

Appendix G

Cost Estimate Worksheets

I-5 TRANSPORTATION TRADE PARTNERSHIP

SUMMARY OF ESTIMATED PROJECT COSTS

Project		Estimated Cost	
Number	Name	I-5 Rail Capacity Study	I-5 Trade Corridor
1	Vancouver Yard Bypass	\$ 55,000,000	\$ 55,000,000
2	Movable River Spans	\$ 8,000,000	\$ 8,000,000
3	Revised Crossovers at North Portland Junction	\$ 5,000,000	\$ 9,160,000
4	Ramsey and Barnes Yards	\$ 18,200,000	\$ 25,112,000
5	Capacity Improvements along the Kenton Line	\$ 17,600,000	\$ 25,382,000
6	South Leg of the Wye at East Portland	\$ 7,400,000	\$ 10,951,000
7	Increased Track Speeds under Steel Bridge	\$ 2,000,000	\$ 8,788,000
8	Second Mainline from Willsburg to Clackamas	\$ 10,200,000	\$ 17,280,000
9	Improvements in Albina Yard	\$ 6,000,000	\$ 3,000,000
10	Add Controlled Siding on the Graham Line (average of 4 projects)	\$ 3,000,000	\$ 6,927,500
		\$ 132,400,000	\$ 169,600,500

The Undoing of the "X"			
11a	Un-doing the "X" Option #1	\$ -	\$ 20,262,000
11b	Un-doing the "X" Option #2	\$ -	\$ 72,474,000

Raising Columbia Blvd. Over UPRR			
12	Raise Columbia Blvd Over UPRR	\$ -	\$ 21,530,000

I-5 TRANSPORTATION TRADE PARTNERSHIP

Description	Quantity	Units	Unit Price	Sub Total
1.0 General				
1.01: Right-of-Way Impacts / Property Acquisition		Acre	\$	-
1.02: Environmental Permitting	1	Lump Sum	\$ 200,000	\$ 200,000
2.0 Civil & Track Work				
2.01: Embankment from borrow	60,000	CY	\$ 14	\$ 840,000
2.02: Construct New Track, 136# RE - wood ties	UP Lead	2,689	TF	\$ 155 \$ 416,795
2.03: Construct New Track, 136# RE - wood ties	Port Lead	1,019	TF	\$ 155 \$ 157,945
2.04: Construct New Track, 136# RE - wood ties	Third Mainline	1,497	TF	\$ 155 \$ 232,035
2.05: Construct New Track, 136# RE - wood ties	PTRR Track 1	392	TF	\$ 155 \$ 60,760
2.06: Construct New Track, 136# RE - wood ties	PTRR Track 2	244	TF	\$ 155 \$ 37,820
2.07: Construct New Track, 136# RE - wood ties	PTRR Track 3	328	TF	\$ 155 \$ 50,840
2.08: Turnout #11 RBM, hand-throw	2	EA	\$ 132,000	\$ 264,000
2.09: Turnout #11 RBM, power operated	1	EA	\$ 140,000	\$ 140,000
2.10: Turnout #15 RBM, power operated	2	EA	\$ 150,000	\$ 300,000
2.11: Turnout #20 SPR, power operated	7	EA	\$ 180,000	\$ 1,260,000
2.12: Turnout #24 SPR, power operated	4	EA	\$ 224,000	\$ 896,000
3.0 Signal Work				
3.01: Relocate Signals	4	Each	\$ 50,000	\$ 200,000
3.02: Add New Signals	2	Each	\$ 50,000	\$ 100,000
3.03: Add No.20 Power Operated Turnout Signals	7	Each	\$ 90,000	\$ 630,000
3.04: Add No.24 Power Operated Turnouts Signals	4	Each	\$ 110,000	\$ 440,000
3.05: Add No.11 Power Operated Turnouts Signals	1	Each	\$ 70,000	\$ 70,000
3.06: Rearrange Interlocker Cables, Software	1	Lump Sum	\$ 500,000	\$ 500,000
3.07: Modify Approach Signal	5	Each	\$ 50,000	\$ 250,000

SubTotal	\$	7,046,195
Contingency	30%	\$ 2,113,859
North Portland Project Total	\$	9,160,000

