

Appendix C – Cost Estimate Detail

Capitol Cost Estimate - Summary
Initial Feasibility Study
for
Commuter Rail from Clarksville to Nashville

		Total
10	TRACK & BRIDGE ELEMENTS	\$86,352,292
	10.04 Bridges	\$48,363,800
	10.05 Earthwork	\$4,279,840
	10.11 Track	\$31,848,652
	10.12 Turnouts	\$1,860,000
20	STATIONS	\$5,000,000
	20.01 At-Grade Stations	\$5,000,000
30	SUPPORT FACILITIES	\$2,488,000
	30.02 Light Maintenance Facility	\$950,000
	30.05 Rail Yard	\$1,538,000
40	SITework & SPECIAL CONDITIONS	\$3,500,000
	40.02 Utility Relocation	\$500,000
	40.06 Pedestrian / Bike Access	\$3,000,000
50	SYSTEMS	\$6,578,000
	50.01 Train Control and Signals	\$2,945,000
	50.02 Crossing Protection	\$3,438,000
	50.06 Fare Collection System	\$195,000
60	RIGHT-OF-WAY	\$6,030,000
	60.01 Purchase of land	\$4,480,000
	60.02 Relocation	\$1,550,000
70	VEHICLES	\$4,250,000
	70.03 Commuter Rail Vehicles	\$4,000,000
	70.07 Spare Parts	\$250,000
80	PROFESSIONAL SERVICES	\$17,472,339
	80.01 Preliminary Engineering	\$1,141,983
	80.02 Final Design	\$5,709,915
	80.03 PM for Design & Construction	\$4,567,932
	80.04 Construction Admin. Management	\$2,283,966
	80.05 Insurance	\$342,595
	80.06 Legal; Permits; Review Fees	\$570,991
	80.07 Surveys, Testing, Inspection	\$570,991
	80.08 Start up	\$2,283,966
90	CONTINGENCY	\$13,167,063
TOTAL		\$144,837,694

Capitol Cost Estimate Detail
Initial Feasibility Study
for
Commuter Rail from Clarksville to Nashville

		Quantity	Unit	Unit Price	Total
10	TRACK & BRIDGE ELEMENTS				\$86,352,292
10.04	Bridges				\$48,363,800
	10.041 Bridge Repair	3		<i>varies</i>	\$420,000
	10.042 Trestle Replacement	310	T.Ft.	\$6,000	\$1,860,000
	10.043 New Trestle	6,434	T.Ft.	\$5,700	\$36,673,800
	10.044 Overpass Replacement	620	T.Ft.	\$7,200	\$4,464,000
	10.045 New Overpass	715	T.Ft.	\$6,400	\$4,576,000
	10.046 Drainage Structures	3		<i>varies</i>	\$370,000
10.05	Earthwork				\$4,279,840
	10.051 Roadway Excavation	22,000	CY	\$8	\$176,000
	10.052 Fill	50,000	CY	\$10	\$500,000
	10.053 Rock Excavation	5,500	CY	\$40	\$220,000
	10.054 Clearing & Grubbing	151,384	T.Ft.	\$10	\$1,513,840
	10.055 Ditching	20,000	LF	\$20	\$400,000
	10.056 Riprap	42,000	Tons	\$35	\$1,470,000
10.11	Track				\$31,848,652
	10.111a Main Line - New Construction	146,784	T.Ft.	\$178	\$26,127,552
	10.111b Secondary - New Construction	7,200	T.Ft.	\$152	\$1,094,400
	10.112 Grade Ties	22,150	EA	\$68	\$1,506,200
	10.113a 136# Rail	32,680	LF	\$52	\$1,699,360
	10.114 Ballast	13,300	Ton	\$20	\$266,000
	10.115 Surfacing	85,680	T.Ft.	\$1	\$85,680
	10.116a Heavy Duty Grade Crossing	77	T.Ft.	\$850	\$65,450
	10.116b Med. Duty Grade Crossing	1,035	T.Ft.	\$450	\$465,750
	10.116c Private Crossing	324	T.Ft.	\$365	\$118,260
	10.116d Overhead Bridge	100	Ft	\$4,200	\$420,000
10.12	Turnouts				\$1,860,000
	10.121 #8 Hand Thrown T.O.	10	EA	\$65,000	\$650,000
	10.122 #10 Hand Thrown T.O.	4	EA	\$70,000	\$280,000
	10.123 #15 Power T.O.	6	EA	\$155,000	\$930,000
20	STATIONS				\$5,000,000
20.01	At-Grade Stations				\$5,000,000
	20.011 Mid-Town Station				\$1,750,000
	20.012 Ashland City Station				\$1,500,000
	20.013 Clarksville Station				\$1,750,000
30	SUPPORT FACILITIES				\$2,488,000
30.02	Light Maintenance Facility				\$950,000
	30.021 Nashville Maintenance Facility				\$950,000
30.05	Rail Yard				\$1,538,000
	30.051 Sitework				\$650,000
	30.052 Track				\$888,000
40	SITWORK & SPECIAL CONDITIONS				\$3,500,000
40.02	Utility Relocation				\$500,000

