

# Spokane Regional Light Rail Project Conceptual Design Estimate Board Approved Alignment

Summary Costs of the Board Approved Alignment		
Description	Year 2001\$	Escalated to MPE 2005\$
Alternate 3 - Base Alignment less ten selected items. Line is shortened to Liberty Lake Transit Center.	\$499,888,171	\$584,798,456

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Summary of Board Approved Align

<b>Spokane Regional</b>					
	<b>Light Rail Project</b>				
	<b>Order of Magnitude</b>				
	<b>Board Approved Alignment (Alignment 3)</b>		82,000 FT	15.5 mile	15.5 mile
	<b>Alignment stops at Liberty Lake Transit Center</b>				<b>ESCALATED</b>
	<b>Description</b>		<b>2001\$</b>	<b>2005\$</b>	
	<b>1-Civil Construction</b>		\$79,534,853	\$93,044,529	
	<b>2 - Insurance - Included other in Items</b>				
	<b>3 - Utilities</b>		\$10,200,000	\$11,932,557	
	<b>4 - Track Materials - Included in the Rail Items</b>				
	<b>5 - Structures</b>		\$20,343,800	\$23,799,369	
	<b>6 - Stations</b>		\$11,150,000	\$13,043,923	
	<b>7 - Park &amp; Rides</b>		\$10,535,000	\$12,324,460	
	<b>8 - Operations Facility (All Yard elements Included)</b>		\$39,284,820	\$45,957,683	
	<b>9 - Traction Power System</b>		\$24,062,822	\$28,150,098	
	<b>10 - Signal System</b>		\$23,687,832	\$27,711,413	
	<b>11 - Communications</b>		\$10,424,086	\$12,194,706	
	<b>12 - Fare Collection</b>		\$2,832,500	\$3,313,624	
	<b>Subtotal - Infrastructure</b>	Subtotal	\$232,055,713	\$271,472,363	
	<b>13. Right of Way</b>		\$32,914,712	\$38,505,558	
	<b>14. Vehicles</b>		\$70,000,000	\$81,890,099	
	<b>15 - Engineering &amp; Administration</b>	Subtotal	\$84,719,500	\$99,109,832	
	<b>16 - Contingencies</b>	Subtotal	\$58,071,143	\$67,935,023	
	<b>17 - Washington State Sales Tax and Real Estate Tax</b>		\$22,127,104	\$25,885,582	
			<b>Total</b>	<b>\$499,888,171</b>	<b>\$584,798,456</b>
			<b>Cost Per mile</b>	<b>32.2 M/Mi</b>	<b>37.7 M/Mi</b>

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Board Approved Alignment Est

Spokane Regional								
Light Rail Project		Estimate Basics						
Order of Magnitude		Start Sta	End Sta	Length				
Board Approved Alignment (Alignment 3)				82,000 FT		15.5 mile		
Alignment stops at Liberty Lake Transit Center								
	Description	Quantity	Unit	Unit Cost	Extension	2001\$		
<b>1-Civil Construction</b>							\$79,534,853	
1	Site Preparation - Clearing & Grubbing	82,000	LF	\$10.00	\$820,000			
2	Grade Preparation to Top of subballast.	82,000	LF	\$35.00	\$2,870,000			
3	Curb & Gutter Allowance	12,800	LF	\$35.00	\$448,000			
4	Common Excavation	131,614	CY	\$15.00	\$1,974,207			
5	Select Backfill (MSE Retaining Walls)	124,028	CY	\$15.00	\$1,860,420			
6	Common Backfill (From Project Excavation)	242,665	CY	\$4.00	\$970,660			
8	Landscaping Allowance		SF	\$2.00				
9	Chain Link Fencing 4' (on walls or Ballast Curb)	41,080	LF	\$16.00	\$657,280			
10	Chain Link Fencing 6'	83,345	LF	\$22.00	\$1,833,590			
11	Ballast Walls (Curb-no drainage)	31,730	LF	\$22.00	\$698,060			
12	Site Cleanup and Final Grading Allowance	82,000	LF	\$6.00	\$492,000			
13	Transition Slab Ballasted to Embedded /Bridge /Structure	7	EA	\$8,000	\$56,000			
14	Ballasted Track at Grade or Structure	152,880	TF	\$223	\$34,092,240			
15	Embedded (Paved) Track at Grade	7,000	TF	\$312	\$2,184,000			
16	Direct Fixation (DF) Track, Elevated Structure	5,270	TF	\$280	\$1,475,600			
19	LRT Siding or Pocket Track	1,500	TF	\$230	\$345,000			
20	Double Crossover	4	EA	\$300,000	\$1,200,000			
21	Single Crossover	4	EA	\$150,000	\$600,000			
22	Turnout	8	EA	\$75,000	\$600,000			
23	Impact Attenuators	4	EA	\$35,000	\$140,000			
24	Minor Street Closures Allowance	11	EA	\$25,000	\$275,000			
25	Minor Intersection Rebuild (2 Lanes)	15	EA	\$100,000	\$1,500,000			
26	Major Intersection Rebuild (4 Lanes)	18	EA	\$200,000	\$3,600,000			
27	Minor Traffic Signal (2 Lanes)	1	EA	\$100,000	\$100,000			
28	Major Traffic Signal (4 Lanes)	13	EA	\$200,000	\$2,600,000			
29	Complex Major Intersection Rebuild	1	EA	\$300,000	\$300,000			
30	Roadway Construction	148,200	SF	\$9.00	\$1,333,800			
31	Sidewalk Construction	157,080	SF	\$6.00	\$942,480			
32	Off Alignment Signal Modifications	4	EA	\$75,000.00	\$300,000			
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00				
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR	2	EA	\$65,000.00	\$130,000			
35	Relocate UPRR Yard Lead or Branch Line	9,750	TF	\$100.00	\$975,000			
36	Remove & Relocate Industrial Spur HDR	2,330	TF	\$130.00	\$302,900			
37	Provide Team Track and Loading Dock (HDR)	1	LS	\$208,000.00	\$208,000			
38	Lake Rd Industrial Spur Modifications (HDR)	1	LS	\$476,000.00	\$476,000			
39	TPS Building, Foundation & Ground Mat. LTK110	15	EA	\$60,000.00	\$900,000			
40	OCS Pole Foundations LTK120	82,000	RF	\$15.06	\$1,234,510			
41	Signal Communication Building LTK130	13	EA	\$60,000.00	\$780,000			
42	Ductbank/ Conduit -PAVED TRACK- LTK140	4,000	RF	\$200.00	\$800,000			
43	Ductbank/ Conduit -OPEN TRACK- LTK140	78,000	RF	\$110.00	\$8,580,000			
45	Corrosion Mitigation LTK150	82,000	RF	\$10.73	\$880,106			
50	<b>2 - Insurance - Included other in Items</b>							
57	<b>3 - Utilities</b>						\$10,200,000	
59	Utility Allowance - High	3,500	RF	\$600.00	\$2,100,000			
60	Utility Allowance - Medium	1,000	RF	\$350.00	\$350,000			
61	Utility Allowance - Low	77,500	RF	\$100.00	\$7,750,000			
70	<b>4 - Track Materials - Included in the Rail Items</b>							
74	<b>5 - Structures</b>						\$20,343,800	
75	Bridge Structures DEA	14,078,000	LS	\$1.00	\$14,078,000			
76	Bridge Location							
77	Retaining Wall 4' Max (Low Gravity Wall)	8,400	SF	\$32.00	\$268,800			
78	MSE Retaining Wall - Typical DEA	199,900	SF	\$30.00	\$5,997,000			
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00				
104	<b>6 - Stations</b>						\$11,150,000	
105	Stations	1	LS	\$9,650,000	\$9,650,000			
106	Station Name							
107	Artwork (*Subject to Board Policy)	\$200,000	LS	\$1.00	\$200,000			
108	Platform Electrical LTK610	13	LS	\$100,000	\$1,300,000			
115	<b>7 - Park &amp; Rides</b>						\$10,535,000	
116	Park & Ride	2,450	Space	\$4,300	\$10,535,000			
117	Park & Ride Location							
119	<b>8 - Operations Facility (All Yard elements Included)</b>						\$39,284,820	
123	Bldg & Yard Site Prep, Grading & Utilities LTK811	1.0	LS	\$18,551,516	\$18,551,516			
124	Operations Facility Building LTK	75,000	SF	\$171.00	\$12,825,000			
125	Yard Maintenance Equipment LTK	1	LS	\$4,160,844	\$4,160,844			
126	Maintenance of Way Vehicles LTK	1	LS	\$1,847,460	\$1,847,460			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Board Approved Alignment Est

Spokane Regional						
Light Rail Project			Estimate Basics			
Order of Magnitude			Start Sta	End Sta	Length	
Board Approved Alignment (Alignment 3)					82,000 FT	15.5 mile
Alignment stops at Liberty Lake Transit Center						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
127	Communications Control Center/ Hardware/ Software LTK	1	LS	\$1,900,000	\$1,900,000	
133	<b>9 - Traction Power System</b>					\$24,062,822
136	Sub-Station Type 3 LTK 910	15	EA	\$750,000	\$11,250,000	
138	OCS Single Contact Wire LTK920	4,000	RF	\$123.00	\$492,000	
139	OCS Simple Catenary LTK930	78,000	RF	\$109.00	\$8,502,000	
141	Lighting LTK940	82,000	RF	\$8.11	\$664,692	
142	Spare Parts/ System support LTK950	82,000	LS	\$38.47	\$3,154,130	
147	<b>10 - Signal System</b>					\$23,687,832
148	Signal (Alt 2 & Alt 3)	82,000	RF	\$288.88	\$23,687,832	
149	Signal (Alt 4)		RF	\$331		
151	<b>11 - Communications</b>					\$10,424,086
152	Communications (Alt 2 & Alt 3)	82,000	RF	\$127.12	\$10,424,086	
153	Communications (Alt 4)		RF	\$140		
157	<b>12 - Fare Collection</b>					\$2,832,500
158	Fare Collection Vending/ Validator & Spares LTK1200	14	LS	\$202,321	\$2,832,500	
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$232,055,713
161						
162	<b>13. Right of Way</b>					\$32,914,712
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)	1	LS	\$27,914,712.00	\$27,914,712	
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance	1	LS	\$5,000,000.00	\$5,000,000	
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00		
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174	<b>14. Vehicles</b>					\$70,000,000
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600	22	EA	\$2,500,000.00	\$55,000,000	
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & 3)	22	EA	\$681,818.18	\$15,000,000	
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000		
179	<b>15 - Engineering &amp; Administration</b>			Subtotal		\$84,719,500
180	Infrastructure	E & A 35.00%			\$81,219,500	
181	Vehicle	E & A 5.00%			\$3,500,000	
185	<b>16 - Contingencies</b>			Subtotal		\$58,071,143
187	Vehicles	Contingency 5.00%			\$3,500,000	
189	Infrastructure	Contingency 20.00%			\$44,371,143	
191	Utilities	Contingency 100.00%			\$10,200,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$22,127,104
195		Sales Tax 8.40%			\$22,127,103.93	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
					Total	\$499,888,171
					Cost Per mile	32.2 M/Mi

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 201

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Lincoln to Convention Center		5+00	25+00	2,000 FT	0.4 mile	
C -201	Downtown Section						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
		<b>1-Civil Construction</b>					\$6,220,602
1		Site Preparation - Clearing & Grubbing	2,000	LF	\$10.00	\$20,000	
2		Grade Preparation to Top of subballast.	2,000	LF	\$35.00	\$70,000	
3		Curb & Gutter Allowance	4,000	LF	\$35.00	\$140,000	
4		Common Excavation	14,815	CY	\$15.00	\$222,222	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)		CY	\$4.00		
8		Landscaping Allowance	40,000	SF	\$2.00	\$80,000	
9		Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10		Chain Link Fencing 6'		LF	\$22.00		
11		Ballast Walls (Curb-no drainage)		LF	\$22.00		
12		Site Cleanup and Final Grading Allowance	2,000	LF	\$6.00	\$12,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure	1	EA	\$8,000	\$8,000	
14		Ballasted Track at Grade or Structure		TF	\$223		
15		Embedded (Paved) Track at Grade	4,000	TF	\$312	\$1,248,000	
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover	1	EA	\$300,000	\$300,000	
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators	2	EA	\$35,000	\$70,000	
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26		Major Intersection Rebuild (4 Lanes)	6	EA	\$200,000	\$1,200,000	
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)	6	EA	\$200,000	\$1,200,000	
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction	85,200	SF	\$9.00	\$766,800	
31		Sidewalk Construction	72,000	SF	\$6.00	\$432,000	
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$120,000.00		
40		OCS Pole Foundations LTK120	2,000	RF	\$15.06	\$30,120	
41		Signal Communication Building LTK130		EA	\$100,000.00		
42		Systems wide Ductbank/ Conduit LTK140	2,000	RF	\$200.00	\$400,000	
43		Corrosion Mitigation LTK150	2,000	RF	\$10.73	\$21,460	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$1,200,000
59		Utility Allowance - High	2,000	RF	\$600.00	\$1,200,000	
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low		RF	\$100.00		
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					\$850,000
105		Stations	1	LS	\$700,000	\$700,000	
106		Station Name	Plaza Station	Side-by-Side Platform			
107		Allowance for Art at Stations & Park & Rides	\$50,000	LS	\$1.00	\$50,000	
108		Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516		
124		Operations Facility Building LTK		SF	\$171.00		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 201

<b>Spokane Regional</b>							
		<b>Light Rail Project</b>		<b>Estimate Basics</b>			
		<b>Order of Magnitude</b>		Start Sta	End Sta	Length	
Drawing	<b>Lincoln to Convention Center</b>			5+00	25+00	2,000 FT	0.4 mile
C -201	<b>Downtown Section</b>						
	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Extension</b>	<b>2001\$</b>	
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$338,362
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920	2,000	RF	\$123.00	\$246,000		
139	OCS Simple Catenary LTK930		RF	\$109.00			
141	Lighting LTK940	2,000	RF	\$11.58	\$23,162		
142	Spare Parts/ System support LTK950	2,000	LS	\$34.60	\$69,200		
147	<b>10 - Signal System</b>						\$574,630
148	Signal	2,000	RF	\$287.32	\$574,630		
151	<b>11 - Communications</b>						\$262,860
152	Communications	2,000	RF	\$131.43	\$262,860		
157	<b>12 - Fare Collection</b>						\$212,321
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$212,321	\$212,321		
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$9,658,775
161							
162	<b>13. Right of Way</b>						
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18			
179	<b>15 - Engineering &amp; Administration</b>			Subtotal			\$3,380,571
180	Infrastructure	E & A 35.00%			\$3,380,571		
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>			Subtotal			\$2,891,755
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%			\$1,691,755		
191	Utilities	Contingency 100.00%			\$1,200,000		
194	<b>17 - Washington State Sales Tax</b>						\$702,830
195		Sales Tax 8.40%			\$702,829.67		
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total		\$16,633,931

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 202

Spokane Regional						
Light Rail Project		Estimate Basics				
Order of Magnitude		Start Sta	End Sta	Length		
Drawing	Convention Center to Trent Station	25+00	50+00	2,500 FT		0.5 mile
C -202	Downtown Section					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance	3,200	LF	\$35.00	\$112,000	
4	Common Excavation	13,074	CY	\$15.00	\$196,110	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)	463	CY	\$4.00	\$1,852	
8	Landscaping Allowance	50,000	SF	\$2.00	\$100,000	
9	Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10	Chain Link Fencing 6'		LF	\$22.00		
11	Ballast Walls (Curb-no drainage)		LF	\$22.00		
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	2,000	TF	\$223	\$446,000	
15	Embedded (Paved) Track at Grade	3,000	TF	\$312	\$936,000	
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover	1	EA	\$300,000	\$300,000	
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)	3	EA	\$200,000	\$600,000	
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)	3	EA	\$200,000	\$600,000	
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction	63,000	SF	\$9.00	\$567,000	
31	Sidewalk Construction	48,000	SF	\$6.00	\$288,000	
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$120,000.00	\$120,000	
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650	
41	Signal Communication Building LTK130		EA	\$100,000.00		
42	Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000	
43	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High	1,500	RF	\$600.00	\$900,000	\$1,250,000
60	Utility Allowance - Medium	1,000	RF	\$350.00	\$350,000	
61	Utility Allowance - Low		RF	\$100.00		
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS	\$700,000	\$700,000	\$850,000
106	Station Name	Convention Center Center Platform				
107	Allowance for Art at Stations & Park & Rides	\$50,000	LS	\$1.00	\$50,000	
108	Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516		
124	Operations Facility Building LTK		SF	\$171.00		

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 202

<b>Spokane Regional</b>							
		<b>Light Rail Project</b>		<b>Estimate Basics</b>			
		<b>Order of Magnitude</b>		Start Sta	End Sta	Length	
Drawing	<b>Convention Center to Trent Station</b>			25+00	50+00	2,500 FT	0.5 mile
C -202	<b>Downtown Section</b>						
	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Extension</b>	<b>2001\$</b>	
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$1,165,952
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000		
138	OCS Single Contact Wire LTK920	2,000	RF	\$123.00	\$246,000		
139	OCS Simple Catenary LTK930	500	RF	\$109.00	\$54,500		
141	Lighting LTK940	2,500	RF	\$11.58	\$28,952		
142	Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500		
147	<b>10 - Signal System</b>						\$718,288
148	Signal	2,500	RF	\$287.32	\$718,288		
151	<b>11 - Communications</b>						\$328,575
152	Communications	2,500	RF	\$131.43	\$328,575		
157	<b>12 - Fare Collection</b>						\$212,321
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$212,321	\$212,321		
160	<b>Subtotal - Infrastructure</b>				Subtotal		\$9,484,072
161							
162	<b>13. Right of Way</b>						
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal		\$3,319,425
180	Infrastructure	E & A 35.00%				\$3,319,425	
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>				Subtotal		\$2,896,814
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$1,646,814	
191	Utilities	Contingency 100.00%				\$1,250,000	
194	<b>17 - Washington State Sales Tax</b>						\$693,330
195		Sales Tax 8.40%				\$693,329.67	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
						Total	\$16,393,642



