<u>Tunnel Modifications</u>												
Track Lowering	T.F.	500		0		0		0		0		0
Structural Mod.	R.F.	3,000		0		0		0		0		0
<u>Signals (Wayside)</u>												
Phase Sel & Tru-II	T.F.	55		0	33,792	1,858,560	13,728	755,040	80,256	4,414,080	141,504	7,782,720
Cab Signals	T.F.	7		0		0		0		0		0
TOTAL COST				0		3,174,912		1,203,328		6,315,456		11,855,104

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv Desirable and 50 Kv Min.**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#21		#22		#23		#24		#25	
<u>Stabilize Track for Electrification</u>												
Single Track	T.F.	6	86,064	516,384	70,752	424,512	226,512	1,359,072	334,224	2,005,344	68,112	408,672
<u>Overhead Utility Relocations</u>												
	L.S.	16,000	8	128,000	7	112,000	3	48,000	14	224,000	8	128,000
<u>Underground Utility Relocations</u>												
	L.F.	0		0		0		0		0		0
<u>Right-of-Way Acquisition</u>												
	Ac.	800,000		0		0		0		0		0
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>												
		0.20		0		0		0		0		0
<u>Site Demolition</u>												
	C.Y.	80		0		0		0		0		0
<u>Shops & Ancillary Facilities</u>												
	L.S.	40,000,000		0		0		0		0		0
<u>Locomotive Change Facilities</u>												
	L.S.	4,000,000 / 6,000,000		0		0		0		0		0
<u>Electric Locomotives</u>												
Passenger	EA	5,250,000		0		0		0		0		0
Freight	EA	4,000,000		0		0		0		0		0
<u>Crossing Warning Systems</u>												
	EA	100,000	17	1,700,000	14	1,400,000	7	700,000	28	2,800,000	16	1,600,000
<u>Communications SCADA (Supervisory</u>												

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv Desirable and 50 Kv Min.**

	<u>Units</u>	<u>Unit Costs</u>	<u>#21</u>		<u>#22</u>		<u>#23</u>		<u>#24</u>		<u>#25</u>	
			<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
Control)	R.F.	30	41,712	1,251,360	32,736	982,080	154,176	4,625,280	217,008	6,510,240	29,568	887,040
Control Center	L.S.	10,000,000		0		0		0		0		0
Overhead Bridge Clearance Improvements (Including Approaches)												
Vertical Clearance Improvements												
	L.S.	600,000		0		0		0	2	1,200,000		0
	L.S.	700,000										
	L.S.	1,000,000										
Track Lowering												
Single Track (12"Av)	T.F.	40	4,000	160,000	4,000	160,000	32,000	1,280,000	28,000	1,120,000	6,000	240,000
Tunnel Modifications												
Track Lowering	T.F.	500		0		0		0		0		0
Structural Mod.	R.F.	3,000		0		0		0		0		0
Signals (Wayside)												
Phase Sel & Tru-II	T.F.	55	86,064	4,733,520	70,752	3,891,360	226,512	12,458,160	334,224	18,382,320	68,112	3,746,160
Cab Signals	T.F.	7		0	70,752	495,264	226,512	1,585,584	207,628	1,453,396		0
TOTAL COST				8,489,264		7,465,216		22,056,096		33,695,300		7,009,872

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv Desirable and 50 Kv Min.**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#26		#27		#28		#29		#30	
Stabilize Track for Electrification												
Single Track	T.F.	6	57,024	342,144	212,784	1,276,704	0	0	0	0	10,560	63,360
Overhead Utility Relocations												
	L.S.	16,000	5	80,000	14	224,000		0		0		0
Underground Utility Relocations												
	L.F.	0		0		0		0		0		0
Right-of-Way Acquisition												
	Ac.	800,000		0		0		0		0		0
Relocation Costs, Legal Fees, Other ROW Costs												
		0.20		0		0		0		0		0
Site Demolition												
	C.Y.	80		0		0		0		0		0
Shops & Ancillary Facilities												
	L.S.	40,000,000		0		0		0		0		0
Locomotive Change Facilities												
	L.S.	4,000,000 / 6,000,000		0		0		0		0		0
Electric Locomotives												
Passenger	EA	5,250,000		0		0		0		0		0
Freight	EA	4,000,000		0		0		0		0		0
Crossing Warning Systems												
	EA	100,000	11	1,100,000	28	2,800,000		0		0	1	100,000
Communications SCADA (Supervisory												