		Quantity	Unit	Unit Price	Total
	40.021				\$100,000
	40.022				\$100,000
	40.023				\$100,000
	40.024				\$100,000
	40.025				\$100,000
	40.06				\$3,000,000
	40.061				\$3,000,000
50	SYSTEMS				\$6,578,000
	50.01				\$2,945,000
	50.011	6	EA	\$300,000	\$1,800,000
	50.012	16	EA	\$50,000	\$800,000
	50.013	1	EA	\$240,000	\$240,000
	50.013	14	EA	\$7,500	\$105,000
	50.02				\$3,438,000
	50.021	3	EA	\$78,000	\$234,000
	50.022	26	EA	\$112,000	\$2,912,000
	50.023	2	EA	\$146,000	\$292,000
	50.06				\$195,000
	50.061	3	EA	\$65,000	\$195,000
60	RIGHT-OF-WAY				\$6,030,000
	60.01				\$4,480,000
	50.021	214	AC	\$10,000	\$2,140,000
	50.022	4	AC	\$350,000	\$1,400,000
	50.023	5	AC	\$160,000	\$800,000
	50.024	4	AC	\$35,000	\$140,000
	60.02				\$1,550,000
	60.021a	1	EA	\$100,000	\$100,000
	60.021b	1	EA	\$250,000	\$250,000
	60.022	1	EA	\$1,200,000	\$1,200,000
70	VEHICLES				\$4,250,000
	70.03				\$4,000,000
	70.031	4	EA	\$400,000	\$1,600,000
	70.032	4	EA	\$200,000	\$800,000
	70.033	16	EA	\$100,000	\$1,600,000
	70.07	1	LS	\$250,000	\$250,000
80	PROFESSIONAL SERVICES				\$17,472,339
	80.01	1.00%			\$1,141,983
	80.02	5%			\$5,709,915
	80.03	4%			\$4,567,932
	80.04	2.0%			\$2,283,966
	80.05	0.3%			\$342,595
	80.06	0.5%			\$570,991
	80.07	0.5%			\$570,991
	80.08	2%			\$2,283,966
90	CONTINGENCY	10%			\$13,167,063
TOTAL					\$144,837,694