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 203

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing	Trent Station to Hamilton St Bridge Area		50+00	75+00	2,500 FT	0.5 mile
C -203	BN Section					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance		LF	\$35.00		
4	Common Excavation	21,044	CY	\$15.00	\$315,660	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)	7,330	CY	\$4.00	\$29,320	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10	Chain Link Fencing 6'	4,500	LF	\$22.00	\$99,000	
11	Ballast Walls (Curb-no drainage)		LF	\$22.00		
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction		SF	\$6.00		
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide	1,400	LF	\$35.00	\$49,000	
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$120,000.00	\$120,000	
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650	
41	Signal Communication Building LTK130	1	EA	\$100,000.00	\$100,000	
42	Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000	
43	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		\$250,000
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS	\$700,000	\$700,000	\$850,000
106	Station Name	Trent Station Center Platform				
107	Allowance for Art at Stations & Park & Rides	\$50,000	LS	\$1.00	\$50,000	
108	Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location	Trent Station				
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516		
124	Operations Facility Building LTK		SF	\$171.00		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 203

<b>Spokane Regional</b>							
		<b>Light Rail Project</b>		<b>Estimate Basics</b>			
		<b>Order of Magnitude</b>		Start Sta	End Sta	Length	
Drawing	<b>Trent Station to Hamilton St Bridge Area</b>			50+00	75+00	2,500 FT	0.5 mile
C -203	<b>BN Section</b>						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$1,137,952
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000		
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$11.58	\$28,952		
142	Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500		
147	<b>10 - Signal System</b>						\$718,288
148	Signal	2,500	RF	\$287.32	\$718,288		
151	<b>11 - Communications</b>						\$328,575
152	Communications	2,500	RF	\$131.43	\$328,575		
157	<b>12 - Fare Collection</b>						\$212,321
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$212,321	\$212,321		
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$6,017,090
161							
162	<b>13. Right of Way</b>						
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18			
179	<b>15 - Engineering &amp; Administration</b>			Subtotal			\$2,105,982
180	Infrastructure	E & A 35.00%			\$2,105,982		
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>			Subtotal			\$1,403,418
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%			\$1,153,418		
191	Utilities	Contingency 100.00%			\$250,000		
194	<b>17 - Washington State Sales Tax</b>						\$415,548
195		Sales Tax 8.40%			\$415,548.48		
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total		\$9,942,039

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 204

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Hamilton St Bridge Area to Helena Street		75+00	100+00	2,500 FT	0.5 mile	
C -204	BN Section						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
<b>1-Civil Construction</b>							
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3	Curb & Gutter Allowance		LF	\$35.00			
4	Common Excavation	2,088	CY	\$15.00	\$31,320		
5	Select Backfill (MSE Retaining Walls)	13,697	CY	\$15.00	\$205,455		
6	Common Backfill (From Project Excavation)	36,640	CY	\$4.00	\$146,560		
8	Landscaping Allowance		SF	\$2.00			
9	Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00			
10	Chain Link Fencing 6'	200	LF	\$22.00	\$4,400		
11	Ballast Walls (Curb-no drainage)		LF	\$22.00			
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15	Embedded (Paved) Track at Grade		TF	\$312			
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19	LRT Siding or Pocket Track		TF	\$230			
20	Double Crossover		EA	\$300,000			
21	Single Crossover		EA	\$150,000			
22	Turnout		EA	\$75,000			
23	Impact Attenuators		EA	\$35,000			
24	Minor Street Closures Allowance		EA	\$25,000			
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000			
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28	Major Traffic Signal (4 Lanes)		EA	\$200,000			
29	Complex Major Intersection Rebuild		EA	\$300,000			
30	Roadway Construction		SF	\$9.00			
31	Sidewalk Construction		SF	\$6.00			
32	Off Alignment Signal Modifications		EA	\$75,000.00			
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide	560	LF	\$35.00	\$19,600		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36	Remove & Relocate Industrial Spur HDR	1,400	TF	\$130.00	\$182,000		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$120,000.00			
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650		
41	Signal Communication Building LTK130		EA	\$100,000.00			
42	Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000		
43	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825		
50	<b>2 - Insurance - Included other in Items</b>						
57	<b>3 - Utilities</b>						
59	Utility Allowance - High		RF	\$600.00			
60	Utility Allowance - Medium		RF	\$350.00			
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70	<b>4 - Track Materials - Included in the Rail Items</b>						
74	<b>5 - Structures</b>						
75	Bridge Structures DEA	891,000	LS	\$1.00	\$891,000		
76	Bridge Location	Erie & Helena					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78	MSE Retaining Wall - Typical DEA	23,500	SF	\$30.00	\$705,000		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104	<b>6 - Stations</b>						
105	Stations	1	LS				
106	Station Name						
107	Allowance for Art at Stations & Park & Rides		LS	\$1.00			
108	Platform Electrical LTK610		LS	\$100,000			
115	<b>7 - Park &amp; Rides</b>						
116	Park & Ride		Space	\$4,300			
117	Park & Ride Location						
119	<b>8 - Operations Facility (All Yard elements Included)</b>						
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516			
124	Operations Facility Building LTK		SF	\$171.00			

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 204

<b>Spokane Regional</b>							
		<b>Light Rail Project</b>		<b>Estimate Basics</b>			
		<b>Order of Magnitude</b>		Start Sta	End Sta	Length	
Drawing		<b>Hamilton St Bridge Area to Helena Street</b>		75+00	100+00	2,500 FT	0.5 mile
C -204		<b>BN Section</b>					
		<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Extension</b>	<b>2001\$</b>
125		Yard Maintenance Equipment LTK		LS	\$4,160,844		
126		Maintenance of Way Vehicles LTK		LS	\$4,307,460		
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133		<b>9 - Traction Power System</b>					\$387,952
136		Sub-Station Type 3 LTK 910		EA	\$750,000		
138		OCS Single Contact Wire LTK920		RF	\$123.00		
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500	
141		Lighting LTK940	2,500	RF	\$11.58	\$28,952	
142		Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500	
147		<b>10 - Signal System</b>					\$718,288
148		Signal	2,500	RF	\$287.32	\$718,288	
151		<b>11 - Communications</b>					\$328,575
152		Communications	2,500	RF	\$131.43	\$328,575	
157		<b>12 - Fare Collection</b>					
158		Fare Collection Vending/ Validator & Spares LTK1200		LS	\$212,321		
160		<b>Subtotal - Infrastructure</b>			Subtotal		\$5,677,124
161							
162		<b>13. Right of Way</b>					
163		DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
165		HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174		<b>14. Vehicles</b>					
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18		
179		<b>15 - Engineering &amp; Administration</b>			Subtotal		\$1,986,994
180	Infrastructure	E & A 35.00%				\$1,986,994	
181	Vehicle	E & A 5.00%					
185		<b>16 - Contingencies</b>			Subtotal		\$1,335,425
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$1,085,425	
191	Utilities	Contingency 100.00%				\$250,000	
194		<b>17 - Washington State Sales Tax</b>					\$392,703
195		Sales Tax 8.40%				\$392,702.76	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
						Total	\$9,392,246

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 205

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Helena Street to New BN Yard Bridge		100+00	125+00	2,500 FT	0.5 mile	
C -205	BN Section						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>							
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance		LF	\$35.00		
4		Common Excavation		CY	\$15.00		
5		Select Backfill (MSE Retaining Walls)	35,831	CY	\$15.00	\$537,465	
6		Common Backfill (From Project Excavation)	58,932	CY	\$4.00	\$235,728	
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10		Chain Link Fencing 6'	500	LF	\$22.00	\$11,000	
11		Ballast Walls (Curb-no drainage)		LF	\$22.00		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure	2	EA	\$8,000	\$16,000	
14		Ballasted Track at Grade or Structure	4,400	TF	\$223	\$981,200	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure	600	TF	\$280	\$168,000	
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction		SF	\$6.00		
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$120,000.00		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650	
41		Signal Communication Building LTK130		EA	\$100,000.00		
42		Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000	
43		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					\$3,168,000
75		Bridge Structures DEA	2,046,000	LS	\$1.00	\$2,046,000	
76		Bridge Location	Madelia, Napa & BNRR				
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA	37,400	SF	\$30.00	\$1,122,000	
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Allowance for Art at Stations & Park & Rides		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516		
124		Operations Facility Building LTK		SF	\$171.00		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 205

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing	Helena Street to New BN Yard Bridge			100+00	125+00	2,500 FT	0.5 mile
C -205	BN Section						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$387,952
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$11.58	\$28,952		
142	Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500		
147	<b>10 - Signal System</b>						\$718,288
148	Signal	2,500	RF	\$287.32	\$718,288		
151	<b>11 - Communications</b>						\$328,575
152	Communications	2,500	RF	\$131.43	\$328,575		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$212,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$7,494,182
161							
162	<b>13. Right of Way</b>						
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18			
179	<b>15 - Engineering &amp; Administration</b>			Subtotal			\$2,622,964
180	Infrastructure	E & A 35.00%			\$2,622,964		
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>			Subtotal			\$1,698,836
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%			\$1,448,836		
191	Utilities	Contingency 100.00%			\$250,000		
194	<b>17 - Washington State Sales Tax</b>						\$514,809
195		Sales Tax 8.40%			\$514,809.06		
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
						Total	\$12,330,792

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 206

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing		New BN Yard Bridge to Regal Street	125+00	150+00	2,500 FT	0.5 mile
C -206		UP Section				
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance		LF	\$35.00		
4	Common Excavation	2,078	CY	\$15.00	\$31,170	
5	Select Backfill (MSE Retaining Walls)	21,120	CY	\$15.00	\$316,800	
6	Common Backfill (From Project Excavation)	568	CY	\$4.00	\$2,272	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	2,850	LF	\$16.00	\$45,600	
10	Chain Link Fencing 6'	2,000	LF	\$22.00	\$44,000	
11	Ballast Walls (Curb-no drainage)	1,250	LF	\$22.00	\$27,500	
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover	1	EA	\$150,000	\$150,000	
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction		SF	\$6.00		
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line	950	TF	\$100.00	\$95,000	
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$120,000.00	\$120,000	
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650	
41	Signal Communication Building LTK130	1	EA	\$100,000.00	\$100,000	
42	Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000	
43	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		\$250,000
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA	280,500	LS	\$1.00	\$280,500	\$775,500
76	Bridge Location	Altamont				
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA	16,500	SF	\$30.00	\$495,000	
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS	\$700,000	\$700,000	\$850,000
106	Station Name	Altamont Station Center Platform				
107	Allowance for Art at Stations & Park & Rides	\$50,000	LS	\$1.00	\$50,000	
108	Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516		
124	Operations Facility Building LTK		SF	\$171.00		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 206

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing		New BN Yard Bridge to Regal Street		125+00	150+00	2,500 FT	0.5 mile
C -206		UP Section					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$1,137,952
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000		
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$11.58	\$28,952		
142	Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500		
147	<b>10 - Signal System</b>						\$718,288
148	Signal	2,500	RF	\$287.32	\$718,288		
151	<b>11 - Communications</b>						\$328,575
152	Communications	2,500	RF	\$131.43	\$328,575		
157	<b>12 - Fare Collection</b>						\$212,321
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$212,321	\$212,321		
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$7,011,952
161							
162	<b>13. Right of Way</b>						
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18			
179	<b>15 - Engineering &amp; Administration</b>			Subtotal			\$2,454,183
180	Infrastructure	E & A 35.00%			\$2,454,183		
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>			Subtotal			\$1,602,390
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%			\$1,352,390		
191	Utilities	Contingency 100.00%			\$250,000		
194	<b>17 - Washington State Sales Tax</b>						\$482,403
195		Sales Tax 8.40%			\$482,403.20		
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total		\$11,550,930



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 207

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Regal Street to Freya Street		150+00	175+00	2,500 FT	0.5 mile	
C -207	UP Section						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
<b>1-Civil Construction</b>							
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3	Curb & Gutter Allowance		LF	\$35.00			
4	Common Excavation	5,709	CY	\$15.00	\$85,635		
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6	Common Backfill (From Project Excavation)	28	CY	\$4.00	\$112		
8	Landscaping Allowance		SF	\$2.00			
9	Chain Link Fencing 4' (on walls or Ballast Curb)	2,100	LF	\$16.00	\$33,600		
10	Chain Link Fencing 6'	2,850	LF	\$22.00	\$62,700		
11	Ballast Walls (Curb-no drainage)	4,600	LF	\$22.00	\$101,200		
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15	Embedded (Paved) Track at Grade		TF	\$312			
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19	LRT Siding or Pocket Track		TF	\$230			
20	Double Crossover		EA	\$300,000			
21	Single Crossover		EA	\$150,000			
22	Turnout		EA	\$75,000			
23	Impact Attenuators		EA	\$35,000			
24	Minor Street Closures Allowance	3	EA	\$25,000	\$75,000		
25	Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000		
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28	Major Traffic Signal (4 Lanes)		EA	\$200,000			
29	Complex Major Intersection Rebuild		EA	\$300,000			
30	Roadway Construction		SF	\$9.00			
31	Sidewalk Construction		SF	\$6.00			
32	Off Alignment Signal Modifications		EA	\$75,000.00			
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR	2	EA	\$65,000.00	\$130,000		
35	Relocate UPRR Yard Lead or Branch Line	2,500	TF	\$100.00	\$250,000		
36	Remove & Relocate Industrial Spur HDR	930	TF	\$130.00	\$120,900		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$120,000.00			
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650		
41	Signal Communication Building LTK130		EA	\$100,000.00			
42	Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000		
43	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825		
50	<b>2 - Insurance - Included other in Items</b>						
57	<b>3 - Utilities</b>						
59	Utility Allowance - High		RF	\$600.00			
60	Utility Allowance - Medium		RF	\$350.00			
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70	<b>4 - Track Materials - Included in the Rail Items</b>						
74	<b>5 - Structures</b>						
75	Bridge Structures DEA		LS	\$1.00			
76	Bridge Location						
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78	MSE Retaining Wall - Typical DEA		SF	\$30.00			
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104	<b>6 - Stations</b>						
105	Stations	1	LS				
106	Station Name						
107	Allowance for Art at Stations & Park & Rides		LS	\$1.00			
108	Platform Electrical LTK610		LS	\$100,000			
115	<b>7 - Park &amp; Rides</b>						
116	Park & Ride		Space	\$4,300			
117	Park & Ride Location						
119	<b>8 - Operations Facility (All Yard elements Included)</b>						
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516			
124	Operations Facility Building LTK		SF	\$171.00			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 207

<b>Spokane Regional</b>							
		<b>Light Rail Project</b>	<b>Estimate Basics</b>				
		<b>Order of Magnitude</b>	Start Sta	End Sta	Length		
Drawing	<b>Regal Street to Freya Street</b>		150+00	175+00	2,500 FT	0.5 mile	
C -207	<b>UP Section</b>						
	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Extension</b>	<b>2001\$</b>	
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$387,952	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$11.58	\$28,952		
142	Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500		
147	<b>10 - Signal System</b>					\$718,288	
148	Signal	2,500	RF	\$287.32	\$718,288		
151	<b>11 - Communications</b>					\$328,575	
152	Communications	2,500	RF	\$131.43	\$328,575		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$212,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$4,450,936	
161							
162	<b>13. Right of Way</b>						
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18			
179	<b>15 - Engineering &amp; Administration</b>			Subtotal		\$1,557,828	
180	Infrastructure	E & A 35.00%			\$1,557,828		
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>			Subtotal		\$1,090,187	
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%			\$840,187		
191	Utilities	Contingency 100.00%			\$250,000		
194	<b>17 - Washington State Sales Tax</b>					\$310,303	
195		Sales Tax 8.40%			\$310,302.93		
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$7,409,254	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 208

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing	Freya Street to Havana Street Area		175+00	200+00	2,500 FT	0.5 mile
C -208	UP Section					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance		LF	\$35.00		
4	Common Excavation	5,861	CY	\$15.00	\$87,915	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)	486	CY	\$4.00	\$1,944	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	4,700	LF	\$16.00	\$75,200	
10	Chain Link Fencing 6'	300	LF	\$22.00	\$6,600	
11	Ballast Walls (Curb-no drainage)	4,000	LF	\$22.00	\$88,000	
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover		EA	\$150,000		
22	Turnout	1	EA	\$75,000	\$75,000	
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance	2	EA	\$25,000	\$50,000	
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000	
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction		SF	\$6.00		
32	Off Alignment Signal Modifications	1	EA	\$75,000.00	\$75,000	
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line	2,500	TF	\$100.00	\$250,000	
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)	1	LS	\$208,000.00	\$208,000	
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$120,000.00	\$120,000	
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650	
41	Signal Communication Building LTK130	1	EA	\$100,000.00	\$100,000	
42	Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000	
43	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		\$250,000
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		\$105,000
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA	3,500	SF	\$30.00	\$105,000	
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS	\$700,000	\$700,000	\$850,000
106	Station Name	Central Station Center Platform				
107	Allowance for Art at Stations & Park & Rides	\$50,000	LS	\$1.00	\$50,000	
108	Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516		
124	Operations Facility Building LTK		SF	\$171.00		