I-5 TRANSPORTATION TRADE PARTNERSHIP

Description	Quantity	Units	Unit Price	Sub Total
1.0 General				
1.01: Right-of-Way Impacts / Property Acquisition		Acre		\$ -
1.02: Environmental Permitting				
2.0: Civil & Trackwork	1	Lump Sum	\$ 300,000	\$ 300,000
2.01: Excavation to Embankment	30,000	CY	\$ 6.00	\$ 180,000
2.02: Construct New Track, 136# RE - wood ties	4,900	TF	\$ 155.00	\$ 759,500
2.03: Construct New Track, 136# RE - wood ties	8,300	TF	\$ 155	\$ 1,286,500
2.04: Construct New Track, 136# RE - wood ties	5,375	TF	\$ 155	\$ 833,125
2.05: Construct Yard Track, 132# RE - wood ties	25,695	TF	\$ 120	\$ 3,083,400
2.06: Construct Yard Track, 132# RE - wood ties	43,885	TF	\$ 120	\$ 5,266,200
2.07: Construct Yard Track, 132# RE - wood ties	11,420	TF	\$ 120	\$ 1,370,400
2.08: Shift track	6,560	TF	\$ 40	\$ 262,400
2.09: Relocate turnout	5	EA	\$ 18,500	\$ 92,500
2.10: Turnout #9 RBM, hand-throw	9	EA	\$ 120,000	\$ 1,080,000
2.11: Turnout #10 RBM, hand-throw	25	EA	\$ 125,000	\$ 3,125,000
2.12: Turnout #11 RBM, hand-throw	9	EA	\$ 132,000	\$ 1,188,000
3.0: Signal Work				
3.01: Marine Dr. Grade Crossing	1	Each	\$ 90,000	\$ 90,000
3.02: Garbage Dump Grade Crossing	1	Each	\$ 250,000	\$ 250,000
3.03: Macrum Aven Grade Crossing	1	Each	\$ 60,000	\$ 60,000
3.04: Add Active D Signal from Penn Jct.	1	Each	\$ 90,000	\$ 90,000

SubTotal \$ 19,317,025
 Contingency 30% \$ 5,795,108
Ramsey-Barnes Project Total \$ 25,112,000

I-5 TRANSPORTATION TRADE PARTNERSHIP

Description		Quantity	Units	Unit Price	Sub Total
1.0 General					
1.01: Right-of-Way Impacts / Property Acquisition			Acre	\$	-
1.02: Environmental Permitting		1	Lump Sum	\$ 236,250	\$ 236,250
2.0 Civil & Trackwork					
2.01: Grading, Embankment-Excavation		40,000	CY	\$ 36	\$ 1,440,000
2.02: Construct New Track, 136# RE - wood ties	Mainline No.1	7,784	TF	\$ 155	\$ 1,206,520
2.03: Construct New Track, 136# RE - wood ties	Mainline No.2	9,354	TF	\$ 155	\$ 1,449,870
2.04: Rehabilitate Track incl 50% Tie Renewal	Kenton Yard Tracks	11,400	TF	\$ 30	\$ 342,000
2.05: Shift track	Industry Track	2,040	TF	\$ 40	\$ 81,600
2.06: Relocate turnout		6	EA	\$ 18,500	\$ 111,000
2.07: Turnout #10 RBM, power operated		1	EA	\$ 130,000	\$ 130,000
2.08: Turnout #20 SPR, power operated		16	EA	\$ 180,000	\$ 2,880,000
3.0 Structural Work					
3.01: Single Track Bridge - Double Cell Box Girders on Precast Concrete Caps and Abutments	Columbia Slough	650	TF	\$ 8,000	\$ 5,200,000
3.02: Single Track Bridge - Double Cell Box Girders on Precast Concrete Caps and Abutments	Industry Road	60	TF	\$ 8,000	\$ 480,000
3.03: Single Track Bridge - Double Cell Box Girders on Precast Concrete Caps and Abutments	Industry Road	60	TF	\$ 8,000	\$ 480,000
3.04: Single Track Bridge - Double Cell Box Girders on Precast Concrete Caps and Abutments	Columbia Blvd, MP 7.3	200	TF	\$ 8,000	\$ 1,600,000
3.05: Single Track Bridge - Double Cell Box Girders on Precast Concrete Caps and Abutments	Columbia Blvd, MP 12.9	100	TF	\$ 8,000	\$ 800,000
4.0 Signal Work					
4.01: New CPS006 with RH No.20 Crossover		1	Lump Sum	\$ 366,000	\$ 366,000
4.02: Remove & Install New 2 Track High Wide Shifted Load & Dragging Equipment Detector w/ Radio Transmitted Verbal Indicator		1	Lump Sum	\$ 105,000	\$ 105,000
4.03: Modify Approach Circuits - Columbia Blvd Grade Crossing		1	Lump Sum	\$ 40,000	\$ 40,000
4.04: Install Model 10 Switch Lock on Industry Lead		1	Lump Sum	\$ 80,000	\$ 80,000
4.05: Install Model 10 Switch Lock on Industry Track		1	Lump Sum	\$ 80,000	\$ 80,000
4.06: Modify Approach Circuits - N. Chautauqua Ave.		1	Lump Sum	\$ 90,000	\$ 90,000
4.07: New Universal No.15 Crossover (Part of CPS005 Penn Jct.) and Add Control Signal West of Columbia Blvd. at MP 5.80		1	Lump Sum	\$ 550,000	\$ 550,000