10 TRACK & BRIDGE ELEMENTS
 10.04 Bridges

MP	Crossing	Proposed Length (ft)	10.041 Bridge Repair		10.042 Trestle Replacement		10.043 New Trestle		10.044 Overpass Replacement		10.045 New Overpass		10.046 Drainage Structures
					\$6,000		\$5,700		\$7,200		\$6,400		
2.81	Albion St.	40							40	\$288,000			
2.90	Alameda St	40							40	\$288,000			
2.99	Meharry Blvd.	80							80	\$576,000			
3.02	Alley	40							40	\$288,000			
3.08	Jefferson St.	80							80	\$576,000			
6.02	Emerald Drive	12											
6.04	Drain	12											
6.12	Creek	50											
6.70	Whites Creek	310		310	\$1,860,000								
7.10	Eatons Creek	320	\$150,000						60	\$432,000			
9.30	Old Hydes Ferry Pike	40							40	\$288,000			
9.50	Drain	215	\$150,000										
10.60	Old Hickory Blvd.	240							240	\$1,728,000			
14.50	Bull Run Creek	203	\$120,000										
19.09	Private Rd. & Drain	45					45	\$256,500					
19.81	Marrowbone Creek	800					800	\$4,560,000					
20.42	Drain	60					60	\$342,000					
20.79	Puzzle Fool Creek	40					40	\$228,000					
21.34	Lennox Branch	10											\$125,000
21.97	Chapmansboro Rd	195									195	\$1,248,000	
23.19	Private Rd. & Drain	65					65	\$370,500					
23.49	Private Rd.	51					51	\$290,700					

10 TRACK & BRIDGE ELEMENTS

10.04 Bridges

MP	Crossing	Proposed Length (ft)	10.041	10.042	10.043	10.044	10.045	10.046
			Bridge Repair	Trestle Replacement	New Trestle	Overpass Replacement	New Overpass	Drainage Structures
				\$6,000	\$5,700	\$7,200	\$6,400	
23.88	Coon Hollow	69			59 \$336,300			
24.36	Road	124			124 \$706,800			
24.76	Slough Creek	530			530 \$3,021,000			
25.26	Sycamore Creek	820			820 \$4,674,000			
25.56	Opossum Creek	14						\$125,000
25.99	Indian Creek	447			447 \$2,547,900			
27.09	Drain	94			94 \$535,800			
27.41	Drain	43			43 \$245,100			
28.40	Private Rd.	20			20 \$114,000			
29.05	Cheatham Dam Rd.	60					60 \$384,000	
30.40	Fall Creek	160			160 \$912,000			
31.60	Mill Hollow	448			448 \$2,553,600			
32.20	Chestnut Hollow	20			20 \$114,000			\$120,000
33.50	Half Dry Fork	600			600 \$3,420,000			
33.80	Drain	160			160 \$912,000			
34.60	Mirey Branch	168			168 \$957,600			
35.10	Drain	140			140 \$798,000			
35.70	Sulphur Branch	200			200 \$1,140,000			
36.60	Brush Creek	500			500 \$2,850,000			
37.30	Midnight Hollow	120			120 \$684,000			
38.20	Muddy Branch	300			300 \$1,710,000			
38.60	Drain	40			40 \$228,000			

10 TRACK & BRIDGE ELEMENTS

10.04 Bridges

MP	Crossing	Proposed Length (ft)	10.041	10.042	10.043	10.044	10.045	10.046
			Bridge Repair	Trestle Replacement	New Trestle	Overpass Replacement	New Overpass	Drainage Structures
				\$6,000	\$5,700	\$7,200	\$6,400	
42.10	Drain	240			240	\$1,368,000		
42.70	Drain	40			40	\$228,000		
42.80	Drain	40			40	\$228,000		
43.30	Drain	60			60	\$342,000		
43.80	Hwy 41A By-Pass	460					460	\$2,944,000
		8865	\$420,000 3	\$1,860,000 310	\$36,673,800 6434	\$4,464,000 620	\$4,576,000 715	\$370,000 3