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 208

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing	Freya Street to Havana Street Area			175+00	200+00	2,500 FT	0.5 mile
C -208	UP Section						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$1,137,952
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000		
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$11.58	\$28,952		
142	Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500		
147	<b>10 - Signal System</b>						\$718,288
148	Signal	2,500	RF	\$287.32	\$718,288		
151	<b>11 - Communications</b>						\$328,575
152	Communications	2,500	RF	\$131.43	\$328,575		
157	<b>12 - Fare Collection</b>						\$212,321
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$212,321	\$212,321		
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$6,746,769
161							
162	<b>13. Right of Way</b>						
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18			
179	<b>15 - Engineering &amp; Administration</b>			Subtotal			\$2,361,369
180	Infrastructure	E & A 35.00%			\$2,361,369		
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>			Subtotal			\$1,549,354
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%			\$1,299,354		
191	Utilities	Contingency 100.00%			\$250,000		
194	<b>17 - Washington State Sales Tax</b>						\$464,583
195		Sales Tax 8.40%			\$464,582.91		
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
						Total	\$11,122,076

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 209

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing	Havana Street Area to UPRR Spokane Yard Area			200+00	225+00	2,500 FT	0.5 mile
C -209	UP Section						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>							\$3,594,707
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00		\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00		\$87,500	
3	Curb & Gutter Allowance		LF	\$35.00			
4	Common Excavation	1,322	CY	\$15.00		\$19,830	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6	Common Backfill (From Project Excavation)	16,413	CY	\$4.00		\$65,652	
8	Landscaping Allowance		SF	\$2.00			
9	Chain Link Fencing 4' (on walls or Ballast Curb)	700	LF	\$16.00		\$11,200	
10	Chain Link Fencing 6'	4,300	LF	\$22.00		\$94,600	
11	Ballast Walls (Curb-no drainage)		LF	\$22.00			
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00		\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14	Ballasted Track at Grade or Structure	6,150	TF	\$223		\$1,371,450	
15	Embedded (Paved) Track at Grade		TF	\$312			
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19	LRT Siding or Pocket Track	1,500	TF	\$230		\$345,000	
20	Double Crossover		EA	\$300,000			
21	Single Crossover		EA	\$150,000			
22	Turnout	6	EA	\$75,000		\$450,000	
23	Impact Attenuators		EA	\$35,000			
24	Minor Street Closures Allowance		EA	\$25,000			
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000			
26	Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000		\$200,000	
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28	Major Traffic Signal (4 Lanes)		EA	\$200,000			
29	Complex Major Intersection Rebuild		EA	\$300,000			
30	Roadway Construction		SF	\$9.00			
31	Sidewalk Construction		SF	\$6.00			
32	Off Alignment Signal Modifications	1	EA	\$75,000.00		\$75,000	
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35	Relocate UPRR Yard Lead or Branch Line	500	TF	\$100.00		\$50,000	
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$120,000.00		\$120,000	
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06		\$37,650	
41	Signal Communication Building LTK130	1	EA	\$100,000.00		\$100,000	
42	Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00		\$500,000	
43	Corrosion Mitigation LTK150	2,500	RF	\$10.73		\$26,825	
50	<b>2 - Insurance - Included other in Items</b>						
57	<b>3 - Utilities</b>						\$250,000
59	Utility Allowance - High		RF	\$600.00			
60	Utility Allowance - Medium		RF	\$350.00			
61	Utility Allowance - Low	2,500	RF	\$100.00		\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>						
74	<b>5 - Structures</b>						\$285,000
75	Bridge Structures DEA		LS	\$1.00			
76	Bridge Location						
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78	MSE Retaining Wall - Typical DEA	9,500	SF	\$30.00		\$285,000	
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104	<b>6 - Stations</b>						\$1,650,000
105	Stations	1	LS	\$1,500,000		\$1,500,000	
106	Station Name	Fairgrounds W Station Triple Platform					
107	Allowance for Art at Stations & Park & Rides	\$50,000	LS	\$1.00		\$50,000	
108	Platform Electrical LTK610	1	LS	\$100,000		\$100,000	
115	<b>7 - Park &amp; Rides</b>						\$860,000
116	Park & Ride	200	Space	\$4,300		\$860,000	
117	Park & Ride Location	Fairgrounds W Sta					
119	<b>8 - Operations Facility (All Yard elements Included)</b>						
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 209

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing		Havana Street Area toUPRR Spokane Yard Area	200+00	225+00	2,500 FT	0.5 mile
C -209		UP Section				
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
124	Operations Facility Building LTK		SF	\$171.00		
125	Yard Maintenance Equipment LTK		LS	\$4,160,844		
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460		
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133	<b>9 - Traction Power System</b>					\$1,137,952
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000	
138	OCS Single Contact Wire LTK920		RF	\$123.00		
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500	
141	Lighting LTK940	2,500	RF	\$11.58	\$28,952	
142	Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500	
147	<b>10 - Signal System</b>					\$718,288
148	Signal	2,500	RF	\$287.32	\$718,288	
151	<b>11 - Communications</b>					\$328,575
152	Communications	2,500	RF	\$131.43	\$328,575	
157	<b>12 - Fare Collection</b>					\$212,321
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$212,321	\$212,321	
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$9,036,842
161						
162	<b>13. Right of Way</b>					
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174	<b>14. Vehicles</b>					
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18		
179	<b>15 - Engineering &amp; Administration</b>			Subtotal		\$3,162,895
180	Infrastructure	E & A 35.00%			\$3,162,895	
181	Vehicle	E & A 5.00%				
185	<b>16 - Contingencies</b>			Subtotal		\$2,007,368
187	Vehicles	Contingency 5.00%				
189	Infrastructure	Contingency 20.00%			\$1,757,368	
191	Utilities	Contingency 100.00%			\$250,000	
194	<b>17 - Washington State Sales Tax</b>					\$618,476
195		Sales Tax 8.40%			\$618,475.81	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
					Total	\$14,825,582

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 210

Spokane Regional						
Light Rail Project		Estimate Basics				
Order of Magnitude		Start Sta	End Sta	Length		
Drawing	UPRR Spokane Yard Area	225+00	250+00	2,500 FT		0.5 mile
C -210	UP Section					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance		LF	\$35.00		
4	Common Excavation	393	CY	\$15.00	\$5,895	
5	Select Backfill (MSE Retaining Walls)	17,333	CY	\$15.00	\$259,995	
6	Common Backfill (From Project Excavation)	1,722	CY	\$4.00	\$6,888	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	3,600	LF	\$16.00	\$57,600	
10	Chain Link Fencing 6'	1,400	LF	\$22.00	\$30,800	
11	Ballast Walls (Curb-no drainage)		LF	\$22.00		
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure	2	EA	\$8,000	\$16,000	
14	Ballasted Track at Grade or Structure	3,700	TF	\$223	\$825,100	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure	1,300	TF	\$280	\$364,000	
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction		SF	\$6.00		
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$120,000.00		
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650	
41	Signal Communication Building LTK130		EA	\$100,000.00		
42	Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000	
43	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					\$250,000
59	Utility Allowance - High		RF	\$600.00		
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					\$3,276,000
75	Bridge Structures DEA	2,211,000	LS	\$1.00	\$2,211,000	
76	Bridge Location	RR Spur Overpass				
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA	35,500	SF	\$30.00	\$1,065,000	
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS			
106	Station Name					
107	Allowance for Art at Stations & Park & Rides		LS	\$1.00		
108	Platform Electrical LTK610		LS	\$100,000		
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516		
124	Operations Facility Building LTK		SF	\$171.00		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 210

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing	UPRR Spokane Yard Area			225+00	250+00	2,500 FT	0.5 mile
C -210	UP Section						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$387,952
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$11.58	\$28,952		
142	Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500		
147	<b>10 - Signal System</b>						\$718,288
148	Signal	2,500	RF	\$287.32	\$718,288		
151	<b>11 - Communications</b>						\$328,575
152	Communications	2,500	RF	\$131.43	\$328,575		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$212,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$7,219,067
161							
162	<b>13. Right of Way</b>						
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18			
179	<b>15 - Engineering &amp; Administration</b>			Subtotal			\$2,526,674
180	Infrastructure	E & A 35.00%			\$2,526,674		
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>			Subtotal			\$1,643,813
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%			\$1,393,813		
191	Utilities	Contingency 100.00%			\$250,000		
194	<b>17 - Washington State Sales Tax</b>						\$496,321
195		Sales Tax 8.40%			\$496,321.33		
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
						Total	\$11,885,876



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 211

Spokane Regional						
Light Rail Project		Estimate Basics				
Order of Magnitude		Start Sta	End Sta	Length		
Drawing	UPRR Spokane Yard Area to Interstate 90	250+00	275+00	2,500 FT		0.5 mile
C -211	UP Section					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance		LF	\$35.00		
4	Common Excavation	8,327	CY	\$15.00	\$124,905	
5	Select Backfill (MSE Retaining Walls)	12,840	CY	\$15.00	\$192,600	
6	Common Backfill (From Project Excavation)	273	CY	\$4.00	\$1,092	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	2,500	LF	\$16.00	\$40,000	
10	Chain Link Fencing 6'	1,900	LF	\$22.00	\$41,800	
11	Ballast Walls (Curb-no drainage)	100	LF	\$22.00	\$2,200	
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover		EA	\$150,000		
22	Turnout	1	EA	\$75,000	\$75,000	
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000	
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction		SF	\$6.00		
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line	1,200	TF	\$100.00	\$120,000	
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)	1	LS	\$476,000.00	\$476,000	
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$120,000.00	\$120,000	
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650	
41	Signal Communication Building LTK130	1	EA	\$100,000.00	\$100,000	
42	Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000	
43	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		\$250,000
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA	1,122,000	LS	\$1.00	\$1,122,000	\$2,179,500
76	Bridge Location	Lake Rd Spur	Overpass			
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA	35,250	SF	\$30.00	\$1,057,500	
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS			
106	Station Name	Future Station	Possible			
107	Allowance for Art at Stations & Park & Rides		LS	\$1.00		
108	Platform Electrical LTK610		LS	\$100,000		
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516		
124	Operations Facility Building LTK		SF	\$171.00		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 211

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing	UPRR Spokane Yard Area to Interstate 90			250+00	275+00	2,500 FT	0.5 mile
C -211	UP Section						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$1,137,952
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000		
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$11.58	\$28,952		
142	Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500		
147	<b>10 - Signal System</b>						\$718,288
148	Signal	2,500	RF	\$287.32	\$718,288		
151	<b>11 - Communications</b>						\$328,575
152	Communications	2,500	RF	\$131.43	\$328,575		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$212,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$7,914,886
161							
162	<b>13. Right of Way</b>						
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18			
179	<b>15 - Engineering &amp; Administration</b>			Subtotal			\$2,770,210
180	Infrastructure	E & A 35.00%			\$2,770,210		
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>			Subtotal			\$1,782,977
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%			\$1,532,977		
191	Utilities	Contingency 100.00%			\$250,000		
194	<b>17 - Washington State Sales Tax</b>						\$543,080
195		Sales Tax 8.40%			\$543,080.37		
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total		\$13,011,154

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 212

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Interstate 90 to Approx Station 300+00		275+00	300+00	2,500 FT	0.5 mile	
C -212	UP Section	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>							
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance		LF	\$35.00		
4		Common Excavation	6,267	CY	\$15.00	\$94,005	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)	1,699	CY	\$4.00	\$6,796	
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)	1,000	LF	\$16.00	\$16,000	
10		Chain Link Fencing 6'	3,900	LF	\$22.00	\$85,800	
11		Ballast Walls (Curb-no drainage)	1,000	LF	\$22.00	\$22,000	
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance	1	EA	\$25,000	\$25,000	
25		Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000	
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction		SF	\$6.00		
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line	2,100	TF	\$100.00	\$210,000	
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$120,000.00		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650	
41		Signal Communication Building LTK130		EA	\$100,000.00		
42		Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000	
43		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Allowance for Art at Stations & Park & Rides		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516		
124		Operations Facility Building LTK		SF	\$171.00		

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 212

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing	Interstate 90 to Approx Station 300+00			275+00	300+00	2,500 FT	0.5 mile
C -212	UP Section						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$387,952
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$11.58	\$28,952		
142	Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500		
147	<b>10 - Signal System</b>						\$718,288
148	Signal	2,500	RF	\$287.32	\$718,288		
151	<b>11 - Communications</b>						\$328,575
152	Communications	2,500	RF	\$131.43	\$328,575		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$212,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$4,051,390
161							
162	<b>13. Right of Way</b>						
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18			
179	<b>15 - Engineering &amp; Administration</b>			Subtotal			\$1,417,987
180	Infrastructure	E & A 35.00%			\$1,417,987		
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>			Subtotal			\$1,010,278
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%			\$760,278		
191	Utilities	Contingency 100.00%			\$250,000		
194	<b>17 - Washington State Sales Tax</b>						\$283,453
195		Sales Tax 8.40%			\$283,453.44		
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
						Total	\$6,763,109

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 213

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Park Road & Spear Ave Area		300+00	325+00	2,500 FT	0.5 mile	
C -213	UP Section						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
<b>1-Civil Construction</b>							
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3	Curb & Gutter Allowance		LF	\$35.00			
4	Common Excavation	369	CY	\$15.00	\$5,535		
5	Select Backfill (MSE Retaining Walls)	16,694	CY	\$15.00	\$250,410		
6	Common Backfill (From Project Excavation)	524	CY	\$4.00	\$2,096		
8	Landscaping Allowance		SF	\$2.00			
9	Chain Link Fencing 4' (on walls or Ballast Curb)	2,500	LF	\$16.00	\$40,000		
10	Chain Link Fencing 6'	2,500	LF	\$22.00	\$55,000		
11	Ballast Walls (Curb-no drainage)	600	LF	\$22.00	\$13,200		
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15	Embedded (Paved) Track at Grade		TF	\$312			
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19	LRT Siding or Pocket Track		TF	\$230			
20	Double Crossover		EA	\$300,000			
21	Single Crossover		EA	\$150,000			
22	Turnout		EA	\$75,000			
23	Impact Attenuators		EA	\$35,000			
24	Minor Street Closures Allowance		EA	\$25,000			
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000			
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28	Major Traffic Signal (4 Lanes)		EA	\$200,000			
29	Complex Major Intersection Rebuild		EA	\$300,000			
30	Roadway Construction		SF	\$9.00			
31	Sidewalk Construction		SF	\$6.00			
32	Off Alignment Signal Modifications		EA	\$75,000.00			
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$120,000.00			
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650		
41	Signal Communication Building LTK130		EA	\$100,000.00			
42	Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000		
43	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825		
50	<b>2 - Insurance - Included other in Items</b>						
57	<b>3 - Utilities</b>						
59	Utility Allowance - High		RF	\$600.00			
60	Utility Allowance - Medium		RF	\$350.00			
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70	<b>4 - Track Materials - Included in the Rail Items</b>						
74	<b>5 - Structures</b>						
75	Bridge Structures DEA	841,500	LS	\$1.00	\$841,500		
76	Bridge Location	Park Rd & Spear Ave					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78	MSE Retaining Wall - Typical DEA	21,750	SF	\$30.00	\$652,500		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104	<b>6 - Stations</b>						
105	Stations	1	LS				
106	Station Name						
107	Allowance for Art at Stations & Park & Rides		LS	\$1.00			
108	Platform Electrical LTK610		LS	\$100,000			
115	<b>7 - Park &amp; Rides</b>						
116	Park & Ride		Space	\$4,300			
117	Park & Ride Location						
119	<b>8 - Operations Facility (All Yard elements Included)</b>						
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516			
124	Operations Facility Building LTK		SF	\$171.00			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 213

<b>Spokane Regional</b>							
		<b>Light Rail Project</b>		<b>Estimate Basics</b>			
		<b>Order of Magnitude</b>		Start Sta	End Sta	Length	
Drawing	<b>Park Road &amp; Spear Ave Area</b>			300+00	325+00	2,500 FT	0.5 mile
C -213	<b>UP Section</b>						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$387,952
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$11.58	\$28,952		
142	Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500		
147	<b>10 - Signal System</b>						\$718,288
148	Signal	2,500	RF	\$287.32	\$718,288		
151	<b>11 - Communications</b>						\$328,575
152	Communications	2,500	RF	\$131.43	\$328,575		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$212,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$5,352,030
161							
162	<b>13. Right of Way</b>						
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18			
179	<b>15 - Engineering &amp; Administration</b>			Subtotal			\$1,873,211
180	Infrastructure	E & A 35.00%			\$1,873,211		
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>			Subtotal			\$1,270,406
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%			\$1,020,406		
191	Utilities	Contingency 100.00%			\$250,000		
194	<b>17 - Washington State Sales Tax</b>						\$370,856
195		Sales Tax 8.40%			\$370,856.45		
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
						Total	\$8,866,504

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 214

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing	Vista Road Area		325+00	350+00	2,500 FT	0.5 mile
C -214	UP Section					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance		LF	\$35.00		
4	Common Excavation	3,431	CY	\$15.00	\$51,465	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)	308	CY	\$4.00	\$1,232	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	2,500	LF	\$16.00	\$40,000	
10	Chain Link Fencing 6'	2,500	LF	\$22.00	\$55,000	
11	Ballast Walls (Curb-no drainage)	2,750	LF	\$22.00	\$60,500	
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover	1	EA	\$150,000	\$150,000	
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000	
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction		SF	\$6.00		
32	Off Alignment Signal Modifications	1	EA	\$75,000.00	\$75,000	
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$120,000.00	\$120,000	
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650	
41	Signal Communication Building LTK130	1	EA	\$100,000.00	\$100,000	
42	Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000	
43	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		\$250,000
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS	\$700,000	\$700,000	\$850,000
106	Station Name	Park/Vista Station Center Platform				
107	Allowance for Art at Stations & Park & Rides	\$50,000	LS	\$1.00	\$50,000	
108	Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location	Vista Station				
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516		
124	Operations Facility Building LTK		SF	\$171.00		