I-5 TRANSPORTATION TRADE PARTNERSHIP

Description	Quantity	Units	Unit Price	Sub Total
4.08: Install Model 10 Switch Lock on Industry Track	1	Lump Sum	\$ 80,000	\$ 80,000
4.09: Modify Approach Circuits - N. Peninsula Avenue Grade Crossing	1	Lump Sum	\$ 90,000	\$ 90,000
4.10: Install Model 10 Switch Lock on Industry Track	1	Lump Sum	\$ 80,000	\$ 80,000
4.11: Modify Approach Circuits - N. Tyndall Avenue Grade Crossing	1	Lump Sum	\$ 50,000	\$ 50,000
4.12: Install Model 10 Switch Lock on Industry Track	1	Lump Sum	\$ 80,000	\$ 80,000
4.13: Install Model 10 Switch Lock on Industry Track	1	Lump Sum	\$ 80,000	\$ 80,000
4.14: Add Back-to-Back Signals on 2nd Main Track	1	Lump Sum	\$ 60,000	\$ 60,000
4.15: West End Kenton Yard Rearrange Model 10 Switch Lock	1	Lump Sum	\$ 40,000	\$ 40,000
4.16: Add EC-4 Plus Reg. Repeater on 2nd Main Track	1	Lump Sum	\$ 30,000	\$ 30,000
4.17: East End Kenton yard Rearrange Model 10 Switch Lock	1	Lump Sum	\$ 40,000	\$ 40,000
4.18: 11th & Lombard Grade Crossing, Add 2nd Main Track, Move Gate, Modify Approaches	1	Lump Sum	\$ 105,000	\$ 105,000
4.19: CPS009 Kenton Modify Existing Control Pt., Adding 3 Each No.14 POTO & 1 Control Signal	1	Lump Sum	\$ 250,000	\$ 250,000
4.20: NE Cully Road Grade Crossing Add 2nd Main Track, Move Gate, Modify Approaches	1	Lump Sum	\$ 105,000	\$ 105,000
4.21: CPS012 Cully Road, Modify Existing Control Pt., Add 2 Each No.14 POTO	1	Lump Sum	\$ 170,000	\$ 170,000
4.22: CPS013 Fir - Remove Existing Control Pt. including 1 Each No.14 POTO & 8' x 10' Instrument House. Replace with Double Flat Case for Industry Lead Track.	1	Lump Sum	\$ 100,000	\$ 100,000
4.23: West End Owens-Illinois Runaround, Remove Entering Signal and Various Circuits from Double Flat Case	1	Lump Sum	\$ 5,000	\$ 5,000
4.24: End End Owens-Illinois Runaround, Remove Entering Signal and Double Flat Case.	1	Lump Sum	\$ 20,000	\$ 20,000
4.25: New CPS013 Fir with Leaving No.20 POTO	1	Lump Sum	\$ 298,000	\$ 298,000
4.26: NE 105th Avenue Crossing, Add GCP for 2nd Main Track & DAX to NE 112th Avenue.	1	Lump Sum	\$ 60,000	\$ 60,000
4.27: NE 112th Avenue Grade Crossing, Modify with DAX from NE 105th.	1	Lump Sum	\$ 10,000	\$ 10,000
4.28: Retire Signals 147 & 148 & Convert to Regen Repeater	1	Lump Sum	\$ 5,000	\$ 5,000
4.29: Add 2nd Signal Head to Westbound Signal 163.	1	Lump Sum	\$ 18,000	\$ 18,000

	SubTotal	\$	19,524,240
	Contingency	30%	\$ 5,857,272
Kenton Line Project Total		\$	25,382,000