10 TRACK & BRIDGE ELEMENTS
 10.05 Earthwork

New MP From To Description			10.051 Roadway Excavation (CY)		10.052 Fill (CY)		10.053 Rock Excavation (CY)		10.054 Clearing & Grubbing (T.Ft.)		10.055 Ditching (LF)	
			\$8.00		\$10.00		\$40.00		\$10.00		\$20.00	
1.90	2.10	Mid-Town Station Siding	0	\$0	5000	\$50,000	0	\$0	600	\$6,000	0	\$0
8.00	8.40	Nashville Passing Siding	6000	\$48,000	10000	\$100,000	1000	\$40,000	2000	\$20,000	0	\$0
21.00	21.20	A.C. Passing Siding	0	\$0	20000	\$200,000	0	\$0	2000	\$20,000	0	\$0
1.90	17.00	Mainline Rehabilitation	0	\$0	0	\$0	1000	\$40,000	0	\$0	5000	\$100,000
17.00	44.80	Mainline Construction	0	\$0	0	\$0	3500	\$140,000	146784	\$1,467,840	15000	\$300,000
30.00	30.40	Clarksville Passing Siding	6000	\$48,000	15000	\$150,000	0	\$0	0	\$0	0	\$0
44.60	44.80	Clarksville Station Siding	10000	\$80,000	0	\$0	0	\$0	0	\$0	0	\$0
			\$176,000		\$500,000		\$220,000		\$1,513,840		\$400,000	
			22,000		50,000		5,500		151,384		20,000	

10 TRACK & BRIDGE ELEMENTS

10.111 New Track Construction

New MP From To Description			10.111a		10.111b	
			Main Line Track - New Construction (T.Ft)		Secondary Track - New Construction (T.Ft)	
			\$178.00		\$152.00	
1.90	2.10	Mid-Town Station Siding			600	\$91,200
8.00	8.40	Nashville Passing Siding			2000	\$304,000
20.00	20.50	Ashland City Passing Siding			2000	\$304,000
17.00	44.80	Mainline Construction	146,784	\$26,127,552		
30.00	30.40	Clarksville Passing Siding			2000	\$304,000
44.60	44.80	Clarksville Station Siding			600	\$91,200
			146,784	\$26,127,552	7,200	\$1,094,400

10 TRACK & BRIDGE ELEMENTS
 10.112 -10.115 Track Rehabilitation

			10.112		10.113a		10.113b		10.114		10.115	
New MP		Description	Grade Ties (EA)		136# Rail (LF)		115# Rail (LF)		Ballast (Ton)		Surfacing (T.Ft)	
From	To		\$68.00		\$52.00		\$45.00		\$20.00		\$1.00	
1.90	2.00	Mainline	250	\$17,000	1000	\$52,000			800	\$16,000	5280	\$5,280
2.00	3.00		1200	\$81,600	5280	\$274,560			800	\$16,000	5280	\$5,280
3.00	4.00		1200	\$81,600	5280	\$274,560			800	\$16,000	5280	\$5,280
4.00	5.00		1200	\$81,600	5280	\$274,560			800	\$16,000	5280	\$5,280
5.00	6.00		1200	\$81,600	5280	\$274,560			800	\$16,000	5280	\$5,280
5.50	5.75	Siding Track	600	\$40,800					500	\$10,000	1200	\$1,200
6.00	7.00		1500	\$102,000					800	\$16,000	5280	\$5,280
7.00	8.00		1500	\$102,000					800	\$16,000	5280	\$5,280
8.00	9.00		1500	\$102,000					800	\$16,000	5280	\$5,280
9.00	10.00		1500	\$102,000					800	\$16,000	5280	\$5,280
10.00	11.00		1500	\$102,000					800	\$16,000	5280	\$5,280
11.00	12.00		1500	\$102,000					800	\$16,000	5280	\$5,280
12.00	13.00		1500	\$102,000					800	\$16,000	5280	\$5,280
13.00	14.00		1500	\$102,000					800	\$16,000	5280	\$5,280
14.00	15.00		1500	\$102,000					800	\$16,000	5280	\$5,280
15.00	16.00		1500	\$102,000					800	\$16,000	5280	\$5,280
16.00	17.00		1500	\$102,000	10560	\$549,120			800	\$16,000	5280	\$5,280
			22150	\$1,506,200	32680	\$1,699,360	0	\$0	13300	\$266,000	85680	\$85,680