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv Desirable and 50 Kv Min.**

	<u>Units</u>	<u>Unit Costs</u>	<u>#26</u>		<u>#27</u>		<u>#28</u>		<u>#29</u>		<u>#30</u>	
			<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
Control)	R.F.	30	28,512	855,360	158,400	4,752,000	0	0	0	0	5,280	158,400
Control Center	L.S.	10,000,000		0		0		0		0		0
Overhead Bridge												
Clearance Improvements												
(Including Approaches)												
Vertical Clearance												
Improvements	L.S.	600,000		0		0		0		0		0
	L.S.	700,000			1	700,000						
	L.S.	1,000,000				0						
Track Lowering												
Single Track (12"Av)	T.F.	40		0	12,000	480,000		0		0		0
Tunnel Modifications												
Track Lowering	T.F.	500		0		0		0		0		0
Structural Mod.	R.F.	3,000		0		0		0		0		0
Signals (Wayside)												
Phase Sel & Tru-II	T.F.	55	57,024	3,136,320	212,784	11,703,120	0	0	0	0	10,560	580,800
Cab Signals	T.F.	7		0		0		0		0		0
TOTAL COST				5,513,824		21,935,824		0		0		902,560

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv Desirable and 50 Kv Min.**

	<u>Units</u>	<u>Unit Costs</u>	<u>#31</u>		<u>#32</u>		<u>#33</u>		<u>#34</u>		<u>#35</u>	
			<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
<u>Control)</u>	R.F.	30	49,632	1,488,960	33,792	1,013,760	61,776	1,853,280	38,016	1,140,480	105,072	3,152,160
<u>Control Center</u>	L.S.	10,000,000		0		0		0		0		0
<u>Overhead Bridge</u>												
<u>Clearance Improvements</u> (Including Approaches)												
Vertical Clearance												
Improvements	L.S.	600,000		0		0		0		0		0
	L.S.	700,000							1	700,000		
	L.S.	1,000,000								0		
<u>Track Lowering</u>												
Single Track (12"Av)	T.F.	40		0		0	1,000	40,000	6,000	240,000	8,000	320,000
<u>Tunnel Modifications</u>												
Track Lowering	T.F.	500		0		0		0		0		0
Structural Mod.	R.F.	3,000		0		0		0		0		0
<u>Signals (Wayside)</u>												
Phase Sel & Tru-II	T.F.	55	78,672	4,326,960	67,582	3,717,010	84,480	4,646,400	54,912	3,020,160	170,016	9,350,880
Cab Signals	T.F.	7		0		0		0		0		0
TOTAL COST				6,819,952		5,668,274		7,794,560		6,078,112		16,535,136

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv Desirable and 50 Kv Min.**

	<u>Units</u>	<u>Unit Costs</u>	<u>#36</u>		<u>#37</u>		<u>#38</u>		<u>#39</u>		<u>#40</u>	
			<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
<u>Control)</u>	R.F.	30	0	0	10,560	316,800	0	0	0	0	0	0
<u>Control Center</u>	L.S.	10,000,000		0		0		0		0		0
<u>Overhead Bridge</u>												
<u>Clearance Improvements</u>												
(Including Approaches)												
Vertical Clearance												
Improvements	L.S.	600,000		0		0		0		0		0
	L.S.	700,000										
	L.S.	1,000,000										
<u>Track Lowering</u>												
Single Track (12"Av)	T.F.	40		0	18,000	720,000		0		0	6,000	240,000
<u>Tunnel Modifications</u>												
Track Lowering	T.F.	500		0		0		0		0		0
Structural Mod.	R.F.	3,000		0		0		0		0		0
<u>Signals (Wayside)</u>												
Phase Sel & Tru-II	T.F.	55	0	0	29,568	1,626,240	0	0	0	0	0	0
Cab Signals	T.F.	7		0		0		0		0		0
TOTAL COST				0		2,840,448		0		0		240,000