I-5 TRANSPORTATION TRADE PARTNERSHIP

Description		Quantity	Units	Unit Price	Sub Total
1.0 General					
1.01: Right-of-Way Impacts / Property Acquisition		1	EA	\$ 4,550,000	\$ 4,550,000
1.02: Environmental Permitting		1	Lump Sum		\$ -
2.0 Civil & Track Work					
2.01: Excavation to Embankment		15,000	CY	\$ 6	\$ 90,000
2.02: Construct New Track, 136# RE - wood ties	Graham Line	1,280	TF	\$ 155	\$ 198,400
2.03: Construct New Track, 136# RE - wood ties	New South Wye	830	TF	\$ 155	\$ 128,650
2.04: Shift track		200	TF	\$ 40	\$ 8,000
2.05: Relocate turnout		2	EA	\$ 18,500	\$ 37,000
2.06: Turnout #10 RBM, power operated		1	EA	\$ 130,000	\$ 130,000
2.07: Turnout #14 RBM, power operated		1	EA	\$ 150,000	\$ 150,000
3.0 Structural Work					
3.01: Change Existing Single Column Bent to Straddle Bent	I-84 WB to I-5 SB	1	EA	\$ 650,000	\$ 650,000
3.02: Adjust Interior Bent Columns	I-5 NB to I-84 EB	1	EA	\$ 500,000	\$ 500,000
3.03: Remove Side Bracing Between Columns and Adjust Interior Bents	MLK Blvd	1	EA	\$ 1,500,000	\$ 1,500,000
3.04: Crash walls		300	SQ FT	\$ 140	\$ 42,000
4.0 Signal Work					
4.01: Relocate No. 14 Power Operated Turnout (Signals)		1	Each	\$ 70,000	\$ 70,000
4.02: Install No. 14 Power Operated Turnout (Signals)		1	Each	\$ 70,000	\$ 70,000
4.03: Relocate Entering Signal		1	Each	\$ 50,000	\$ 50,000
4.04: Install Entering Signal		1	Each	\$ 50,000	\$ 50,000
4.05: Rearrange Interlocker Cables & Software		1	Lump Sum	\$ 200,000	\$ 200,000

SubTotal \$ 8,424,050
 Contingency 30% \$ 2,527,215
East Portland Project Total \$ 10,951,000

I-5 TRANSPORTATION TRADE PARTNERSHIP

Description	Quantity	Units	Unit Price	Sub Total
1.0 General				
1.01: Right-of-Way Impacts / Property Acquisition				
1.02: Environmental Permitting	2	Acre	\$ 200,000	\$ 400,000
2.0 Civil & Track Work				
2.01: Excavation to Waste				
2.02: Construct New Track, 136# RE - wood ties	25,000	CY	\$ 36	\$ 900,000
2.03: Construct New Track, 136# RE - wood ties	1,200	TF	\$ 155	\$ 186,000
2.04: Turnout #14 RBM, power operated	1,200	TF	\$ 155	\$ 186,000
	2	EA	\$ 150,000	\$ 300,000
3.0 Structural Work				
3.01: Retaining Walls	2 * 1,000 * 30'	SQ FT	\$ 55	\$ 3,300,000
4.0 Signal Work				
4.01: Install No. 14 Crossover Signals				
4.02: Rearrange Interlocker Cables, Software, Etc.	1	EA	\$ 140,000	\$ 140,000
4.03: Install New CP - Albina Between Randolph St. & Albina St with 7 Power Operated	1	EA	\$ 200,000	\$ 200,000
Turnouts & 6 Control Signals	1	EA	\$ 998,000	\$ 998,000

SubTotal \$ 6,760,000
 Contingency 30% \$ 2,028,000
Albina to Willsburg Project Total \$ 8,788,000

I-5 TRANSPORTATION TRADE PARTNERSHIP

Description		Quantity	Units	Unit Price	Sub Total
1.0 General					
1.01: Right-of-Way Impacts / Property Acquisition			Acre		\$ -
1.02: Environmental Permitting		1	Lump Sum	\$ 300,000	\$ 300,000
2.0 Civil & Track Work					
2.01: Excavation to Embankment			CY	\$ 6	\$ -
2.02: Construct New Track, 136# RE - wood ties	Mainline No.1	1,800	TF	\$ 155	\$ 279,000
2.03: Shift track	Mainline No.1	8,000	TF	\$ 40	\$ 320,000
2.04: Construct New Track, 136# RE - wood ties	Mainline No.2	22,000	TF	\$ 155	\$ 3,410,000
2.05: Relocate turnout		1	EA	\$ 18,500	\$ 18,500
2.06: Turnout #20 SPR, power operated		10	EA	\$ 180,000	\$ 1,800,000
3.0 Structural Work					
3.01: Single Track Bridge - Double Cell Box Girders on Precast Concrete Caps and Abutments	MP 761.12	50	TF	\$ 8,000	\$ 400,000
3.02: Single Track Bridge - Double Cell Box Girders on Precast Concrete Caps and Abutments	MP 761.20	50	TF	\$ 8,000	\$ 400,000
3.03: Single Track Bridge - Double Cell Box Girders on Precast Concrete Caps and Abutments	MP 761.34	50	TF	\$ 8,000	\$ 400,000
3.04: Single Track Bridge - Double Cell Box Girders on Precast Concrete Caps and Abutments	MP 762.23	50	TF	\$ 8,000	\$ 400,000
3.05: Retaining Walls	3,940' * 10'	39,400	SQ FT	\$ 55	\$ 2,167,000