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 214

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing	Vista Road Area			325+00	350+00	2,500 FT	0.5 mile
C -214	UP Section						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$1,137,952
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000		
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$11.58	\$28,952		
142	Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500		
147	<b>10 - Signal System</b>						\$718,288
148	Signal	2,500	RF	\$287.32	\$718,288		
151	<b>11 - Communications</b>						\$328,575
152	Communications	2,500	RF	\$131.43	\$328,575		
157	<b>12 - Fare Collection</b>						\$212,321
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$212,321	\$212,321		
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$6,057,307
161							
162	<b>13. Right of Way</b>						
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18			
179	<b>15 - Engineering &amp; Administration</b>			Subtotal			\$2,120,058
180	Infrastructure	E & A 35.00%			\$2,120,058		
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>			Subtotal			\$1,411,461
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%			\$1,161,461		
191	Utilities	Contingency 100.00%			\$250,000		
194	<b>17 - Washington State Sales Tax</b>						\$418,251
195		Sales Tax 8.40%			\$418,251.06		
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total		\$10,007,078



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 215

Spokane Regional								
		Light Rail Project	Estimate Basics					
		Order of Magnitude	Start Sta	End Sta	Length			
Drawing	Sargent Road to Argonne Station		350+00	375+00	2,500 FT	0.5 mile		
C -215	UP Section							
		Description	Quantity	Unit	Unit Cost	Extension	2001\$	
		<b>1-Civil Construction</b>						\$2,444,171
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3		Curb & Gutter Allowance		LF	\$35.00			
4		Common Excavation	185	CY	\$15.00	\$2,775		
5		Select Backfill (MSE Retaining Walls)	291	CY	\$15.00	\$4,365		
6		Common Backfill (From Project Excavation)	914	CY	\$4.00	\$3,656		
8		Landscaping Allowance	50,000	SF	\$2.00	\$100,000		
9		Chain Link Fencing 4' (on walls or Ballast Curb)	4,000	LF	\$16.00	\$64,000		
10		Chain Link Fencing 6'	1,000	LF	\$22.00	\$22,000		
11		Ballast Walls (Curb-no drainage)	900	LF	\$22.00	\$19,800		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13		Transition Slab Ballasted to Embedded /Bridge /Structure	2	EA	\$8,000	\$16,000		
14		Ballasted Track at Grade or Structure	2,200	TF	\$223	\$490,600		
15		Embedded (Paved) Track at Grade		TF	\$312			
16		Direct Fixation (DF) Track, Elevated Structure	2,800	TF	\$280	\$784,000		
19		LRT Siding or Pocket Track		TF	\$230			
20		Double Crossover		EA	\$300,000			
21		Single Crossover		EA	\$150,000			
22		Turnout		EA	\$75,000			
23		Impact Attenuators		EA	\$35,000			
24		Minor Street Closures Allowance	1	EA	\$25,000	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000			
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28		Major Traffic Signal (4 Lanes)		EA	\$200,000			
29		Complex Major Intersection Rebuild		EA	\$300,000			
30		Roadway Construction		SF	\$9.00			
31		Sidewalk Construction		SF	\$6.00			
32		Off Alignment Signal Modifications		EA	\$75,000.00			
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$120,000.00	\$120,000		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650		
41		Signal Communication Building LTK130	1	EA	\$100,000.00	\$100,000		
42		Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000		
43		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825		
50		<b>2 - Insurance - Included other in Items</b>						
57		<b>3 - Utilities</b>						\$250,000
59		Utility Allowance - High		RF	\$600.00			
60		Utility Allowance - Medium		RF	\$350.00			
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70		<b>4 - Track Materials - Included in the Rail Items</b>						
74		<b>5 - Structures</b>						\$6,480,000
75		Bridge Structures DEA	6,390,000	LS	\$1.00	\$6,390,000		
76		Bridge Location	Argonne-Dishman-Willow Overpass					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78		MSE Retaining Wall - Typical DEA	3,000	SF	\$30.00	\$90,000		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104		<b>6 - Stations</b>						\$2,150,000
105		Stations	1	LS	\$2,000,000	\$2,000,000		
106		Station Name	Argonne Station Elevated Center Platform					
107		Allowance for Art at Stations & Park & Rides	\$50,000	LS	\$1.00	\$50,000		
108		Platform Electrical LTK610	1	LS	\$100,000	\$100,000		
115		<b>7 - Park &amp; Rides</b>						\$1,075,000
116		Park & Ride	250	Space	\$4,300	\$1,075,000		
117		Park & Ride Location	Argonne Station					
119		<b>8 - Operations Facility (All Yard elements Included)</b>						
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516			
124		Operations Facility Building LTK		SF	\$171.00			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 215

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing	Sargent Road to Argonne Station			350+00	375+00	2,500 FT	0.5 mile
C -215	UP Section						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$1,137,952
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000		
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$11.58	\$28,952		
142	Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500		
147	<b>10 - Signal System</b>						\$718,288
148	Signal	2,500	RF	\$287.32	\$718,288		
151	<b>11 - Communications</b>						\$328,575
152	Communications	2,500	RF	\$131.43	\$328,575		
157	<b>12 - Fare Collection</b>						\$212,321
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$212,321	\$212,321		
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$14,796,306
161							
162	<b>13. Right of Way</b>						
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18			
179	<b>15 - Engineering &amp; Administration</b>			Subtotal			\$5,178,707
180	Infrastructure	E & A 35.00%			\$5,178,707		
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>			Subtotal			\$3,159,261
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%			\$2,909,261		
191	Utilities	Contingency 100.00%			\$250,000		
194	<b>17 - Washington State Sales Tax</b>						\$1,005,512
195		Sales Tax 8.40%			\$1,005,511.79		
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total		\$24,139,787

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 216

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Willow Road to Dartmouth Rd Area		375+00	400+00	2,500 FT	0.5 mile	
C -216	UP Section						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
<b>1-Civil Construction</b>							
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3	Curb & Gutter Allowance		LF	\$35.00			
4	Common Excavation	7,623	CY	\$15.00	\$114,345		
5	Select Backfill (MSE Retaining Walls)	6,222	CY	\$15.00	\$93,330		
6	Common Backfill (From Project Excavation)	2,529	CY	\$4.00	\$10,116		
8	Landscaping Allowance	50,000	SF	\$2.00	\$100,000		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	2,900	LF	\$16.00	\$46,400		
10	Chain Link Fencing 6'		LF	\$22.00			
11	Ballast Walls (Curb-no drainage)	4,100	LF	\$22.00	\$90,200		
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15	Embedded (Paved) Track at Grade		TF	\$312			
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19	LRT Siding or Pocket Track		TF	\$230			
20	Double Crossover		EA	\$300,000			
21	Single Crossover		EA	\$150,000			
22	Turnout		EA	\$75,000			
23	Impact Attenuators		EA	\$35,000			
24	Minor Street Closures Allowance		EA	\$25,000			
25	Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000		
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27	Minor Traffic Signal (2 Lanes)	1	EA	\$100,000	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000			
29	Complex Major Intersection Rebuild		EA	\$300,000			
30	Roadway Construction		SF	\$9.00			
31	Sidewalk Construction		SF	\$6.00			
32	Off Alignment Signal Modifications		EA	\$75,000.00			
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$120,000.00			
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650		
41	Signal Communication Building LTK130		EA	\$100,000.00			
42	Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000		
43	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825		
50	<b>2 - Insurance - Included other in Items</b>						
57	<b>3 - Utilities</b>						
59	Utility Allowance - High		RF	\$600.00		\$250,000	
60	Utility Allowance - Medium		RF	\$350.00			
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70	<b>4 - Track Materials - Included in the Rail Items</b>						
74	<b>5 - Structures</b>						
75	Bridge Structures DEA		LS	\$1.00		\$315,000	
76	Bridge Location						
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78	MSE Retaining Wall - Typical DEA	10,500	SF	\$30.00	\$315,000		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104	<b>6 - Stations</b>						
105	Stations	1	LS				
106	Station Name						
107	Allowance for Art at Stations & Park & Rides		LS	\$1.00			
108	Platform Electrical LTK610		LS	\$100,000			
115	<b>7 - Park &amp; Rides</b>						
116	Park & Ride		Space	\$4,300			
117	Park & Ride Location						
119	<b>8 - Operations Facility (All Yard elements Included)</b>						
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516			
124	Operations Facility Building LTK		SF	\$171.00			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 216

<b>Spokane Regional</b>							
		<b>Light Rail Project</b>		<b>Estimate Basics</b>			
		<b>Order of Magnitude</b>		Start Sta	End Sta	Length	
Drawing	<b>Willow Road to Dartmouth Rd Area</b>			375+00	400+00	2,500 FT	0.5 mile
C -216	<b>UP Section</b>						
	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Extension</b>	<b>2001\$</b>	
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$387,952
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$11.58	\$28,952		
142	Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500		
147	<b>10 - Signal System</b>						\$718,288
148	Signal	2,500	RF	\$287.32	\$718,288		
151	<b>11 - Communications</b>						\$328,575
152	Communications	2,500	RF	\$131.43	\$328,575		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$212,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$4,461,180
161							
162	<b>13. Right of Way</b>						
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18			
179	<b>15 - Engineering &amp; Administration</b>			Subtotal			\$1,561,413
180	Infrastructure E & A 35.00%				\$1,561,413		
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>			Subtotal			\$1,092,236
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%				\$842,236		
191	Utilities Contingency 100.00%				\$250,000		
194	<b>17 - Washington State Sales Tax</b>						\$310,991
195	Sales Tax 8.40%				\$310,991.33		
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
						<b>Total</b>	<b>\$7,425,821</b>

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 217

Spokane Regional										
		Light Rail Project		Estimate Basics						
		Order of Magnitude		Start Sta	End Sta	Length				
Drawing	Dartmouth Road Area to University Rd		400+00	425+00	2,500 FT	0.5 mile				
C -217	East Valley Section									
		Description	Quantity	Unit	Unit Cost	Extension	2001\$			
		<b>1-Civil Construction</b>								\$3,136,127
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000				
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500				
3		Curb & Gutter Allowance	300	LF	\$35.00	\$10,500				
4		Common Excavation	3,180	CY	\$15.00	\$47,700				
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00					
6		Common Backfill (From Project Excavation)	4,183	CY	\$4.00	\$16,732				
8		Landscaping Allowance	50,000	SF	\$2.00	\$100,000				
9		Chain Link Fencing 4' (on walls or Ballast Curb)	375	LF	\$16.00	\$6,000				
10		Chain Link Fencing 6'	4,325	LF	\$22.00	\$95,150				
11		Ballast Walls (Curb-no drainage)	375	LF	\$22.00	\$8,250				
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000				
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000					
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000				
15		Embedded (Paved) Track at Grade		TF	\$312					
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280					
19		LRT Siding or Pocket Track		TF	\$230					
20		Double Crossover	1	EA	\$300,000	\$300,000				
21		Single Crossover		EA	\$150,000					
22		Turnout		EA	\$75,000					
23		Impact Attenuators		EA	\$35,000					
24		Minor Street Closures Allowance		EA	\$25,000					
25		Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000				
26		Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000				
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000					
28		Major Traffic Signal (4 Lanes)	1	EA	\$200,000	\$200,000				
29		Complex Major Intersection Rebuild		EA	\$300,000					
30		Roadway Construction		SF	\$9.00					
31		Sidewalk Construction	1,920	SF	\$6.00	\$11,520				
32		Off Alignment Signal Modifications		EA	\$75,000.00					
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide	380	LF	\$35.00	\$13,300				
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00					
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00					
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00					
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00					
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00					
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$120,000.00	\$120,000				
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650				
41		Signal Communication Building LTK130	1	EA	\$100,000.00	\$100,000				
42		Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000				
43		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825				
50		<b>2 - Insurance - Included other in Items</b>								
57		<b>3 - Utilities</b>								\$250,000
59		Utility Allowance - High		RF	\$600.00					
60		Utility Allowance - Medium		RF	\$350.00					
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000				
70		<b>4 - Track Materials - Included in the Rail Items</b>								
74		<b>5 - Structures</b>								\$1,200,000
75		Bridge Structures DEA	1,200,000	LS	\$1.00	\$1,200,000				
76		Bridge Location	Pedestrian Bridge at University Station							
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00					
78		MSE Retaining Wall - Typical DEA		SF	\$30.00					
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00					
104		<b>6 - Stations</b>								\$850,000
105		Stations	1	LS	\$700,000	\$700,000				
106		Station Name	University Station							
107		Allowance for Art at Stations & Park & Rides	\$50,000	LS	\$1.00	\$50,000				
108		Platform Electrical LTK610	1	LS	\$100,000	\$100,000				
115		<b>7 - Park &amp; Rides</b>								
116		Park & Ride		Space	\$4,300					
117		Park & Ride Location	University Station							
119		<b>8 - Operations Facility (All Yard elements Included)</b>								
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516					
124		Operations Facility Building LTK		SF	\$171.00					

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 217

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing		Dartmouth Road Area to University Rd		400+00	425+00	2,500 FT	0.5 mile
C -217		East Valley Section					
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
125		Yard Maintenance Equipment LTK		LS	\$4,160,844		
126		Maintenance of Way Vehicles LTK		LS	\$4,307,460		
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133		<b>9 - Traction Power System</b>					\$1,137,952
136		Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000	
138		OCS Single Contact Wire LTK920		RF	\$123.00		
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500	
141		Lighting LTK940	2,500	RF	\$11.58	\$28,952	
142		Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500	
147		<b>10 - Signal System</b>					\$718,288
148		Signal	2,500	RF	\$287.32	\$718,288	
151		<b>11 - Communications</b>					\$328,575
152		Communications	2,500	RF	\$131.43	\$328,575	
157		<b>12 - Fare Collection</b>					\$212,321
158		Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$212,321	\$212,321	
160		<b>Subtotal - Infrastructure</b>			Subtotal		\$7,833,262
161							
162		<b>13. Right of Way</b>					
163		DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
165		HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174		<b>14. Vehicles</b>					
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18		
179		<b>15 - Engineering &amp; Administration</b>			Subtotal		\$2,741,642
180		Infrastructure	E & A 35.00%			\$2,741,642	
181		Vehicle	E & A 5.00%				
185		<b>16 - Contingencies</b>			Subtotal		\$1,766,652
187		Vehicles	Contingency 5.00%				
189		Infrastructure	Contingency 20.00%			\$1,516,652	
191		Utilities	Contingency 100.00%			\$250,000	
194		<b>17 - Washington State Sales Tax</b>					\$537,595
195			Sales Tax 8.40%			\$537,595.24	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
						Total	\$12,879,152

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 218

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	University Road to Bodish Road Area		425+00	450+00	2,500 FT	0.5 mile	
C -218	East Valley Section						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
<b>1-Civil Construction</b>							
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3	Curb & Gutter Allowance	400	LF	\$35.00	\$14,000		
4	Common Excavation	1,919	CY	\$15.00	\$28,785		
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6	Common Backfill (From Project Excavation)	7,715	CY	\$4.00	\$30,860		
8	Landscaping Allowance	50,000	SF	\$2.00	\$100,000		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	730	LF	\$16.00	\$11,680		
10	Chain Link Fencing 6'	4,270	LF	\$22.00	\$93,940		
11	Ballast Walls (Curb-no drainage)	730	LF	\$22.00	\$16,060		
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15	Embedded (Paved) Track at Grade		TF	\$312			
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19	LRT Siding or Pocket Track		TF	\$230			
20	Double Crossover		EA	\$300,000			
21	Single Crossover		EA	\$150,000			
22	Turnout		EA	\$75,000			
23	Impact Attenuators		EA	\$35,000			
24	Minor Street Closures Allowance		EA	\$25,000			
25	Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000		
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28	Major Traffic Signal (4 Lanes)		EA	\$200,000			
29	Complex Major Intersection Rebuild		EA	\$300,000			
30	Roadway Construction		SF	\$9.00			
31	Sidewalk Construction	2,520	SF	\$6.00	\$15,120		
32	Off Alignment Signal Modifications		EA	\$75,000.00			
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide	2,440	LF	\$35.00	\$85,400		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$120,000.00			
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650		
41	Signal Communication Building LTK130		EA	\$100,000.00			
42	Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000		
43	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825		
50	<b>2 - Insurance - Included other in Items</b>						
57	<b>3 - Utilities</b>					\$250,000	
59	Utility Allowance - High		RF	\$600.00			
60	Utility Allowance - Medium		RF	\$350.00			
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70	<b>4 - Track Materials - Included in the Rail Items</b>						
74	<b>5 - Structures</b>						
75	Bridge Structures DEA		LS	\$1.00			
76	Bridge Location						
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78	MSE Retaining Wall - Typical DEA		SF	\$30.00			
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104	<b>6 - Stations</b>						
105	Stations	1	LS				
106	Station Name						
107	Allowance for Art at Stations & Park & Rides		LS	\$1.00			
108	Platform Electrical LTK610		LS	\$100,000			
115	<b>7 - Park &amp; Rides</b>						
116	Park & Ride		Space	\$4,300			
117	Park & Ride Location						
119	<b>8 - Operations Facility (All Yard elements Included)</b>						
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516			
124	Operations Facility Building LTK		SF	\$171.00			