10 TRACK & BRIDGE ELEMENTS

10.116 Grade Crossings

			10.116a		10.116b		10.116c		10.116d	
			Heavy Duty Grade Crossing (T.Ft.)		Med. Duty Grade Crossing (T.Ft.)		Lt. Duty / Private Crossing (T.Ft.)		Overhead Bridge (Length)	
MP	Description	Width (Ft)	\$850.00		\$450.00		\$365.00		\$4,200.00	
1.94	27th Ave.	45			45	\$20,250				
2.02	26th Ave.	45			45	\$20,250				
2.11	25th Ave.	45			45	\$20,250				
2.20	Clifton Ave.	45			45	\$20,250				
2.60	Herman St.	34			34	\$15,300				
2.67	Hermosa St.	30			30	\$13,500				
3.24	Helman St.	30			30	\$13,500				
3.24	Helman St. - Siding	30			30	\$13,500				
5.22	County Hospital Rd.	45	45	\$38,250						
5.78	Private Drive	16					16	\$5,840		
6.62	Private Drive	16					16	\$5,840		
7.42	Jordania Station Rd.	16			16	\$7,200				
8.01	Private Drive	36			36	\$16,200				
8.10	Private Drive	54			54	\$24,300				
8.42	Amy Lynn Dr.	61			61	\$27,450				
9.08	WWCR Ave.	16					16	\$5,840		
9.94	Private Drive	12					12	\$4,380		
10.30	Private Drive	12					12	\$4,380		
10.40	Private Drive	12					12	\$4,380		
10.75	Private Drive	12					12	\$4,380		
11.10	Private Drive	28					28	\$10,220		
11.30	Private Drive	12					12	\$4,380		

10 TRACK & BRIDGE ELEMENTS

10.116 Grade Crossings

			10.116a		10.116b		10.116c		10.116d	
MP	Description	Width (Ft)	Heavy Duty Grade Crossing (T.Ft.)		Med. Duty Grade Crossing (T.Ft.)		Lt. Duty / Private Crossing (T.Ft.)		Overhead Bridge (Length)	
			\$850.00		\$450.00		\$365.00		\$4,200.00	
11.66	Hyde's Ferry Pk.	28			28	\$12,600				
11.72	Private Drive	12					12	\$4,380		
11.94	Private Drive	12					12	\$4,380		
12.05	Private Drive	16					16	\$5,840		
13.20	Private Drive	12					12	\$4,380		
13.36	Private Drive	16					16	\$5,840		
13.83	Private Drive	20					20	\$7,300		
14.62	Park Entrance	16			16	\$7,200				
14.97	Private Drive	12					12	\$4,380		
15.30	Private Drive	24					24	\$8,760		
15.60	Trinity Rd.	24			24	\$10,800				
16.46	Bluegrass	24			24	\$10,800				
16.90	Thompson	24			24	\$10,800				
19.50	Farm	16					16	\$5,840		
20.10	SR 455	32			32	\$14,400				
20.82	Rhea St.	24			24	\$10,800				
20.87	Hwy. 49	32	32	\$27,200						
21.29	W. Lenox	45			45	\$20,250				
21.29	W. Lenox	45			45	\$20,250				
21.40	SR 455	54			54	\$24,300				
30.05	Beech Grove Rd.	36			36	\$16,200				
31.70	Justice Rd	24			24	\$10,800				

10 TRACK & BRIDGE ELEMENTS

10.116 Grade Crossings

			10.116a		10.116b		10.116c		10.116d	
			Heavy Duty Grade Crossing (T.Ft.)		Med. Duty Grade Crossing (T.Ft.)		Lt. Duty / Private Crossing (T.Ft.)		Overhead Bridge (Length)	
MP	Description	Width (Ft)	\$850.00		\$450.00		\$365.00		\$4,200.00	
32.50	Neptune Rd	30			30	\$13,500				
33.60	Hinton Rd.	30			30	\$13,500				
36.40	Water Plant	16					16	\$5,840		
37.30	Lock B Rd N	30			30	\$13,500				
37.90	Gholson Rd	50			50	\$22,500				
38.20	Private Drive	16					16	\$5,840		
38.60	Private Drive	16					16	\$5,840		
40.10	Boyd Rhinehart Rd.	24			24	\$10,800				
42.40	Appleton Lane	24			24	\$10,800				
44.8	Golf Club Lane	100							100	\$420,000
			77	\$65,450	1035	\$465,750	324	\$118,260	100	\$420,000