I-5 TRANSPORTATION TRADE PARTNERSHIP

Description	Quantity	Units	Unit Price	Sub Total
4.0 Signal Work				
4.01: Install Back-to-Back Intermediate Signals on Main #2 & 1 Control Signal on Main #1	1	Lump Sum	\$ 290,000	\$ 290,000
4.02: Retire #14 POTO & 1 Control Signal	1	Lump Sum	\$ 50,000	\$ 50,000
4.03: Harrison St. Grade Crossing - Add 2nd Main Track	1	Lump Sum	\$ 60,000	\$ 60,000
4.04: Oak St. Grade Crossing - Add 2nd Main Track including New Instrument House & 2 Gates	1	Lump Sum	\$ 180,000	\$ 180,000
4.05: New "CP VP 764" North Milwaukie with Universal No.20 X-overs	1	Lump Sum	\$ 490,000	\$ 490,000
4.06: 37th Avenue Grade Crossing - Add 2nd Main Track including New Instrument House & 2 Gates	1	Lump Sum	\$ 180,000	\$ 180,000
4.07: Retire Intermediate Signals	1	Lump Sum	\$ 50,000	\$ 50,000
4.08: Harmony Rd Grade Crossing - Add 2nd Main Track & Move Cantilever	1	Lump Sum	\$ 90,000	\$ 90,000
4.09: New "CP VP 762" South Milwaukie with Universal No.20 X-overs	1	Lump Sum	\$ 490,000	\$ 490,000
4.10: Retire Existing "CP VP 761" North Clackamas	1	Lump Sum	\$ 80,000	\$ 80,000
4.11: Lawnfield Road Grade Crossing - Rearrange	1	Lump Sum	\$ 80,000	\$ 80,000
4.12: New "CP VP 761" North Clackamas with Universal No.20 X-overs	1	Lump Sum	\$ 490,000	\$ 490,000
4.13: Install Electric Lock or Entering Signals	1	Lump Sum	\$ 320,000	\$ 320,000
4.14: Install Intermediate Signals - 2 Tracks	1	Lump Sum	\$ 110,000	\$ 110,000
4.15: Retire Existing "CP VP 759" South Clackamas	1	Lump Sum	\$ 80,000	\$ 80,000
4.16: New "CP VP 758" South Clackamas with 1 - No.20 POTO	1	Lump Sum	\$ 298,000	\$ 298,000
4.17: Edgewater Rd Grade Crossing - Add DAX's from New "CP VP 758"	1	Lump Sum	\$ 60,000	\$ 60,000

	SubTotal	\$	13,292,500
	Contingency	30%	\$ 3,987,750
Willsburg to Clackamas Project Total		\$	17,280,000

I-5 TRANSPORTATION TRADE PARTNERSHIP

Description	Quantity	Units	Unit Price	Sub Total
1.0 General				
1.01: Right-of-Way Impacts / Property Acquisition		Acre		\$ -
1.02: Environmental Permitting	1	Lump Sum		\$ -
2.0 Civil & Track Work				
2.01: Excavation to Waste		CY	\$ 36	\$ -
2.02: Rehabilitate Track incl 50% Tie Renewal	7,660	TF	\$ 30	\$ 229,800
2.03: Turnout #14 RBM, power operated	7	EA	\$ 150,000	\$ 1,050,000
2.04: Speed Frater, switch machines	21	EA	\$ 12,000	\$ 252,000
3.0 Signal Work				
3.01:		Lump Sum		\$ 775,892
3.02:		Each		\$ -

	SubTotal	\$	2,307,692
	Contingency	30%	\$ 692,308
Albina Yard Project Total		\$	3,000,000

I-5 TRANSPORTATION TRADE PARTNERSHIP

Sullivan Siding

Description	Quantity	Units	Unit Price	Sub Total
1.0 General				
1.01; Right-of-Way Impacts / Property Acquisition		Acre	\$	-
1.02; Environmental Permitting	1	Lump Sum	\$	-
2.0 Civil & Track Work				
2.01; Excavation to Embankment		CY	\$ 6	\$ -
2.02; Construct New Track, 136# RE - wood ties	9,615	TF	\$ 155	\$ 1,490,325
2.03; Turnout #14 RBM, power operated	2	EA	\$ 150,000	\$ 300,000
3.0 Signal Work				
3.01; New "CPS 002" West Sullivan with Universal No. 14 X-overs	MP 1.1	1	Lump Sum	\$ 470,000
3.02; Barker Grade Crossing - Add 2nd Main Track including New Cantilever & Gate & E Code, Regen Repeater	MP 2.2	1	Lump Sum	\$ 210,000
3.03; New "CPS 003" East Sullivan with No. 14 POTO	MP 2.9	1	Lump Sum	\$ 290,000
3.04; Retire Back to Back Intermediate Signals 29 & 30	MP 2.98	1	Lump Sum	\$ 20,000
			SubTotal	\$ 2,780,325
			Contingency 30%	\$ 834,098
			Sullivan Project Total	\$ 3,614,000