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 218

<b>Spokane Regional</b>							
		<b>Light Rail Project</b>		<b>Estimate Basics</b>			
		<b>Order of Magnitude</b>		Start Sta	End Sta	Length	
Drawing		<b>University Road to Bodish Road Area</b>		425+00	450+00	2,500 FT	0.5 mile
C -218		<b>East Valley Section</b>					
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
125		Yard Maintenance Equipment LTK		LS	\$4,160,844		
126		Maintenance of Way Vehicles LTK		LS	\$4,307,460		
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133		<b>9 - Traction Power System</b>					\$387,952
136		Sub-Station Type 3 LTK 910		EA	\$750,000		
138		OCS Single Contact Wire LTK920		RF	\$123.00		
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500	
141		Lighting LTK940	2,500	RF	\$11.58	\$28,952	
142		Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500	
147		<b>10 - Signal System</b>					\$718,288
148		Signal	2,500	RF	\$287.32	\$718,288	
151		<b>11 - Communications</b>					\$328,575
152		Communications	2,500	RF	\$131.43	\$328,575	
157		<b>12 - Fare Collection</b>					
158		Fare Collection Vending/ Validator & Spares LTK1200		LS	\$212,321		
160		<b>Subtotal - Infrastructure</b>			Subtotal		\$3,987,634
161							
162		<b>13. Right of Way</b>					
163		DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
165		HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174		<b>14. Vehicles</b>					
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18		
179		<b>15 - Engineering &amp; Administration</b>			Subtotal		\$1,395,672
180	Infrastructure	E & A 35.00%				\$1,395,672	
181	Vehicle	E & A 5.00%					
185		<b>16 - Contingencies</b>			Subtotal		\$997,527
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$747,527	
191	Utilities	Contingency 100.00%				\$250,000	
194		<b>17 - Washington State Sales Tax</b>					\$279,169
195		Sales Tax 8.40%				\$279,169.04	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
						Total	\$6,660,002



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 219

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing		Bodish Road to Pine Road (At Grade) Area	450+00	475+00	2,500 FT	0.5 mile
C -219		East Valley Section				
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance	400	LF	\$35.00	\$14,000	
4	Common Excavation	2,253	CY	\$15.00	\$33,795	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)	10,982	CY	\$4.00	\$43,928	
8	Landscaping Allowance	50,000	SF	\$2.00	\$100,000	
9	Chain Link Fencing 4' (on walls or Ballast Curb)	1,200	LF	\$16.00	\$19,200	
10	Chain Link Fencing 6'	3,640	LF	\$22.00	\$80,080	
11	Ballast Walls (Curb-no drainage)	1,200	LF	\$22.00	\$26,400	
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance	2	EA	\$25,000	\$50,000	
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000	
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction	2,640	SF	\$6.00	\$15,840	
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide	2,425	LF	\$35.00	\$84,875	
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$120,000.00		
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650	
41	Signal Communication Building LTK130		EA	\$100,000.00		
42	Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000	
43	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		\$250,000
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS			
106	Station Name					
107	Allowance for Art at Stations & Park & Rides		LS	\$1.00		
108	Platform Electrical LTK610		LS	\$100,000		
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516		
124	Operations Facility Building LTK		SF	\$171.00		

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 219

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing		Bodish Road to Pine Road (At Grade) Area		450+00	475+00	2,500 FT	0.5 mile
C -219		East Valley Section					
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
125		Yard Maintenance Equipment LTK		LS	\$4,160,844		
126		Maintenance of Way Vehicles LTK		LS	\$4,307,460		
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133		<b>9 - Traction Power System</b>					\$387,952
136		Sub-Station Type 3 LTK 910		EA	\$750,000		
138		OCS Single Contact Wire LTK920		RF	\$123.00		
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500	
141		Lighting LTK940	2,500	RF	\$11.58	\$28,952	
142		Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500	
147		<b>10 - Signal System</b>					\$718,288
148		Signal	2,500	RF	\$287.32	\$718,288	
151		<b>11 - Communications</b>					\$328,575
152		Communications	2,500	RF	\$131.43	\$328,575	
157		<b>12 - Fare Collection</b>					
158		Fare Collection Vending/ Validator & Spares LTK1200		LS	\$212,321		
160		<b>Subtotal - Infrastructure</b>			Subtotal		\$4,159,907
161							
162		<b>13. Right of Way</b>					
163		DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
165		HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174		<b>14. Vehicles</b>					
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18		
179		<b>15 - Engineering &amp; Administration</b>			Subtotal		\$1,455,968
180	Infrastructure	E & A 35.00%				\$1,455,968	
181	Vehicle	E & A 5.00%					
185		<b>16 - Contingencies</b>			Subtotal		\$1,031,981
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$781,981	
191	Utilities	Contingency 100.00%				\$250,000	
194		<b>17 - Washington State Sales Tax</b>					\$290,746
195		Sales Tax 8.40%				\$290,745.78	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
						Total	\$6,938,602

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 220

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Pine Road (At Grade) to McDonald Road Area		475+00	500+00	2,500 FT	0.5 mile	
C -220	East Valley Section						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
		<b>1-Civil Construction</b>					\$2,380,894
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance		LF	\$35.00		
4		Common Excavation	1,481	CY	\$15.00	\$22,215	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)	5,151	CY	\$4.00	\$20,604	
8		Landscaping Allowance	50,000	SF	\$2.00	\$100,000	
9		Chain Link Fencing 4' (on walls or Ballast Curb)	850	LF	\$16.00	\$13,600	
10		Chain Link Fencing 6'	4,150	LF	\$22.00	\$91,300	
11		Ballast Walls (Curb-no drainage)	850	LF	\$22.00	\$18,700	
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction		SF	\$6.00		
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide	2,500	LF	\$35.00	\$87,500	
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$120,000.00	\$120,000	
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650	
41		Signal Communication Building LTK130	1	EA	\$100,000.00	\$100,000	
42		Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000	
43		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					\$850,000
105		Stations	1	LS	\$700,000	\$700,000	
106		Station Name	Pines Station Center Platform				
107		Allowance for Art at Stations & Park & Rides	\$50,000	LS	\$1.00	\$50,000	
108		Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115		<b>7 - Park &amp; Rides</b>					\$1,720,000
116		Park & Ride	400	Space	\$4,300	\$1,720,000	
117		Park & Ride Location	Pines Station				
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 220

Spokane Regional							
		<b>Light Rail Project</b>		<b>Estimate Basics</b>			
		<b>Order of Magnitude</b>		Start Sta	End Sta	Length	
Drawing		<b>Pine Road (At Grade) to McDonald Road Area</b>		475+00	500+00	2,500 FT	0.5 mile
C -220		<b>East Valley Section</b>					
		<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Extension</b>	<b>2001\$</b>
124		Operations Facility Building LTK		SF	\$171.00		
125		Yard Maintenance Equipment LTK		LS	\$4,160,844		
126		Maintenance of Way Vehicles LTK		LS	\$4,307,460		
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133		<b>9 - Traction Power System</b>					\$1,137,952
136		Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000	
138		OCS Single Contact Wire LTK920		RF	\$123.00		
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500	
141		Lighting LTK940	2,500	RF	\$11.58	\$28,952	
142		Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500	
147		<b>10 - Signal System</b>					\$718,288
148		Signal	2,500	RF	\$287.32	\$718,288	
151		<b>11 - Communications</b>					\$328,575
152		Communications	2,500	RF	\$131.43	\$328,575	
157		<b>12 - Fare Collection</b>					\$212,321
158		Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$212,321	\$212,321	
160		<b>Subtotal - Infrastructure</b>			Subtotal		\$7,598,029
161							
162		<b>13. Right of Way</b>					
163		DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
165		HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174		<b>14. Vehicles</b>					
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18		
179		<b>15 - Engineering &amp; Administration</b>			Subtotal		\$2,659,310
180		Infrastructure				\$2,659,310	
181		Vehicle					
185		<b>16 - Contingencies</b>			Subtotal		\$1,719,606
187		Vehicles					
189		Infrastructure				\$1,469,606	
191		Utilities				\$250,000	
194		<b>17 - Washington State Sales Tax</b>					\$521,788
195		Sales Tax				\$521,787.58	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
						Total	\$12,498,733

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 219A

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing		Bodish Road to Pine Road (Aerial Structure)	450+00	475+00	2,500 FT	0.5 mile
219A		Area				
		East Valley Section (Aerial at Pine)				
		Description	Quantity	Unit	Unit Cost	Extension
						2001\$
<b>1-Civil Construction</b>						\$2,680,093
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500
3		Curb & Gutter Allowance	400	LF	\$35.00	\$14,000
4		Common Excavation	2,253	CY	\$15.00	\$33,795
5		Select Backfill (MSE Retaining Walls)	27,000	CY	\$15.00	\$405,000
6		Common Backfill (From Project Excavation)	10,982	CY	\$4.00	\$43,928
8		Landscaping Allowance	50,000	SF	\$2.00	\$100,000
9		Chain Link Fencing 4' (on walls or Ballast Curb)	1,200	LF	\$16.00	\$19,200
10		Chain Link Fencing 6'	3,640	LF	\$22.00	\$80,080
11		Ballast Walls (Curb-no drainage)	1,200	LF	\$22.00	\$26,400
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000	
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000
15		Embedded (Paved) Track at Grade		TF	\$312	
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280	
19		LRT Siding or Pocket Track		TF	\$230	
20		Double Crossover		EA	\$300,000	
21		Single Crossover		EA	\$150,000	
22		Turnout		EA	\$75,000	
23		Impact Attenuators		EA	\$35,000	
24		Minor Street Closures Allowance	2	EA	\$25,000	\$50,000
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000	
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000	
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000	
28		Major Traffic Signal (4 Lanes)		EA	\$200,000	
29		Complex Major Intersection Rebuild		EA	\$300,000	
30		Roadway Construction		SF	\$9.00	
31		Sidewalk Construction	2,640	SF	\$6.00	\$15,840
32		Off Alignment Signal Modifications		EA	\$75,000.00	
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide	2,425	LF	\$35.00	\$84,875
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00	
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00	
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00	
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00	
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00	
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$120,000.00	
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650
41		Signal Communication Building LTK130		EA	\$100,000.00	
42		Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000
43		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825
50		<b>2 - Insurance - Included other in Items</b>				
57		<b>3 - Utilities</b>				\$250,000
59		Utility Allowance - High		RF	\$600.00	
60		Utility Allowance - Medium		RF	\$350.00	
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000
70		<b>4 - Track Materials - Included in the Rail Items</b>				
74		<b>5 - Structures</b>				\$1,787,500
75		Bridge Structures DEA	587,500	LS	\$1.00	\$587,500
76		Bridge Location	Grade Separation at Pines Road			
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00	
78		MSE Retaining Wall - Typical DEA	40,000	SF	\$30.00	\$1,200,000
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00	
104		<b>6 - Stations</b>				
105		Stations	1	LS		
106		Station Name				
107		Allowance for Art at Stations & Park & Rides		LS	\$1.00	
108		Platform Electrical LTK610		LS	\$100,000	
115		<b>7 - Park &amp; Rides</b>				
116		Park & Ride		Space	\$4,300	
117		Park & Ride Location				
119		<b>8 - Operations Facility (All Yard elements Included)</b>				
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 219A

Spokane Regional						
Light Rail Project		Estimate Basics				
Order of Magnitude		Start Sta	End Sta	Length		
Drawing	Bodish Road to Pine Road (Aerial Structure) Area	450+00	475+00	2,500 FT	0.5 mile	
219A	East Valley Section (Aerial at Pine)					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
124	Operations Facility Building LTK		SF	\$171.00		
125	Yard Maintenance Equipment LTK		LS	\$4,160,844		
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460		
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133	<b>9 - Traction Power System</b>					\$387,952
136	Sub-Station Type 3 LTK 910		EA	\$750,000		
138	OCS Single Contact Wire LTK920		RF	\$123.00		
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500	
141	Lighting LTK940	2,500	RF	\$11.58	\$28,952	
142	Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500	
147	<b>10 - Signal System</b>					\$718,288
148	Signal	2,500	RF	\$287.32	\$718,288	
151	<b>11 - Communications</b>					\$328,575
152	Communications	2,500	RF	\$131.43	\$328,575	
157	<b>12 - Fare Collection</b>					
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$212,321		
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$6,152,407
161						
162	<b>13. Right of Way</b>					
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174	<b>14. Vehicles</b>					
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18		
179	<b>15 - Engineering &amp; Administration</b>			Subtotal		\$2,153,343
180	Infrastructure	E & A 35.00%			\$2,153,343	
181	Vehicle	E & A 5.00%				
185	<b>16 - Contingencies</b>			Subtotal		\$1,430,481
187	Vehicles	Contingency 5.00%				
189	Infrastructure	Contingency 20.00%			\$1,180,481	
191	Utilities	Contingency 100.00%			\$250,000	
194	<b>17 - Washington State Sales Tax</b>					\$424,642
195		Sales Tax 8.40%			\$424,641.78	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
					Total	\$10,160,873

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 220A

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing		Pine Road (Aerial Structure) to McDonald Road Area		475+00	500+00	2,500 FT	0.5 mile
220A		East Valley Section (Aerial at Pine)					
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>							\$3,055,894
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance		LF	\$35.00		
4		Common Excavation	1,481	CY	\$15.00	\$22,215	
5		Select Backfill (MSE Retaining Walls)	45,000	CY	\$15.00	\$675,000	
6		Common Backfill (From Project Excavation)	5,151	CY	\$4.00	\$20,604	
8		Landscaping Allowance	50,000	SF	\$2.00	\$100,000	
9		Chain Link Fencing 4' (on walls or Ballast Curb)	850	LF	\$16.00	\$13,600	
10		Chain Link Fencing 6'	4,150	LF	\$22.00	\$91,300	
11		Ballast Walls (Curb-no drainage)	850	LF	\$22.00	\$18,700	
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction		SF	\$6.00		
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide	2,500	LF	\$35.00	\$87,500	
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$120,000.00	\$120,000	
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650	
41		Signal Communication Building LTK130	1	EA	\$100,000.00	\$100,000	
42		Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000	
43		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					\$1,862,000
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA	57,400	SF	\$30.00	\$1,722,000	
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station	40	LF	\$3,500.00	\$140,000	
104		<b>6 - Stations</b>					\$1,150,000
105		Stations	1	LS	\$1,000,000	\$1,000,000	
106		Station Name	Pines Station	Elevated			
107		Allowance for Art at Stations & Park & Rides	\$50,000	LS	\$1.00	\$50,000	
108		Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115		<b>7 - Park &amp; Rides</b>					\$1,720,000
116		Park & Ride	400	Space	\$4,300	\$1,720,000	
117		Park & Ride Location	Pines Station				
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 220A

Spokane Regional							
		<b>Light Rail Project</b>		<b>Estimate Basics</b>			
		<b>Order of Magnitude</b>		Start Sta	End Sta	Length	
	Drawing	<b>Pine Road (Aerial Structure) to McDonald Road Area</b>		475+00	500+00	2,500 FT	0.5 mile
	220A	<b>East Valley Section (Aerial at Pine)</b>					
		<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Extension</b>	<b>2001\$</b>
124		Operations Facility Building LTK		SF	\$171.00		
125		Yard Maintenance Equipment LTK		LS	\$4,160,844		
126		Maintenance of Way Vehicles LTK		LS	\$4,307,460		
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133		<b>9 - Traction Power System</b>					\$1,137,952
136		Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000	
138		OCS Single Contact Wire LTK920		RF	\$123.00		
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500	
141		Lighting LTK940	2,500	RF	\$11.58	\$28,952	
142		Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500	
147		<b>10 - Signal System</b>					\$718,288
148		Signal	2,500	RF	\$287.32	\$718,288	
151		<b>11 - Communications</b>					\$328,575
152		Communications	2,500	RF	\$131.43	\$328,575	
157		<b>12 - Fare Collection</b>					\$212,321
158		Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$212,321	\$212,321	
160		<b>Subtotal - Infrastructure</b>			Subtotal		\$10,435,029
161							
162		<b>13. Right of Way</b>					
163		DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
165		HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174		<b>14. Vehicles</b>					
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18		
179		<b>15 - Engineering &amp; Administration</b>			Subtotal		\$3,652,260
180		Infrastructure				\$3,652,260	
181		Vehicle					
185		<b>16 - Contingencies</b>			Subtotal		\$2,287,006
187		Vehicles					
189		Infrastructure				\$2,037,006	
191		Utilities				\$250,000	
194		<b>17 - Washington State Sales Tax</b>					\$712,434
195		Sales Tax				\$712,433.98	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
						Total	\$17,086,730



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 221

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	McDonald Road to Evergreen Road Area		500+00	525+00	2,500 FT	0.5 mile	
C -221	East Valley Section						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
		<b>1-Civil Construction</b>					\$2,543,576
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance	800	LF	\$35.00	\$28,000	
4		Common Excavation	4,029	CY	\$15.00	\$60,435	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)	3,204	CY	\$4.00	\$12,816	
8		Landscaping Allowance	50,000	SF	\$2.00	\$100,000	
9		Chain Link Fencing 4' (on walls or Ballast Curb)	730	LF	\$16.00	\$11,680	
10		Chain Link Fencing 6'	4,260	LF	\$22.00	\$93,720	
11		Ballast Walls (Curb-no drainage)	730	LF	\$22.00	\$16,060	
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000	
26		Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000	
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction	5,040	SF	\$6.00	\$30,240	
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide	2,390	LF	\$35.00	\$83,650	
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$120,000.00		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650	
41		Signal Communication Building LTK130		EA	\$100,000.00		
42		Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000	
43		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Allowance for Art at Stations & Park & Rides		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516		
124		Operations Facility Building LTK		SF	\$171.00		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 221