10 TRACK & BRIDGE ELEMENTS
 10.12 Turnouts

		10.121		10.122		10.123	
		#8 Hand Thrown T.O.		#10 Hand Thrown T.O.		#15 Power T.O.	
MP	Description	\$65,000.00		\$70,000.00		\$155,000.00	
1.95	Station Siding	1	\$65,000				
2	Switch to Main Line	1	\$65,000				
2.15	Main	1	\$65,000				
3.1	Run-Around			1	\$70,000		
3.7	ChemRock	1	\$65,000				
3.8	Run-Around			1	\$70,000		
5.25	Run-Around (South)			1	\$70,000		
5.35	Run-Around (North)			1	\$70,000		
7.5	Sisken Steel	1	\$65,000				
15.2	G Track	1	\$65,000				
15.4	Trinity Marine	1	\$65,000				
16.25	Trinity Marine	1	\$65,000				
16.3	Bluegrass Siding	1	\$65,000				
16.4	Bluegrass Siding	1	\$65,000				
	Nashville Siding (East)					1	\$155,000
	Nashville Siding (West)					1	\$155,000
	Ashland City Siding (East)					1	\$155,000
	Ashland City Siding (West)					1	\$155,000
	Clarksville Siding (East)					1	\$155,000
	Clarksville Siding (West)					1	\$155,000
		10	\$650,000	4	\$280,000	6	\$930,000

50 SYSTEMS
50.02 Crossing Protection

		50.021		50.022		50.023		50.024	
		Crossing Signals - Add Gates & New Controller		Crossing Signals - Standard		Crossing Signals - Cantilevers		Crossing Signals - Quad Gates	
MP	Description	\$78,000.00		\$112,000.00		\$146,000.00		\$185,000.00	
1.94	27th Ave.			1	\$112,000				
2.02	26th Ave.			1	\$112,000				
2.11	25th Ave.			1	\$112,000				
2.2	Clifton Ave.			1	\$112,000				
2.6	Herman St.	1	\$78,000						
2.67	Hermosa St.			1	\$112,000				
3.24	Helman St.			1	\$112,000				
5.22	County Hospital Rd.	1	\$78,000						
7.42	Jordania Station Rd.			1	\$112,000				
8.42	Amy Lynn Dr.			1	\$112,000				
9.08	WWCR Ave.			1	\$112,000				
11.66	Hyde's Ferry Pk.			1	\$112,000				
14.62	Park Entrance			1	\$112,000				
15.3	Graham Rd			1	\$112,000				
15.6	Trinity Rd			1	\$112,000				
16.46	Bluegrass			1	\$112,000				
16.9	Thompson			1	\$112,000				
19.5	Farm			1	\$112,000				
20.1	SR 455					1	\$146,000		
20.82	Rhea St.			1	\$112,000				
20.87	Hwy. 49	1	\$78,000						

50 SYSTEMS

50.02 Crossing Protection

		50.021		50.022		50.023		50.024	
		Crossing Signals - Add Gates & New Controller		Crossing Signals - Standard		Crossing Signals - Cantilevers		Crossing Signals - Quad Gates	
MP	Description	\$78,000.00		\$112,000.00		\$146,000.00		\$185,000.00	
21.29	W. Lenox			1	\$112,000				
21.4	SR 455					1	\$146,000		
30.05	Beech Grove Rd.			1	\$112,000				
31.7	Justice Rd			1	\$112,000				
32.5	Neptune Rd			1	\$112,000				
33.6	Hinton Rd.			1	\$112,000				
37.3	Lock B Rd N			1	\$112,000				
37.9	Gholson Rd			1	\$112,000				
40.10	Boyd Rhinehart Rd.			1	\$112,000				
42.4	Appleton Lane			1	\$112,000				
		3	\$234,000	26	\$2,912,000	2	\$292,000	0	\$0