I-5 TRANSPORTATION TRADE PARTNERSHIP

Rocky Butte Siding

Description	Quantity	Units	Unit Price	Sub Total
1.0 General				
1.01; Right-of-Way Impacts / Property Acquisition		Acre		\$ -
1.02; Environmental Permitting	1	Lump Sum		\$ -
2.0 Civil & Track Work				
2.01; Excavation to Waste	23,000	CY	\$ 36	\$ 828,000
2.02; Construct New Track, 136# RE - wood ties	7,015	TF	\$ 155	\$ 1,087,325
2.03; Turnout #14 RBM, power operated	2	EA	\$ 150,000	\$ 300,000
3.0 Structural Work				
3.01; Retaining Walls	Sta. 1+00-18+00	25,500	SQ FT	\$ 55 \$ 1,402,500
3.02; Retaining Walls	Sta. 41+00-46+00	5,000	SQ FT	\$ 55 \$ 275,000
3.03; Retaining Walls	Sta. 54+00-64+00	15,000	SQ FT	\$ 55 \$ 825,000
4.0 Signal Work				
4.01; Retire Back to Back Intermediate Signals 54 & 55	MP 5.50	1	Lump Sum	\$ 20,000 \$ 20,000
4.02; New "CPS 00?" West Rocky Butte with No. 14 POTO	MP 5.60	1	Lump Sum	\$ 290,000 \$ 290,000
4.03; New "CPS 00?" West Rocky Butte with No. 14 POTO	MP 7.10	1	Lump Sum	\$ 290,000 \$ 290,000

SubTotal	\$	5,317,825
Contingency	30%	\$ 1,595,348
Rocky Butte Project Total	\$	6,913,000

I-5 TRANSPORTATION TRADE PARTNERSHIP

Parkrose Siding

Description	Quantity	Units	Unit Price	Sub Total
1.0 General				
1.01; Right-of-Way Impacts / Property Acquisition		Acre		\$ -
1.02; Environmental Permitting	1	Lump Sum		\$ -
2.0 Civil & Track Work				
2.01; Excavation to Waste	30,000	CY	\$ 36	\$ 1,080,000
2.02; Construct New Track, 136# RE - wood ties	17,380	TF	\$ 155	\$ 2,693,900
2.03; Turnout #20 SPR, power operated	2	EA	\$ 180,000	\$ 360,000
3.0 Structural Work				
3.01; Single Track Bridge - Double Cell Box Girders on Precast Concrete Caps and Abutments	NE 122nd Avenue	120	TF	\$ 8,000 \$ 960,000
3.02; Single Track Bridge - Double Cell Box Girders on Precast Concrete Caps and Abutments	NE 148th Avenue	105	TF	\$ 8,000 \$ 840,000
3.03; Single Track Bridge - Double Cell Box Girders on Precast Concrete Caps and Abutments	NE 162nd Avenue	90	TF	\$ 8,000 \$ 720,000
3.04; Retaining Walls	Sta. 1+00-17+00	19,200	SQ FT	\$ 55 \$ 1,056,000
3.05; Retaining Walls	Sta. 30+00-39+00	10,800	SQ FT	\$ 55 \$ 594,000
3.06; Retaining Walls	Sta. 78+00-79+00	1,200	SQ FT	\$ 55 \$ 66,000
3.07; Retaining Walls	Sta. 172+00-176+	5,400	SQ FT	\$ 55 \$ 297,000
4.0 Signal Work				
4.01; New "CPS 00?" West Parkrose with No.20 POTO	MP 7.70	1	Lump Sum	\$ 298,000 \$ 298,000
4.02; Retire Back to Back Intermediate Signals 78 & 79	MP 7.90	1	Lump Sum	\$ 20,000 \$ 20,000
4.03; New "CPS 00?" Center Parkrose with No.20 POTO	MP 9.53	1	Lump Sum	\$ 394,000 \$ 394,000
4.04; Retire Back to Back Intermediate Signals 102 & 103	MP 10.2	1	Lump Sum	\$ 20,000 \$ 20,000
4.05; New "CPS 01" East Parkrose with No.20 POTO	MP 11.3	1	Lump Sum	\$ 298,000 \$ 298,000

SubTotal	\$	9,696,900
Contingency	30%	\$ 2,909,070
Parkrose Project Total	\$	12,606,000