<b>Spokane Regional</b>							
		<b>Light Rail Project</b>		<b>Estimate Basics</b>			
		<b>Order of Magnitude</b>		Start Sta	End Sta	Length	
Drawing	<b>McDonald Road to Evergreen Road Area</b>		500+00	525+00	2,500 FT	0.5 mile	
C -221	<b>East Valley Section</b>						
	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Extension</b>	<b>2001\$</b>	
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$387,952
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$11.58	\$28,952		
142	Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500		
147	<b>10 - Signal System</b>						\$718,288
148	Signal	2,500	RF	\$287.32	\$718,288		
151	<b>11 - Communications</b>						\$328,575
152	Communications	2,500	RF	\$131.43	\$328,575		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$212,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$4,228,390
161							
162	<b>13. Right of Way</b>						
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18			
179	<b>15 - Engineering &amp; Administration</b>			Subtotal			\$1,479,937
180	Infrastructure	E & A 35.00%			\$1,479,937		
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>			Subtotal			\$1,045,678
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%			\$795,678		
191	Utilities	Contingency 100.00%			\$250,000		
194	<b>17 - Washington State Sales Tax</b>						\$295,348
195		Sales Tax 8.40%			\$295,347.84		
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
						<b>Total</b>	<b>\$7,049,353</b>

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 222

Spokane Regional								
		Light Rail Project	Estimate Basics					
		Order of Magnitude	Start Sta	End Sta	Length			
Drawing	Evergreen Road Area to Adams Road Area		525+00	550+00	2,500 FT	0.5 mile		
C -222	East Valley Section							
		Description	Quantity	Unit	Unit Cost	Extension	2001\$	
		<b>1-Civil Construction</b>					\$2,744,002	
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3		Curb & Gutter Allowance	400	LF	\$35.00	\$14,000		
4		Common Excavation	6,787	CY	\$15.00	\$101,805		
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6		Common Backfill (From Project Excavation)	4,483	CY	\$4.00	\$17,932		
8		Landscaping Allowance	50,000	SF	\$2.00	\$100,000		
9		Chain Link Fencing 4' (on walls or Ballast Curb)	1,665	LF	\$16.00	\$26,640		
10		Chain Link Fencing 6'	3,175	LF	\$22.00	\$69,850		
11		Ballast Walls (Curb-no drainage)	1,665	LF	\$22.00	\$36,630		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15		Embedded (Paved) Track at Grade		TF	\$312			
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19		LRT Siding or Pocket Track		TF	\$230			
20		Double Crossover		EA	\$300,000			
21		Single Crossover	1	EA	\$150,000	\$150,000		
22		Turnout		EA	\$75,000			
23		Impact Attenuators		EA	\$35,000			
24		Minor Street Closures Allowance		EA	\$25,000			
25		Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000		
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28		Major Traffic Signal (4 Lanes)		EA	\$200,000			
29		Complex Major Intersection Rebuild		EA	\$300,000			
30		Roadway Construction		SF	\$9.00			
31		Sidewalk Construction	2,520	SF	\$6.00	\$15,120		
32		Off Alignment Signal Modifications		EA	\$75,000.00			
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide	2,430	LF	\$35.00	\$85,050		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$120,000.00	\$120,000		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650		
41		Signal Communication Building LTK130	1	EA	\$100,000.00	\$100,000		
42		Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000		
43		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825		
50		<b>2 - Insurance - Included other in Items</b>						
57		<b>3 - Utilities</b>					\$250,000	
59		Utility Allowance - High		RF	\$600.00			
60		Utility Allowance - Medium		RF	\$350.00			
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70		<b>4 - Track Materials - Included in the Rail Items</b>						
74		<b>5 - Structures</b>						
75		Bridge Structures DEA		LS	\$1.00			
76		Bridge Location						
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78		MSE Retaining Wall - Typical DEA		SF	\$30.00			
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104		<b>6 - Stations</b>					\$850,000	
105		Stations	1	LS	\$700,000	\$700,000		
106		Station Name	Evergreen Station Center Platform					
107		Allowance for Art at Stations & Park & Rides	\$50,000	LS	\$1.00	\$50,000		
108		Platform Electrical LTK610	1	LS	\$100,000	\$100,000		
115		<b>7 - Park &amp; Rides</b>						
116		Park & Ride		Space	\$4,300			
117		Park & Ride Location	Evergreen Station					
119		<b>8 - Operations Facility (All Yard elements Included)</b>						
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516			
124		Operations Facility Building LTK		SF	\$171.00			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 222

<b>Spokane Regional</b>							
		<b>Light Rail Project</b>		<b>Estimate Basics</b>			
		<b>Order of Magnitude</b>		Start Sta	End Sta	Length	
Drawing	Evergreen Road Area to Adams Road Area			525+00	550+00	2,500 FT	0.5 mile
C -222	East Valley Section						
	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Extension</b>	<b>2001\$</b>	
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$1,137,952
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000		
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$11.58	\$28,952		
142	Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500		
147	<b>10 - Signal System</b>						\$718,288
148	Signal	2,500	RF	\$287.32	\$718,288		
151	<b>11 - Communications</b>						\$328,575
152	Communications	2,500	RF	\$131.43	\$328,575		
157	<b>12 - Fare Collection</b>						\$212,321
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$212,321	\$212,321		
160	<b>Subtotal - Infrastructure</b>				Subtotal		\$6,241,137
161							
162	<b>13. Right of Way</b>						
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal		\$2,184,398
180	Infrastructure	E & A 35.00%				\$2,184,398	
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>				Subtotal		\$1,448,227
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$1,198,227	
191	Utilities	Contingency 100.00%				\$250,000	
194	<b>17 - Washington State Sales Tax</b>						\$430,604
195		Sales Tax 8.40%				\$430,604.44	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
						Total	\$10,304,367

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 223

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing	Adams Road Area to Sullivan Road Area		550+00	575+00	2,500 FT	0.5 mile	
C -223	East Valley Section						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
<b>1-Civil Construction</b>							
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		\$2,401,913
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3	Curb & Gutter Allowance	800	LF	\$35.00	\$28,000		
4	Common Excavation	947	CY	\$15.00	\$14,205		
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6	Common Backfill (From Project Excavation)	4,597	CY	\$4.00	\$18,388		
8	Landscaping Allowance	50,000	SF	\$2.00	\$100,000		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	810	LF	\$16.00	\$12,960		
10	Chain Link Fencing 6'	4,030	LF	\$22.00	\$88,660		
11	Ballast Walls (Curb-no drainage)	810	LF	\$22.00	\$17,820		
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15	Embedded (Paved) Track at Grade		TF	\$312			
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19	LRT Siding or Pocket Track		TF	\$230			
20	Double Crossover		EA	\$300,000			
21	Single Crossover		EA	\$150,000			
22	Turnout		EA	\$75,000			
23	Impact Attenuators		EA	\$35,000			
24	Minor Street Closures Allowance		EA	\$25,000			
25	Minor Intersection Rebuild (2 Lanes)	2	EA	\$100,000	\$200,000		
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28	Major Traffic Signal (4 Lanes)		EA	\$200,000			
29	Complex Major Intersection Rebuild		EA	\$300,000			
30	Roadway Construction		SF	\$9.00			
31	Sidewalk Construction	5,040	SF	\$6.00	\$30,240		
32	Off Alignment Signal Modifications		EA	\$75,000.00			
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide	2,419	LF	\$35.00	\$84,665		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$120,000.00			
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650		
41	Signal Communication Building LTK130		EA	\$100,000.00			
42	Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000		
43	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825		
50	<b>2 - Insurance - Included other in Items</b>						
57	<b>3 - Utilities</b>						
59	Utility Allowance - High		RF	\$600.00			\$250,000
60	Utility Allowance - Medium		RF	\$350.00			
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70	<b>4 - Track Materials - Included in the Rail Items</b>						
74	<b>5 - Structures</b>						
75	Bridge Structures DEA		LS	\$1.00			\$105,000
76	Bridge Location						
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78	MSE Retaining Wall - Typical DEA	3,500	SF	\$30.00	\$105,000		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104	<b>6 - Stations</b>						
105	Stations	1	LS				
106	Station Name						
107	Allowance for Art at Stations & Park & Rides		LS	\$1.00			
108	Platform Electrical LTK610		LS	\$100,000			
115	<b>7 - Park &amp; Rides</b>						
116	Park & Ride		Space	\$4,300			
117	Park & Ride Location						
119	<b>8 - Operations Facility (All Yard elements Included)</b>						
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516			
124	Operations Facility Building LTK		SF	\$171.00			

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 223

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing	Adams Road Area to Sullivan Road Area			550+00	575+00	2,500 FT	0.5 mile
C -223	East Valley Section						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$387,952
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$11.58	\$28,952		
142	Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500		
147	<b>10 - Signal System</b>						\$718,288
148	Signal	2,500	RF	\$287.32	\$718,288		
151	<b>11 - Communications</b>						\$328,575
152	Communications	2,500	RF	\$131.43	\$328,575		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$212,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$4,191,727
161							
162	<b>13. Right of Way</b>						
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18			
179	<b>15 - Engineering &amp; Administration</b>			Subtotal			\$1,467,105
180	Infrastructure E & A 35.00%				\$1,467,105		
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>			Subtotal			\$1,038,345
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%				\$788,345		
191	Utilities Contingency 100.00%				\$250,000		
194	<b>17 - Washington State Sales Tax</b>						\$292,884
195	Sales Tax 8.40%				\$292,884.08		
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
						Total	\$6,990,062

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 224

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Sullivan Road Area to Cannery Street Area		575+00	600+00	2,500 FT	0.5 mile	
C -224	East Valley Section						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
		<b>1-Civil Construction</b>					\$2,375,517
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance	400	LF	\$35.00	\$14,000	
4		Common Excavation	2,196	CY	\$15.00	\$32,940	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)	1,223	CY	\$4.00	\$4,892	
8		Landscaping Allowance	50,000	SF	\$2.00	\$100,000	
9		Chain Link Fencing 4' (on walls or Ballast Curb)	700	LF	\$16.00	\$11,200	
10		Chain Link Fencing 6'	4,120	LF	\$22.00	\$90,640	
11		Ballast Walls (Curb-no drainage)	700	LF	\$22.00	\$15,400	
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26		Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000	
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction	2,520	SF	\$6.00	\$15,120	
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide	2,410	LF	\$35.00	\$84,350	
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$120,000.00		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650	
41		Signal Communication Building LTK130		EA	\$100,000.00		
42		Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000	
43		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Allowance for Art at Stations & Park & Rides		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516		
124		Operations Facility Building LTK		SF	\$171.00		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 224

<b>Spokane Regional</b>							
		<b>Light Rail Project</b>		<b>Estimate Basics</b>			
		<b>Order of Magnitude</b>		Start Sta	End Sta	Length	
Drawing	<b>Sullivan Road Area to Cannery Street Area</b>			575+00	600+00	2,500 FT	0.5 mile
C -224	<b>East Valley Section</b>						
	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Extension</b>	<b>2001\$</b>	
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$387,952
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$11.58	\$28,952		
142	Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500		
147	<b>10 - Signal System</b>						\$718,288
148	Signal	2,500	RF	\$287.32	\$718,288		
151	<b>11 - Communications</b>						\$328,575
152	Communications	2,500	RF	\$131.43	\$328,575		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$212,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$4,060,331
161							
162	<b>13. Right of Way</b>						
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18			
179	<b>15 - Engineering &amp; Administration</b>			Subtotal			\$1,421,116
180	Infrastructure	E & A 35.00%			\$1,421,116		
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>			Subtotal			\$1,012,066
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%			\$762,066		
191	Utilities	Contingency 100.00%			\$250,000		
194	<b>17 - Washington State Sales Tax</b>						\$284,054
195		Sales Tax 8.40%			\$284,054.27		
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
						<b>Total</b>	<b>\$6,777,568</b>



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 225

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing		Cannery Street Area to Steen Road Area	600+00	625+00	2,500 FT	0.5 mile
	C -225	East Valley Section				
		Description	Quantity	Unit	Unit Cost	Extension
						2001\$
<b>1-Civil Construction</b>						
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500
3		Curb & Gutter Allowance	400	LF	\$35.00	\$14,000
4		Common Excavation	815	CY	\$15.00	\$12,225
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00	
6		Common Backfill (From Project Excavation)	2,272	CY	\$4.00	\$9,088
8		Landscaping Allowance	50,000	SF	\$2.00	\$100,000
9		Chain Link Fencing 4' (on walls or Ballast Curb)	250	LF	\$16.00	\$4,000
10		Chain Link Fencing 6'	4,630	LF	\$22.00	\$101,860
11		Ballast Walls (Curb-no drainage)	250	LF	\$22.00	\$5,500
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000	
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000
15		Embedded (Paved) Track at Grade		TF	\$312	
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280	
19		LRT Siding or Pocket Track		TF	\$230	
20		Double Crossover		EA	\$300,000	
21		Single Crossover		EA	\$150,000	
22		Turnout		EA	\$75,000	
23		Impact Attenuators		EA	\$35,000	
24		Minor Street Closures Allowance		EA	\$25,000	
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000	
26		Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000	
28		Major Traffic Signal (4 Lanes)		EA	\$200,000	
29		Complex Major Intersection Rebuild		EA	\$300,000	
30		Roadway Construction		SF	\$9.00	
31		Sidewalk Construction	2,640	SF	\$6.00	\$15,840
32		Off Alignment Signal Modifications		EA	\$75,000.00	
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide	2,450	LF	\$35.00	\$85,750
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00	
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00	
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00	
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00	
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00	
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$120,000.00	\$120,000
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650
41		Signal Communication Building LTK130	1	EA	\$100,000.00	\$100,000
42		Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000
43		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825
50		<b>2 - Insurance - Included other in Items</b>				
57		<b>3 - Utilities</b>				\$250,000
59		Utility Allowance - High		RF	\$600.00	
60		Utility Allowance - Medium		RF	\$350.00	
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000
70		<b>4 - Track Materials - Included in the Rail Items</b>				
74		<b>5 - Structures</b>				
75		Bridge Structures DEA		LS	\$1.00	
76		Bridge Location				
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00	
78		MSE Retaining Wall - Typical DEA		SF	\$30.00	
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00	
104		<b>6 - Stations</b>				\$850,000
105		Stations	1	LS	\$700,000	\$700,000
106		Station Name	Sullivan/Bogue Station Center Platform			
107		Allowance for Art at Stations & Park & Rides	\$50,000	LS	\$1.00	\$50,000
108		Platform Electrical LTK610	1	LS	\$100,000	\$100,000
115		<b>7 - Park &amp; Rides</b>				\$1,720,000
116		Park & Ride	400	Space	\$4,300	\$1,720,000
117		Park & Ride Location	Bogue Station			
119		<b>8 - Operations Facility (All Yard elements Included)</b>				
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516	
124		Operations Facility Building LTK		SF	\$171.00	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 225

<b>Spokane Regional</b>							
		<b>Light Rail Project</b>	<b>Estimate Basics</b>				
		<b>Order of Magnitude</b>	Start Sta	End Sta	Length		
Drawing		<b>Cannery Street Area to Steen Road Area</b>	600+00	625+00	2,500 FT	0.5 mile	
C -225		<b>East Valley Section</b>					
	<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Extension</b>	<b>2001\$</b>	
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$1,137,952	
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000		
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$11.58	\$28,952		
142	Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500		
147	<b>10 - Signal System</b>					\$718,288	
148	Signal	2,500	RF	\$287.32	\$718,288		
151	<b>11 - Communications</b>					\$328,575	
152	Communications	2,500	RF	\$131.43	\$328,575		
157	<b>12 - Fare Collection</b>					\$212,321	
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$212,321	\$212,321		
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$7,792,373	
161							
162	<b>13. Right of Way</b>						
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18			
179	<b>15 - Engineering &amp; Administration</b>			Subtotal		\$2,727,331	
180	Infrastructure	E & A 35.00%			\$2,727,331		
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>			Subtotal		\$1,758,475	
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%			\$1,508,475		
191	Utilities	Contingency 100.00%			\$250,000		
194	<b>17 - Washington State Sales Tax</b>					\$534,847	
195		Sales Tax 8.40%			\$534,847.50		
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$12,813,026	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 226

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Steen Road Area to Sprague Ave Crossing		625+00	650+00	2,500 FT	0.5 mile	
C -226	East Valley Section						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
		<b>1-Civil Construction</b>					\$2,431,318
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance	800	LF	\$35.00	\$28,000	
4		Common Excavation	3,963	CY	\$15.00	\$59,445	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)	257	CY	\$4.00	\$1,028	
8		Landscaping Allowance	50,000	SF	\$2.00	\$100,000	
9		Chain Link Fencing 4' (on walls or Ballast Curb)	305	LF	\$16.00	\$4,880	
10		Chain Link Fencing 6'	4,295	LF	\$22.00	\$94,490	
11		Ballast Walls (Curb-no drainage)	305	LF	\$22.00	\$6,710	
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance	1	EA	\$25,000	\$25,000	
25		Minor Intersection Rebuild (2 Lanes)	2	EA	\$100,000	\$200,000	
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction	5,040	SF	\$6.00	\$30,240	
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide	2,130	LF	\$35.00	\$74,550	
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$120,000.00		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650	
41		Signal Communication Building LTK130		EA	\$100,000.00		
42		Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000	
43		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Allowance for Art at Stations & Park & Rides		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516		
124		Operations Facility Building LTK		SF	\$171.00		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 226