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv Desirable and 50 Kv Min.**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#41		#42		#43		#44		#45	
Stabilize Track for Electrification												
Single Track	T.F.	6	0	0	0	0	0	0	0	0	0	0
Overhead Utility Relocations												
	L.S.	16,000		0		0		0		0		0
Underground Utility Relocations												
	L.F.	0		0		0		0		0		0
Right-of-Way Acquisition												
	Ac.	800,000		0		0		0		0		0
Relocation Costs, Legal Fees, Other ROW Costs												
		0.20		0		0		0		0		0
Site Demolition												
	C.Y.	80		0		0		0		0		0
Shops & Ancillary Facilities												
	L.S.	40,000,000		0		0		0		0		0
Locomotive Change Facilities												
	L.S.	4,000,000 / 6,000,000		0		0		0		0		0
Electric Locomotives												
Passenger	EA	5,250,000		0		0		0		0		0
Freight	EA	4,000,000		0		0		0		0		0
Crossing Warning Systems												
	EA	100,000	0	0	0	0	0	0	0	0	0	0
Communications SCADA (Supervisory												

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv Desirable and 50 Kv Min.**

	<u>Units</u>	<u>Unit Costs</u>	<u>#41</u>		<u>#42</u>		<u>#43</u>		<u>#44</u>		<u>#45</u>	
			<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
<u>Control)</u>	R.F.	30	0	0	0	0	0	0	0	0	0	0
<u>Control Center</u>	L.S.	10,000,000		0		0		0		0		0
<u>Overhead Bridge</u>												
<u>Clearance Improvements</u> (Including Approaches)												
Vertical Clearance												
Improvements	L.S.	600,000		0		0		0		0		0
	L.S.	700,000										
	L.S.	1,000,000										
<u>Track Lowering</u>												
Single Track (12"Av)	T.F.	40		0	8,000	320,000		0	8,000	320,000	4,000	160,000
<u>Tunnel Modifications</u>												
Track Lowering	T.F.	500		0		0		0		0		0
Structural Mod.	R.F.	3,000		0		0		0		0		0
<u>Signals (Wayside)</u>												
Phase Sel & Tru-II	T.F.	55	0	0	0	0	0	0	0	0	0	0
Cab Signals	T.F.	7		0		0		0		0		0
TOTAL COST				0		320,000		0		320,000		160,000

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv Desirable and 50 Kv Min.**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#46		#47		#48		#49		#50	
Stabilize Track for Electrification												
Single Track	T.F.	6	0	0	0	0	29,040	174,240	0	0	0	0
Overhead Utility Relocations												
	L.S.	16,000	0	0	0	5	80,000		0			0
Underground Utility Relocations												
	L.F.	0		0		0	0		0			0
Right-of-Way Acquisition												
	Ac.	800,000		0		0	0		0			0
Relocation Costs, Legal Fees, Other ROW Costs												
		0.20		0		0	0		0			0
Site Demolition												
	C.Y.	80		0		0	0		0			0
Shops & Ancillary Facilities												
	L.S.	40,000,000		0		0	0		0			0
Locomotive Change Facilities												
	L.S.	4,000,000 / 6,000,000		0		0	0		0			0
Electric Locomotives												
Passenger	EA	5,250,000		0		0	0		0			0
Freight	EA	4,000,000		0		0	0		0			0
Crossing Warning Systems												
	EA	100,000		0		0	11	1,100,000		0		0
Communications SCADA (Supervisory												