I-5 TRANSPORTATION TRADE PARTNERSHIP

Wood Village Siding

Description	Quantity	Units	Unit Price	Sub Total
1.0 General				
1.01: Right-of-Way Impacts / Property Acquisition		Acre	\$	-
1.02: Environmental Permitting	1	Lump Sum	\$	-
2.0 Civil & Track Work				
2.01: Excavation to Embankment	27,000	CY	\$ 6	\$ 162,000
2.02: Construct New Track, 136# RE - wood ties	11,655	TF	\$ 155	\$ 1,806,525
2.03: Turnout #20 SPR, power operated	2	EA	\$ 180,000	\$ 360,000
3.0 Structural Work				
3.01: Single Track Bridge - Double Cell Box Girders on Precast Concrete Caps and Abutments	NE 223rd Avenue	40	TF	\$ 8,000
				\$ 320,000
4.0 Signal Work				
4.01: New "CPS 01?" West Wood Village with No.20 POTO	MP 12.14	1	Lump Sum	\$ 374,000
4.02: Retire Back to Back Intermediate Signals 130 & 1313	MP 13.0	1	Lump Sum	\$ 20,000
4.03: NE 244th Avenue Grade Crossing - including New Instrument House & 2 Gates	MP 14.42	1	Lump Sum	\$ 180,000
4.04: New "CPS 01?" East Wood Village with No. 20 POTO	MP 14.50	1	Lump Sum	\$ 298,000
			SubTotal	\$ 3,520,525
			Contingency 30%	\$ 1,056,158
			Wood Village Project Total	\$ 4,577,000

I-5 TRANSPORTATION TRADE PARTNERSHIP

Description		Quantity	Units	Unit Price	Sub Total
1.0 General					
1.01: Right-of-Way Impacts / Property Acquisition		10.25	Acre	\$ 200,000	\$ 2,050,000
1.02: Environmental Permitting		1	Lump Sum	\$ 500,000	\$ 500,000
2.0 Civil & Track Work					
2.01: Embankment from borrow		150,000	CY	\$ 14	\$ 2,100,000
2.02: Construct New Track, 136# RE - wood ties	Mainline No. 1	9,200	TF	\$ 155	\$ 1,426,000
2.03: Relocate turnout		1	EA	\$ 18,500	\$ 18,500
2.04: Shift track		1,000	TF	\$ 40	\$ 40,000
2.05: Turnout #14 RBM, power operated		5	EA	\$ 150,000	\$ 750,000
2.06: Turnout #20 SPR, power operated		1	EA	\$ 180,000	\$ 180,000
3.0 Structural Work					
3.01: Single Track Bridge - Double Cell Box Girders on Precast Concrete Caps and Abutments	Under BNSF	70	TF	\$ 8,000	\$ 560,000
3.02: Single Track Bridge - Double Cell Box Girders on Precast Concrete Caps and Abutments	Under N. Portland Ave	40	TF	\$ 8,000	\$ 320,000
3.03: Single Track Bridge - Double Cell Box Girders on Precast Concrete Caps and Abutments	Columbia Slough	455	TF	\$ 8,000	\$ 3,640,000
3.04: Single Track Bridge - Double Cell Box Girders on Precast Concrete Caps and Abutments	Over North Portland Avenue	340	TF	\$ 8,000	\$ 2,720,000
3.05: Retaining Walls		23,300	SQ FT	\$ 55	\$ 1,281,500
4.0 Signal Work					
4.01:		1	Lump Sum		\$ -
4.02:		1	Lump Sum		\$ -
4.03:		1	Lump Sum		\$ -
4.04:		1	Lump Sum		\$ -
4.05:		1	Lump Sum		\$ -
4.06:		1	Lump Sum		\$ -

SubTotal \$ 15,586,000
 Contingency 30% \$ 4,675,800
Undoing The X Option 1 Project Total \$ 20,262,000

I-5 TRANSPORTATION TRADE PARTNERSHIP

Description	Quantity	Units	Unit Price	Sub Total	
1.0 General					
1.01: Right-of-Way Impacts / Property Acquisition	3.00	Acre	\$ 200,000	\$ 600,000	
1.02: Environmental Permitting	1	Lump Sum	\$ 500,000	\$ 500,000	
2.0 Civil & Track Work					
2.01: Embankment from borrow	240,250	CY	\$ 14	\$ 3,363,500	
2.02: Construct New Track, 136# RE - wood ties	8,112	TF	\$ 155	\$ 1,257,360	
2.03: Relocate turnout	2	EA	\$ 18,500	\$ 37,000	
2.04: Rehabilitate Track incl 50% Tie Renewal	5,280	TF	\$ 30	\$ 158,400	
2.05: Turnout #20 SPR, power operated	2	EA	\$ 180,000	\$ 360,000	
3.0 Structural Work					
3.01: Single Track Bridge - Double Cell Box Girders on Precast Concrete Caps and Abutments	Over Columbia River	1,530	TF	\$ 8,000	\$ 12,240,000
3.02: Single Track Bridge - Double Cell Box Girders on Precast Concrete Caps and Abutments	Over Peninsula Terminal RR	71	TF	\$ 8,000	\$ 568,000
3.03: Single Track Bridge - Double Cell Box Girders on Precast Concrete Caps and Abutments	Over T-6 North leg of the Wye	192	TF	\$ 8,000	\$ 1,536,000
3.04: Single Track Bridge - Double Cell Box Girders on Precast Concrete Caps and Abutments	Over T-6 South leg of the Wye	190	TF	\$ 8,000	\$ 1,520,000
3.05: Single Track Bridge - Double Cell Box Girders on Precast Concrete Caps and Abutments	Over BNSF Mainlines	365	TF	\$ 8,000	\$ 2,920,000
3.06: Single Track Bridge - Double Cell Box Girders on Precast Concrete Caps and Abutments	Columbia Slough Bridge	644	TF	\$ 8,000	\$ 5,152,000
3.07: Retaining Walls		464,310	SQ FT	\$ 55	\$ 25,537,050
4.0 Signal Work					
4.01:		1	Lump Sum	\$ -	
4.02:		1	Lump Sum	\$ -	
4.03:		1	Lump Sum	\$ -	
4.04:		1	Lump Sum	\$ -	
4.05:		1	Lump Sum	\$ -	
4.06:		1	Lump Sum	\$ -	