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing		Steen Road Area to Sprague Ave Crossing		625+00	650+00	2,500 FT	0.5 mile
C -226		East Valley Section					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$387,952
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$11.58	\$28,952		
142	Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500		
147	<b>10 - Signal System</b>						\$718,288
148	Signal	2,500	RF	\$287.32	\$718,288		
151	<b>11 - Communications</b>						\$328,575
152	Communications	2,500	RF	\$131.43	\$328,575		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$212,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$4,116,132
161							
162	<b>13. Right of Way</b>						
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18			
179	<b>15 - Engineering &amp; Administration</b>			Subtotal			\$1,440,646
180	Infrastructure	E & A 35.00%			\$1,440,646		
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>			Subtotal			\$1,023,226
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%			\$773,226		
191	Utilities	Contingency 100.00%			\$250,000		
194	<b>17 - Washington State Sales Tax</b>						\$287,804
195		Sales Tax 8.40%			\$287,804.10		
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
						Total	\$6,867,809

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 227

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Sprague Ave Crossing to Greenacres Road		650+00	675+00	2,500 FT	0.5 mile	
C -227	East Valley Section						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>							
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance	280	LF	\$35.00	\$9,800	
4		Common Excavation	924	CY	\$15.00	\$13,860	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)	2,318	CY	\$4.00	\$9,272	
8		Landscaping Allowance	50,000	SF	\$2.00	\$100,000	
9		Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10		Chain Link Fencing 6'	1,500	LF	\$22.00	\$33,000	
11		Ballast Walls (Curb-no drainage)		LF	\$22.00		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000	
26		Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000	
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)	1	EA	\$200,000	\$200,000	
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction	1,800	SF	\$6.00	\$10,800	
32		Off Alignment Signal Modifications	1	EA	\$75,000.00	\$75,000	
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$120,000.00		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650	
41		Signal Communication Building LTK130		EA	\$100,000.00		
42		Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000	
43		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Allowance for Art at Stations & Park & Rides		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516		
124		Operations Facility Building LTK		SF	\$171.00		

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 227

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing		Sprague Ave Crossing to Greenacres Road		650+00	675+00	2,500 FT	0.5 mile
C -227		East Valley Section					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$387,952
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$11.58	\$28,952		
142	Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500		
147	<b>10 - Signal System</b>						\$718,288
148	Signal	2,500	RF	\$287.32	\$718,288		
151	<b>11 - Communications</b>						\$328,575
152	Communications	2,500	RF	\$131.43	\$328,575		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$212,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$4,243,521
161							
162	<b>13. Right of Way</b>						
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18			
179	<b>15 - Engineering &amp; Administration</b>			Subtotal			\$1,485,233
180	Infrastructure	E & A 35.00%			\$1,485,233		
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>			Subtotal			\$1,048,704
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%			\$798,704		
191	Utilities	Contingency 100.00%			\$250,000		
194	<b>17 - Washington State Sales Tax</b>						\$296,365
195		Sales Tax 8.40%			\$296,364.64		
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total		\$7,073,823

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 228

Spokane Regional								
		Light Rail Project	Estimate Basics					
		Order of Magnitude	Start Sta	End Sta	Length			
Drawing	Greenacres Road to Barker Road Area		675+00	700+00	2,500 FT	0.5 mile		
C -228	East Valley Section							
		Description	Quantity	Unit	Unit Cost	Extension	2001\$	
		<b>1-Civil Construction</b>						\$2,534,441
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3		Curb & Gutter Allowance	320	LF	\$35.00	\$11,200		
4		Common Excavation	1,028	CY	\$15.00	\$15,420		
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6		Common Backfill (From Project Excavation)	10,619	CY	\$4.00	\$42,476		
8		Landscaping Allowance	50,000	SF	\$2.00	\$100,000		
9		Chain Link Fencing 4' (on walls or Ballast Curb)	2,415	LF	\$16.00	\$38,640		
10		Chain Link Fencing 6'	100	LF	\$22.00	\$2,200		
11		Ballast Walls (Curb-no drainage)	2,415	LF	\$22.00	\$53,130		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15		Embedded (Paved) Track at Grade		TF	\$312			
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19		LRT Siding or Pocket Track		TF	\$230			
20		Double Crossover		EA	\$300,000			
21		Single Crossover	1	EA	\$150,000	\$150,000		
22		Turnout		EA	\$75,000			
23		Impact Attenuators		EA	\$35,000			
24		Minor Street Closures Allowance		EA	\$25,000			
25		Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000		
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28		Major Traffic Signal (4 Lanes)	1	EA	\$200,000	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000			
30		Roadway Construction		SF	\$9.00			
31		Sidewalk Construction	2,400	SF	\$6.00	\$14,400		
32		Off Alignment Signal Modifications		EA	\$75,000.00			
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$120,000.00			
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650		
41		Signal Communication Building LTK130		EA	\$100,000.00			
42		Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000		
43		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825		
50		<b>2 - Insurance - Included other in Items</b>						
57		<b>3 - Utilities</b>						\$250,000
59		Utility Allowance - High		RF	\$600.00			
60		Utility Allowance - Medium		RF	\$350.00			
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70		<b>4 - Track Materials - Included in the Rail Items</b>						
74		<b>5 - Structures</b>						\$102,400
75		Bridge Structures DEA		LS	\$1.00			
76		Bridge Location						
77		Retaining Wall 4' Max (Low Gravity Wall)	3,200	SF	\$32.00	\$102,400		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00			
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104		<b>6 - Stations</b>						
105		Stations	1	LS				
106		Station Name						
107		Allowance for Art at Stations & Park & Rides		LS	\$1.00			
108		Platform Electrical LTK610		LS	\$100,000			
115		<b>7 - Park &amp; Rides</b>						
116		Park & Ride		Space	\$4,300			
117		Park & Ride Location						
119		<b>8 - Operations Facility (All Yard elements Included)</b>						
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516			
124		Operations Facility Building LTK		SF	\$171.00			

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 228

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing	Greenacres Road to Barker Road Area			675+00	700+00	2,500 FT	0.5 mile
C -228	East Valley Section						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$387,952
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$11.58	\$28,952		
142	Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500		
147	<b>10 - Signal System</b>						\$718,288
148	Signal	2,500	RF	\$287.32	\$718,288		
151	<b>11 - Communications</b>						\$328,575
152	Communications	2,500	RF	\$131.43	\$328,575		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$212,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$4,321,655
161							
162	<b>13. Right of Way</b>						
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18			
179	<b>15 - Engineering &amp; Administration</b>			Subtotal			\$1,512,579
180	Infrastructure E & A 35.00%				\$1,512,579		
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>			Subtotal			\$1,064,331
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%				\$814,331		
191	Utilities Contingency 100.00%				\$250,000		
194	<b>17 - Washington State Sales Tax</b>						\$301,615
195	Sales Tax 8.40%				\$301,615.25		
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
						Total	\$7,200,181



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 229

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Barker Road Area to Appleway Station Area		700+00	725+00	2,500 FT	0.5 mile	
C -229	Liberty Lake Section						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
		<b>1-Civil Construction</b>					\$2,047,247
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance		LF	\$35.00		
4		Common Excavation		CY	\$15.00		
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)		CY	\$4.00	\$89,972	
8		Landscaping Allowance	50,000	SF	\$2.00	\$100,000	
9		Chain Link Fencing 4' (on walls or Ballast Curb)	1,700	LF	\$16.00	\$27,200	
10		Chain Link Fencing 6'	650	LF	\$22.00	\$14,300	
11		Ballast Walls (Curb-no drainage)	400	LF	\$22.00	\$8,800	
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction		SF	\$6.00		
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$120,000.00		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650	
41		Signal Communication Building LTK130		EA	\$100,000.00		
42		Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000	
43		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					\$166,400
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)	5,200	SF	\$32.00	\$166,400	
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Allowance for Art at Stations & Park & Rides		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516		
124		Operations Facility Building LTK		SF	\$171.00		

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 229

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing	Barker Road Area to Appleway Station Area			700+00	725+00	2,500 FT	0.5 mile
C -229	Liberty Lake Section						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$387,952
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$11.58	\$28,952		
142	Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500		
147	<b>10 - Signal System</b>						\$718,288
148	Signal	2,500	RF	\$287.32	\$718,288		
151	<b>11 - Communications</b>						\$328,575
152	Communications	2,500	RF	\$131.43	\$328,575		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$212,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$3,898,461
161							
162	<b>13. Right of Way</b>						
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18			
179	<b>15 - Engineering &amp; Administration</b>			Subtotal			\$1,364,462
180	Infrastructure E & A 35.00%				\$1,364,462		
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>			Subtotal			\$979,692
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%				\$729,692		
191	Utilities Contingency 100.00%				\$250,000		
194	<b>17 - Washington State Sales Tax</b>						\$273,177
195	Sales Tax 8.40%				\$273,176.61		
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
						Total	\$6,515,792

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 230

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Area	Appleway Station Area to Country Vista Road	725+00	750+00	2,500 FT	0.5 mile	
C -230	Liberty Lake Section	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>							\$2,456,537
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance		LF	\$35.00		
4		Common Excavation		CY	\$15.00		
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)	35,768	CY	\$4.00	\$143,072	
8		Landscaping Allowance	50,000	SF	\$2.00	\$100,000	
9		Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10		Chain Link Fencing 6'	5,000	LF	\$22.00	\$110,000	
11		Ballast Walls (Curb-no drainage)	2,000	LF	\$22.00	\$44,000	
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	4,430	TF	\$223	\$987,890	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure	570	TF	\$280	\$159,600	
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction		SF	\$6.00		
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$120,000.00	\$120,000	
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650	
41		Signal Communication Building LTK130	1	EA	\$100,000.00	\$100,000	
42		Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000	
43		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					\$726,000
75		Bridge Structures DEA	726,000	LS	\$1.00	\$726,000	
76		Bridge Location	Country Vista Rd				
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					\$850,000
105		Stations	1	LS	\$700,000	\$700,000	
106		Station Name	Appleway Station Center Platform				
107		Allowance for Art at Stations & Park & Rides	\$50,000	LS	\$1.00	\$50,000	
108		Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115		<b>7 - Park &amp; Rides</b>					\$4,300,000
116		Park & Ride	1,000	Space	\$4,300	\$4,300,000	
117		Park & Ride Location	Appleway Station				
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 230

Spokane Regional						
		<b>Light Rail Project</b>	<b>Estimate Basics</b>			
		<b>Order of Magnitude</b>	Start Sta	End Sta	Length	
	Drawing	<b>Appleway Station Area to Country Vista Road Area</b>	725+00	750+00	2,500 FT	0.5 mile
	C -230	<b>Liberty Lake Section</b>				
		<b>Description</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Extension</b>
						<b>2001\$</b>
124		Operations Facility Building LTK		SF	\$171.00	
125		Yard Maintenance Equipment LTK		LS	\$4,160,844	
126		Maintenance of Way Vehicles LTK		LS	\$4,307,460	
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000	
133		<b>9 - Traction Power System</b>				\$1,137,952
136		Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000
138		OCS Single Contact Wire LTK920		RF	\$123.00	
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500
141		Lighting LTK940	2,500	RF	\$11.58	\$28,952
142		Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500
147		<b>10 - Signal System</b>				\$718,288
148		Signal	2,500	RF	\$287.32	\$718,288
151		<b>11 - Communications</b>				\$328,575
152		Communications	2,500	RF	\$131.43	\$328,575
157		<b>12 - Fare Collection</b>				\$212,321
158		Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$212,321	\$212,321
160		<b>Subtotal - Infrastructure</b>			Subtotal	\$10,979,672
161						
162		<b>13. Right of Way</b>				
163		DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000	
165		HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00	
174		<b>14. Vehicles</b>				
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00	
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18	
179		<b>15 - Engineering &amp; Administration</b>			Subtotal	\$3,842,885
180		Infrastructure				\$3,842,885
181		Vehicle				
185		<b>16 - Contingencies</b>			Subtotal	\$2,395,934
187		Vehicles				Contingency 5.00%
189		Infrastructure				Contingency 20.00%
191		Utilities				Contingency 100.00%
194		<b>17 - Washington State Sales Tax</b>				\$250,000
195		Sales Tax				8.40%
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.				\$749,033.99
					Total	\$17,967,526

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 231

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing	Liberty Lake Area along side Interstate 90			750+00	775+00	2,500 FT	0.5 mile
C -231	Liberty Lake Section						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>							
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance		LF	\$35.00		
4		Common Excavation	8,360	CY	\$15.00	\$125,400	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)	219	CY	\$4.00	\$876	
8		Landscaping Allowance	50,000	SF	\$2.00	\$100,000	
9		Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10		Chain Link Fencing 6'	2,500	LF	\$22.00	\$55,000	
11		Ballast Walls (Curb-no drainage)		LF	\$22.00		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction		SF	\$6.00		
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$120,000.00	\$120,000	
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650	
41		Signal Communication Building LTK130	1	EA	\$100,000.00	\$100,000	
42		Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000	
43		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Allowance for Art at Stations & Park & Rides		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516		
124		Operations Facility Building LTK		SF	\$171.00		

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 231

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing	Liberty Lake Area along side Interstate 90			750+00	775+00	2,500 FT	0.5 mile
C -231	Liberty Lake Section						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$1,137,952
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000		
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$11.58	\$28,952		
142	Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500		
147	<b>10 - Signal System</b>						\$718,288
148	Signal	2,500	RF	\$287.32	\$718,288		
151	<b>11 - Communications</b>						\$328,575
152	Communications	2,500	RF	\$131.43	\$328,575		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$212,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$4,743,065
161							
162	<b>13. Right of Way</b>						
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18			
179	<b>15 - Engineering &amp; Administration</b>			Subtotal			\$1,660,073
180	Infrastructure	E & A 35.00%			\$1,660,073		
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>			Subtotal			\$1,148,613
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%			\$898,613		
191	Utilities	Contingency 100.00%			\$250,000		
194	<b>17 - Washington State Sales Tax</b>						\$329,934
195		Sales Tax 8.40%			\$329,934.00		
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
						Total	\$7,881,685

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 232

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Liberty Lake Area along side Interstate 90		775+00	800+00	2,500 FT	0.5 mile	
C -232	Liberty Lake Section						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
		<b>1-Civil Construction</b>					\$1,983,952
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance		LF	\$35.00		
4		Common Excavation	659	CY	\$15.00	\$9,885	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)	3,023	CY	\$4.00	\$12,092	
8		Landscaping Allowance	50,000	SF	\$2.00	\$100,000	
9		Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10		Chain Link Fencing 6'	2,500	LF	\$22.00	\$55,000	
11		Ballast Walls (Curb-no drainage)		LF	\$22.00		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction		SF	\$6.00		
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$120,000.00		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650	
41		Signal Communication Building LTK130		EA	\$100,000.00		
42		Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000	
43		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Allowance for Art at Stations & Park & Rides		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516		
124		Operations Facility Building LTK		SF	\$171.00		

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 232

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing	Liberty Lake Area along side Interstate 90			775+00	800+00	2,500 FT	0.5 mile
C -232	Liberty Lake Section						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$387,952
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$11.58	\$28,952		
142	Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500		
147	<b>10 - Signal System</b>						\$718,288
148	Signal	2,500	RF	\$287.32	\$718,288		
151	<b>11 - Communications</b>						\$328,575
152	Communications	2,500	RF	\$131.43	\$328,575		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$212,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$3,668,766
161							
162	<b>13. Right of Way</b>						
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18			
179	<b>15 - Engineering &amp; Administration</b>			Subtotal			\$1,284,068
180	Infrastructure	E & A 35.00%			\$1,284,068		
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>			Subtotal			\$933,753
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%			\$683,753		
191	Utilities	Contingency 100.00%			\$250,000		
194	<b>17 - Washington State Sales Tax</b>						\$257,741
195		Sales Tax 8.40%			\$257,741.11		
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
						Total	\$6,144,329



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 233

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Liberty Lake Road Area to Signal Road		800+00	825+00	2,500 FT	0.5 mile	
C -233	Liberty Lake Section						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
<b>1-Civil Construction</b>							
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3	Curb & Gutter Allowance	300	LF	\$35.00	\$10,500		
4	Common Excavation	487	CY	\$15.00	\$7,305		
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6	Common Backfill (From Project Excavation)	5,109	CY	\$4.00	\$20,436		
8	Landscaping Allowance	50,000	SF	\$2.00	\$100,000		
9	Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00			
10	Chain Link Fencing 6'	2,350	LF	\$22.00	\$51,700		
11	Ballast Walls (Curb-no drainage)		LF	\$22.00			
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15	Embedded (Paved) Track at Grade		TF	\$312			
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19	LRT Siding or Pocket Track		TF	\$230			
20	Double Crossover		EA	\$300,000			
21	Single Crossover		EA	\$150,000			
22	Turnout		EA	\$75,000			
23	Impact Attenuators		EA	\$35,000			
24	Minor Street Closures Allowance	1	EA	\$25,000	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000		
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28	Major Traffic Signal (4 Lanes)	1	EA	\$200,000	\$200,000		
29	Complex Major Intersection Rebuild	1	EA	\$300,000	\$300,000		
30	Roadway Construction		SF	\$9.00			
31	Sidewalk Construction	3,000	SF	\$6.00	\$18,000		
32	Off Alignment Signal Modifications		EA	\$75,000.00			
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$120,000.00	\$120,000		
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650		
41	Signal Communication Building LTK130	1	EA	\$100,000.00	\$100,000		
42	Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000		
43	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825		
50	<b>2 - Insurance - Included other in Items</b>						
57	<b>3 - Utilities</b>						
59	Utility Allowance - High		RF	\$600.00			
60	Utility Allowance - Medium		RF	\$350.00			
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70	<b>4 - Track Materials - Included in the Rail Items</b>						
74	<b>5 - Structures</b>						
75	Bridge Structures DEA		LS	\$1.00			
76	Bridge Location						
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78	MSE Retaining Wall - Typical DEA		SF	\$30.00			
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104	<b>6 - Stations</b>						
105	Stations	1	LS				
106	Station Name						
107	Allowance for Art at Stations & Park & Rides		LS	\$1.00			
108	Platform Electrical LTK610		LS	\$100,000			
115	<b>7 - Park &amp; Rides</b>						
116	Park & Ride		Space	\$4,300			
117	Park & Ride Location						
119	<b>8 - Operations Facility (All Yard elements Included)</b>						
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516			
124	Operations Facility Building LTK		SF	\$171.00			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 233