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv Desirable and 50 Kv Min.**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#46		#47		#48		#49		#50	
<u>Control</u>)	R.F.	30	0	0			0	29,040	871,200	0	0	0
<u>Control Center</u>	L.S.	10,000,000		0					0		0	0
<u>Overhead Bridge</u>												
<u>Clearance Improvements</u> (Including Approaches)												
Vertical Clearance												
Improvements	L.S.	600,000		0					0		0	0
	L.S.	700,000										
	L.S.	1,000,000										
<u>Track Lowering</u>												
Single Track (12"Av)	T.F.	40		0					0		0	0
<u>Tunnel Modifications</u>												
Track Lowering	T.F.	500		0					0		0	0
Structural Mod.	R.F.	3,000		0					0		0	0
<u>Signals (Wayside)</u>												
Phase Sel & Tru-II	T.F.	55	0	0	0	0	29,040	1,597,200	0	0	0	0
Cab Signals	T.F.	7		0				0		0	0	0
TOTAL COST				0		0		3,822,640		0		0

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv Desirable and 50 Kv Min.**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#51	#51	#52	#52	#53	#53	#54	#54	#55	#55
<u>Control</u>)	R.F.	30	0	0	16,368	491,040	18,480	554,400	14,256	427,680	5,280	158,400
<u>Control Center</u>	L.S.	10,000,000		0		0		0		0		0
<u>Overhead Bridge Clearance Improvements</u> (Including Approaches)												
Vertical Clearance Improvements												
	L.S.	600,000		0		0		0		0		0
	L.S.	700,000										
	L.S.	1,000,000										
<u>Track Lowering</u>												
Single Track (12"Av)	T.F.	40		0	2,000	80,000	6,000	240,000	4,000	160,000		0
<u>Tunnel Modifications</u>												
Track Lowering	T.F.	500		0		0		0		0		0
Structural Mod.	R.F.	3,000		0		0		0		0		0
<u>Signals (Wayside)</u>												
Phase Sel & Tru-II	T.F.	55	0	0	32,746	1,801,030	36,960	2,032,800	28,512	1,568,160	5,280	290,400
Cab Signals	T.F.	7		0		0		0		0		0
TOTAL COST				0		3,316,486		3,296,640		3,074,912		480,480

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv Desirable and 50 Kv Min.**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#56		#57		#58		#59		#60	
<u>Control</u>)	R.F.	30	0	0	0	0	0	0	0	0	0	0
<u>Control Center</u>	L.S.	10,000,000		0		0		0		0		0
<u>Overhead Bridge Clearance Improvements</u> (Including Approaches)												
Vertical Clearance Improvements												
	L.S.	600,000		0		0		0		0		0
	L.S.	700,000										
	L.S.	1,000,000										
<u>Track Lowering</u>												
Single Track (12"Av)	T.F.	40	4,000	160,000	7,000	280,000	8,000	320,000	2,000	80,000		0
<u>Tunnel Modifications</u>												
Track Lowering	T.F.	500		0		0		0		0		0
Structural Mod.	R.F.	3,000		0		0		0		0		0
<u>Signals (Wayside)</u>												
Phase Sel & Tru-II	T.F.	55	0	0	0	0	0	0	0	0	0	0
Cab Signals	T.F.	7	0	0	0	0	0	0	0	0	0	0
TOTAL COST				160,000		280,000		320,000		80,000		0

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv Desirable and 50 Kv Min.**

	<u>Units</u>	<u>Unit Costs</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
			#61		#62		#63		#64		#65	
<u>Stabilize Track for Electrification</u>												
Single Track	T.F.	6	0	0	0	0	0	0	0	0	0	0
<u>Overhead Utility Relocations</u>												
	L.S.	16,000		0		0		0		0		0
<u>Underground Utility Relocations</u>												
	L.F.	0		0		0		0		0		0
<u>Right-of-Way Acquisition</u>												
	Ac.	800,000		0		0		0		0		0
<u>Relocation Costs, Legal Fees, Other ROW Costs</u>												
		0.20		0		0		0		0		0
<u>Site Demolition</u>												
	C.Y.	80		0		0		0		0		0
<u>Shops & Ancillary Facilities</u>												
	L.S.	40,000,000		0		0		0		0		0
<u>Locomotive Change Facilities</u>												
	L.S.	4,000,000 / 6,000,000		0		0		0		0		0
<u>Electric Locomotives</u>												
Passenger	EA	5,250,000		0		0		0		0		0
Freight	EA	4,000,000		0		0		0		0		0
<u>Crossing Warning Systems</u>												
	EA	100,000		0		0	0	0		0		0
<u>Communications SCADA (Supervisory</u>												