SubTotal	\$	55,749,310
Contingency	30%	\$ 16,724,793
Undoing The X Option 2 Project Total	\$	72,474,000

I-5 TRANSPORTATION TRADE PARTNERSHIP

Description	Quantity	Units	Unit Price	Sub Total
1.0 General				
1.01: Right-of-Way Impacts / Property Acquisition	-	Acre	\$ 200,000	\$ -
1.02: Environmental Permitting	1	Lump Sum	\$ 100,000	\$ 100,000
2.0 Civil & Roadway Work				
2.01: Embankment from borrow	147,450	CY	\$ 14	\$ 2,064,300
2.02: Roadway Reconstruction	3,518	LF	\$ 281	\$ 989,121
3.0 Structural Work				
3.01: Roadway Bridge, Steel Girder - Span 60' - 400'		Over West Leg of the Wye		
	22,165	SQ FT	\$ 180	\$ 3,989,700
3.02: Roadway Bridge, Steel Girder - Span 60' - 400'		Over Mainline		
	4,940	SQ FT	\$ 180	\$ 889,200
3.03: Roadway Bridge, Steel Girder - Span 60' - 400'		Over East Leg of the Wye		
	17,225	SQ FT	\$ 180	\$ 3,100,500
3.04: Retaining Walls	98,706	SQ FT	\$ 55	\$ 5,428,830

	SubTotal	\$	16,561,651
	Contingency	30%	\$ 4,968,495
Columbia Blvd Project Total		\$	21,530,000

Preliminary Engineering Construction Cost Estimate

Property			
Right of Way Acquisition	AC	\$	100,000.00

Sitework			
Embankment from borrow	CY	\$	14.00
Excavation to Embankment	CY	\$	6.00
Excavation to Waste	CY	\$	36.00
Roadway Reconstruction	LF	\$	281.16
Subballast	CY	\$	28.50

Structures			
Abutment Cap	EA	\$	3,100.00
Adjust Interior Bent Columns	EA	\$	500,000.00
Change Existing Single Column Bent to Stradle Bent	EA	\$	650,000.00
Crash walls	SQ FT	\$	140.00
Remove Side Bracing Between Columns and Adjust Interior Bents	EA	\$	1,500,000.00
Retaining Walls	SQ FT	\$	55.00
Roadway Bridge, Steel Girder - Span 60' - 400'	SQ FT	\$	180.00
Single Track Bridge - Double Cell Box Girders on Precast Concrete Caps and Abutments	TF	\$	8,000.00
Walkways	Lin. Ft.	\$	150.00

TRACK			
Construct New Track, 136# RE - wood ties	TF	\$	155.00
Construct Yard Track, 132# RE - wood ties	TF	\$	120.00
Grade crossing - concrete	TF	\$	1,000.00
Rehabilitate Track incl 50% Tie Renewal	TF	\$	30.00
Relocate turnout	EA	\$	18,500.00
Remove track	TF	\$	7.00
Remove turnout, replace w/ standard track elements	EA	\$	10,500.00
Shift track	TF	\$	40.00
Speed Frater, switch machines	EA	\$	12,000.00
Turnout #10 RBM, hand-throw	EA	\$	125,000.00
Turnout #10 RBM, power operated	EA	\$	130,000.00
Turnout #11 RBM, hand-throw	EA	\$	132,000.00
Turnout #11 RBM, power operated	EA	\$	140,000.00
Turnout #14 RBM, power operated	EA	\$	150,000.00
Turnout #15 RBM, power operated	EA	\$	150,000.00
Turnout #20 SPR, power operated	EA	\$	180,000.00
Turnout #24 SPR, power operated	EA	\$	224,000.00
Turnout #9 RBM, hand-throw	EA	\$	120,000.00