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv Desirable and 50 Kv Min.**

	<u>Units</u>	<u>Unit Costs</u>	<u>#61</u>		<u>#62</u>		<u>#63</u>		<u>#64</u>		<u>#65</u>	
			<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>
<u>Control)</u>	R.F.	30	0	0	0	0	0	0	0	0	0	0
			0		0		0		0		0	
<u>Control Center</u>	L.S.	10,000,000		0		0		0		0		0
<u>Overhead Bridge</u>												
<u>Clearance Improvements</u>												
(Including Approaches)												
Vertical Clearance												
Improvements	L.S.	600,000		0		0		0		0		0
	L.S.	700,000										
	L.S.	1,000,000										
<u>Track Lowering</u>												
Single Track (12"Av)	T.F.	40		0	4,000	160,000		0		0		0
<u>Tunnel Modifications</u>												
Track Lowering	T.F.	500		0		0		0		0		0
Structural Mod.	R.F.	3,000		0		0		0		0		0
<u>Signals (Wayside)</u>												
Phase Sel & Tru-II	T.F.	55	0	0	0	0	0	0	0	0	0	0
Cab Signals	T.F.	7		0		0		0		0		0
TOTAL COST				0		160,000		0		0		0

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv Desirable and 50 Kv Min.**

	<u>Units</u>	<u>Unit Costs</u>	<u>#66</u>		<u>#67</u>		<u>#68</u>		<u>#69</u>		<u>#70</u>		
			<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>	
<u>Control)</u>	R.F.	30	0	0			0	63,360	1,900,800	190,080	5,702,400	0	0
<u>Control Center</u>	L.S.	10,000,000		0			0		0		0		0
<u>Overhead Bridge Clearance Improvements</u> (Including Approaches)													
Vertical Clearance Improvements													
	L.S.	600,000		0			0		0		0		0
	L.S.	700,000											
	L.S.	1,000,000											
<u>Track Lowering</u>													
Single Track (12"Av)	T.F.	40		0			0	3,000	120,000	11,000	440,000		0
<u>Tunnel Modifications</u>													
Track Lowering	T.F.	500		0			0		0		0		0
Structural Mod.	R.F.	3,000		0			0		0		0		0
<u>Signals (Wayside)</u>													
Phase Sel & Tru-II	T.F.	55	0	0			0	67,056	3,688,080	203,808	11,209,440	0	0
Cab Signals	T.F.	7	0	0			0		0		0		0
TOTAL COST				0		0		10,647,216		24,406,688			ERR

**CIVIL, STRUCTURAL, SIGNAL, & SCADA SEGMENT COSTS RELATED TO ELECTRIFICATION
COMMUTER ONLY
25Kv Desirable and 50 Kv Min.**

	<u>Units</u>	<u>Unit Costs</u>	#71		#72		<u>TOTAL QUANTITY</u>	<u>TOTAL COST</u>
			<u>Quantity</u>	<u>Cost</u>	<u>Quantity</u>	<u>Cost</u>		
<u>Control</u>)	R.F.	30	4,224	126,720	95,568	2,867,040	2,205,984	66,179,520
<u>Control Center</u>	L.S.	10,000,000		0		0	0	0
<u>Overhead Bridge Clearance Improvements</u> (Including Approaches) Vertical Clearance Improvements								
	L.S.	600,000		0		0	3	1,800,000
	L.S.	700,000						
	L.S.	1,000,000						
<u>Track Lowering</u>								
Single Track (12"Av)	T.F.	40		0	5,000	200,000	231,000	9,240,000
<u>Tunnel Modifications</u>								
Track Lowering	T.F.	500		0		0	0	0
Structural Mod.	R.F.	3,000		0		0	15,710	47,130,000
<u>Signals (Wayside)</u>								
Phase Sel & Tru-II	T.F.	55	14,256	784,080	191,136	10,512,480	3,393,744	186,655,920
Cab Signals	T.F.	7		0		0	504,892	3,534,244
TOTAL COST				1,212,336		15,374,336	9,795,087	383,654,212