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing	Liberty Lake Road Area to Signal Road			800+00	825+00	2,500 FT	0.5 mile
C -233	Liberty Lake Section						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$1,137,952
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000		
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$11.58	\$28,952		
142	Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500		
147	<b>10 - Signal System</b>						\$718,288
148	Signal	2,500	RF	\$287.32	\$718,288		
151	<b>11 - Communications</b>						\$328,575
152	Communications	2,500	RF	\$131.43	\$328,575		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$212,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$5,294,730
161							
162	<b>13. Right of Way</b>						
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18			
179	<b>15 - Engineering &amp; Administration</b>			Subtotal			\$1,853,156
180	Infrastructure	E & A 35.00%			\$1,853,156		
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>			Subtotal			\$1,258,946
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%			\$1,008,946		
191	Utilities	Contingency 100.00%			\$250,000		
194	<b>17 - Washington State Sales Tax</b>						\$367,006
195		Sales Tax 8.40%			\$367,005.89		
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
						Total	\$8,773,838

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 234

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing		Signal Road to Madson Road Area	825+00	850+00	2,500 FT	0.5 mile
C -234		Liberty Lake Section				
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance	500	LF	\$35.00	\$17,500	
4	Common Excavation	7,500	CY	\$15.00	\$112,500	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)		CY	\$4.00		
8	Landscaping Allowance	50,000	SF	\$2.00	\$100,000	
9	Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10	Chain Link Fencing 6'	2,390	LF	\$22.00	\$52,580	
11	Ballast Walls (Curb-no drainage)		LF	\$22.00		
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance	4	EA	\$25,000	\$100,000	
25	Minor Intersection Rebuild (2 Lanes)	2	EA	\$100,000	\$200,000	
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27	Minor Traffic Signal (2 Lanes)	2	EA	\$100,000	\$200,000	
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction	3,240	SF	\$6.00	\$19,440	
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$120,000.00		
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,650	
41	Signal Communication Building LTK130		EA	\$100,000.00		
42	Systems wide Ductbank/ Conduit LTK140	2,500	RF	\$200.00	\$500,000	
43	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,825	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		\$250,000
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS			
106	Station Name					
107	Allowance for Art at Stations & Park & Rides		LS	\$1.00		
108	Platform Electrical LTK610		LS	\$100,000		
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516		
124	Operations Facility Building LTK		SF	\$171.00		

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 234

<b>Spokane Regional</b>							
		<b>Light Rail Project</b>		<b>Estimate Basics</b>			
		<b>Order of Magnitude</b>		Start Sta	End Sta	Length	
Drawing	<b>Signal Road to Madson Road Area</b>			825+00	850+00	2,500 FT	0.5 mile
C -234	<b>Liberty Lake Section</b>						
	Description	Quantity	Unit	Unit Cost	Extension	<b>2001\$</b>	
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$4,307,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$387,952
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$11.58	\$28,952		
142	Spare Parts/ System support LTK950	2,500	LS	\$34.60	\$86,500		
147	<b>10 - Signal System</b>						\$718,288
148	Signal	2,500	RF	\$287.32	\$718,288		
151	<b>11 - Communications</b>						\$328,575
152	Communications	2,500	RF	\$131.43	\$328,575		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$212,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$4,293,809
161							
162	<b>13. Right of Way</b>						
163	DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
165	HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18			
179	<b>15 - Engineering &amp; Administration</b>			Subtotal			\$1,502,833
180	Infrastructure	E & A 35.00%			\$1,502,833		
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>			Subtotal			\$1,058,762
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%			\$808,762		
191	Utilities	Contingency 100.00%			\$250,000		
194	<b>17 - Washington State Sales Tax</b>						\$299,744
195		Sales Tax 8.40%			\$299,744.00		
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
						Total	\$7,155,149

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 235

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing	Liberty Lake Station (Molter Rd) and Line Terminus Area			850+00	868+50	1,850 FT	0.4 mile
C -235	Liberty Lake Section						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
		<b>1-Civil Construction</b>					\$2,512,502
1		Site Preparation - Clearing & Grubbing	1,850	LF	\$10.00	\$18,500	
2		Grade Preparation to Top of subballast.	1,850	LF	\$35.00	\$64,750	
3		Curb & Gutter Allowance	300	LF	\$35.00	\$10,500	
4		Common Excavation	9,860	CY	\$15.00	\$147,900	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)		CY	\$4.00		
8		Landscaping Allowance	37,000	SF	\$2.00	\$74,000	
9		Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10		Chain Link Fencing 6'	1,850	LF	\$22.00	\$40,700	
11		Ballast Walls (Curb-no drainage)		LF	\$22.00		
12		Site Cleanup and Final Grading Allowance	1,850	LF	\$6.00	\$11,100	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	3,700	TF	\$223	\$825,100	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover	1	EA	\$300,000	\$300,000	
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators	2	EA	\$35,000	\$70,000	
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26		Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000	
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)	1	EA	\$200,000	\$200,000	
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction	2,040	SF	\$6.00	\$12,240	
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$120,000.00	\$120,000	
40		OCS Pole Foundations LTK120	1,850	RF	\$15.06	\$27,861	
41		Signal Communication Building LTK130		EA	\$100,000.00		
42		Systems wide Ductbank/ Conduit LTK140	1,850	RF	\$200.00	\$370,000	
43		Corrosion Mitigation LTK150	1,850	RF	\$10.73	\$19,851	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$185,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	1,850	RF	\$100.00	\$185,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					\$850,000
105		Stations	1	LS	\$700,000	\$700,000	
106		Station Name	Liberty Lake Station Center Platform Terminus				
107		Allowance for Art at Stations & Park & Rides	\$50,000	LS	\$1.00	\$50,000	
108		Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115		<b>7 - Park &amp; Rides</b>					\$860,000
116		Park & Ride	200	Space	\$4,300	\$860,000	
117		Park & Ride Location	Liberty Lake Station				
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,611,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 235

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
	Drawing	<b>Liberty Lake Station (Molter Rd) and Line Terminus Area</b>	850+00	868+50	1,850 FT	0.4 mile	
	C -235	<b>Liberty Lake Section</b>					
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
124		Operations Facility Building LTK		SF	\$171.00		
125		Yard Maintenance Equipment LTK		LS	\$4,160,844		
126		Maintenance of Way Vehicles LTK		LS	\$4,307,460		
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133		<b>9 - Traction Power System</b>					\$1,037,084
136		Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000	
138		OCS Single Contact Wire LTK920		RF	\$123.00		
139		OCS Simple Catenary LTK930	1,850	RF	\$109.00	\$201,650	
141		Lighting LTK940	1,850	RF	\$11.58	\$21,424	
142		Spare Parts/ System support LTK950	1,850	LS	\$34.60	\$64,010	
147		<b>10 - Signal System</b>					\$531,533
148		Signal	1,850	RF	\$287.32	\$531,533	
151		<b>11 - Communications</b>					\$243,146
152		Communications	1,850	RF	\$131.43	\$243,146	
157		<b>12 - Fare Collection</b>					\$212,321
158		Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$212,321	\$212,321	
160		<b>Subtotal - Infrastructure</b>			Subtotal		\$6,431,585
161							
162		<b>13. Right of Way</b>					
163		DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
165		HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174		<b>14. Vehicles</b>					
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600		EA	\$681,818.18		
179		<b>15 - Engineering &amp; Administration</b>			Subtotal		\$2,251,055
180		Infrastructure				\$2,251,055	
181		Vehicle					
185		<b>16 - Contingencies</b>			Subtotal		\$1,434,317
187		Vehicles					
189		Infrastructure				\$1,249,317	
191		Utilities				\$185,000	
194		<b>17 - Washington State Sales Tax</b>					\$440,491
195		Sales Tax				\$440,490.52	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
						Total	\$10,557,448

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 201.2

Spokane Regional						
Light Rail Project		Estimate Basics				
Order of Magnitude		Start Sta	End Sta	Length		
Drawing	Lincoln to Convention Center	5+00	25+00	2,000 FT		0.4 mile
C -201.2	Downtown Section Alternate 2					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,000	LF	\$10.00	\$20,000	
2	Grade Preparation to Top of subballast.	2,000	LF	\$35.00	\$70,000	
3	Curb & Gutter Allowance	4,000	LF	\$35.00	\$140,000	
4	Common Excavation	14,815	CY	\$15.00	\$222,222	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)		CY	\$4.00		
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10	Chain Link Fencing 6'		LF	\$22.00		
11	Ballast Walls (Curb-no drainage)		LF	\$22.00		
12	Site Cleanup and Final Grading Allowance	2,000	LF	\$6.00	\$12,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure	1	EA	\$8,000	\$8,000	
14	Ballasted Track at Grade or Structure		TF	\$223		
15	Embedded (Paved) Track at Grade	4,000	TF	\$312	\$1,248,000	
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover	1	EA	\$300,000	\$300,000	
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators	2	EA	\$35,000	\$70,000	
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)	6	EA	\$200,000	\$1,200,000	
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)	6	EA	\$200,000	\$1,200,000	
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction	85,200	SF	\$9.00	\$766,800	
31	Sidewalk Construction	72,000	SF	\$6.00	\$432,000	
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40	OCS Pole Foundations LTK120	2,000	RF	\$15.06	\$30,110	
41	Signal Communication Building LTK130		EA	\$60,000.00		
42	Ductbank/ Conduit -PAVED TRACK- LTK140	2,000	RF	\$200.00	\$400,000	
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,000	RF	\$110.00	\$220,000	
45	Corrosion Mitigation LTK150	2,000	RF	\$10.73	\$21,466	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High	2,000	RF	\$600.00	\$1,200,000	
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low		RF	\$100.00		
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS	\$700,000	\$700,000	
106	Station Name	Plaza Station	Side-by-Side Platform			
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 201.2

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Lincoln to Convention Center			5+00	25+00	2,000 FT	0.4 mile		
C -201.2	Downtown Section Alternate 2								
	Description	Quantity	Unit	Unit Cost	Extension	2001\$			
124	Operations Facility Building LTK		SF	\$171.00					
125	Yard Maintenance Equipment LTK		LS	\$4,160,844					
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460					
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000					
133	<b>9 - Traction Power System</b>								\$339,142
136	Sub-Station Type 3 LTK 910		EA	\$750,000					
138	OCS Single Contact Wire LTK920	2,000	RF	\$123.00	\$246,000				
139	OCS Simple Catenary LTK930		RF	\$109.00					
141	Lighting LTK940	2,000	RF	\$8.11	\$16,212				
142	Spare Parts/ System support LTK950	2,000	LS	\$38.47	\$76,930				
147	<b>10 - Signal System</b>								\$577,752
148	Signal (Alt 2 & Alt 3)	2,000	RF	\$288.88	\$577,752				
151	<b>11 - Communications</b>								\$254,246
152	Communications (Alt 2 & Alt 3)	2,000	RF	\$127.12	\$254,246				
157	<b>12 - Fare Collection</b>								\$202,321
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321				
160	<b>Subtotal - Infrastructure</b>				Subtotal				\$9,734,060
161									
162	<b>13. Right of Way</b>								
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000					
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00					
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00					
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
174	<b>14. Vehicles</b>								
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00					
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18					
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000					
179	<b>15 - Engineering &amp; Administration</b>				Subtotal				\$3,406,921
180	Infrastructure E & A 35.00%							\$3,406,921	
181	Vehicle E & A 5.00%								
185	<b>16 - Contingencies</b>				Subtotal				\$2,906,812
187	Vehicles Contingency 5.00%								
189	Infrastructure Contingency 20.00%							\$1,706,812	
191	Utilities Contingency 100.00%							\$1,200,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>								\$707,889
195	Sales Tax 8.40%							\$707,888.81	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.								
								Total	\$16,755,681



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 202.2

Spokane Regional						
Light Rail Project		Estimate Basics				
Order of Magnitude		Start Sta	End Sta	Length		
Drawing	Convention Center to Trent Station	25+00	50+00	2,500 FT		0.5 mile
C -202.2	Downtown Section Alternate 2					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance	3,200	LF	\$35.00	\$112,000	
4	Common Excavation	13,074	CY	\$15.00	\$196,110	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)	463	CY	\$4.00	\$1,852	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10	Chain Link Fencing 6'		LF	\$22.00		
11	Ballast Walls (Curb-no drainage)		LF	\$22.00		
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	2,000	TF	\$223	\$446,000	
15	Embedded (Paved) Track at Grade	3,000	TF	\$312	\$936,000	
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover	1	EA	\$300,000	\$300,000	
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)	3	EA	\$200,000	\$600,000	
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)	3	EA	\$200,000	\$600,000	
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction	63,000	SF	\$9.00	\$567,000	
31	Sidewalk Construction	48,000	SF	\$6.00	\$288,000	
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000	
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41	Signal Communication Building LTK130		EA	\$60,000.00		
42	Ductbank/ Conduit -PAVED TRACK- LTK140	2,000	RF	\$200.00	\$400,000	
43	Ductbank/ Conduit -OPEN TRACK- LTK140	500	RF	\$110.00	\$55,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High	1,500	RF	\$600.00	\$900,000	
60	Utility Allowance - Medium	1,000	RF	\$350.00	\$350,000	
61	Utility Allowance - Low		RF	\$100.00		
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS	\$700,000	\$700,000	
106	Station Name	Convention Center Center Platform				
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 202.2

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Convention Center to Trent Station			25+00	50+00	2,500 FT	0.5 mile		
C -202.2	Downtown Section Alternate 2								
		Description	Quantity	Unit	Unit Cost	Extension	2001\$		
124		Operations Facility Building LTK		SF	\$171.00				
125		Yard Maintenance Equipment LTK		LS	\$4,160,844				
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460				
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000				
133		<b>9 - Traction Power System</b>							\$1,166,928
136		Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000			
138		OCS Single Contact Wire LTK920	2,000	RF	\$123.00	\$246,000			
139		OCS Simple Catenary LTK930	500	RF	\$109.00	\$54,500			
141		Lighting LTK940	2,500	RF	\$8.11	\$20,265			
142		Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163			
147		<b>10 - Signal System</b>							\$722,190
148		Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190			
151		<b>11 - Communications</b>							\$317,808
152		Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808			
157		<b>12 - Fare Collection</b>							\$202,321
158		Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321			
160		<b>Subtotal - Infrastructure</b>				Subtotal			\$9,213,178
161									
162		<b>13. Right of Way</b>							
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000				
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00				
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00				
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
174		<b>14. Vehicles</b>							
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00				
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18				
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000				
179		<b>15 - Engineering &amp; Administration</b>				Subtotal			\$3,224,612
180		Infrastructure E & A 35.00%						\$3,224,612	
181		Vehicle E & A 5.00%							
185		<b>16 - Contingencies</b>				Subtotal			\$2,842,636
187		Vehicles Contingency 5.00%							
189		Infrastructure Contingency 20.00%						\$1,592,636	
191		Utilities Contingency 100.00%						\$1,250,000	
194		<b>17 - Washington State Sales Tax and Real Estate Tax</b>							\$675,126
195		Sales Tax 8.40%						\$675,125.59	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.							
								Total	\$15,955,552

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 203.2

Spokane Regional								
		Light Rail Project		Estimate Basics				
		Order of Magnitude		Start Sta	End Sta	Length		
Drawing	Trent Station to Hamilton St Bridge Area			50+00	75+00	2,500 FT	0.5 mile	
C -203.2	BN Section Alternate 2							
		Description	Quantity	Unit	Unit Cost	Extension	2001\$	
<b>1-Civil Construction</b>								
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3		Curb & Gutter Allowance		LF	\$35.00			
4		Common Excavation	21,044	CY	\$15.00	\$315,660		
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6		Common Backfill (From Project Excavation)	2,790	CY	\$4.00	\$11,160		
8		Landscaping Allowance		SF	\$2.00			
9		Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00			
10		Chain Link Fencing 6'	4,500	LF	\$22.00	\$99,000		
11		Ballast Walls (Curb-no drainage)		LF	\$22.00			
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15		Embedded (Paved) Track at Grade		TF	\$312			
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19		LRT Siding or Pocket Track		TF	\$230			
20		Double Crossover		EA	\$300,000			
21		Single Crossover		EA	\$150,000			
22		Turnout		EA	\$75,000			
23		Impact Attenuators		EA	\$35,000			
24		Minor Street Closures Allowance		EA	\$25,000			
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000			
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28		Major Traffic Signal (4 Lanes)		EA	\$200,000			
29		Complex Major Intersection Rebuild		EA	\$300,000			
30		Roadway Construction		SF	\$9.00			
31		Sidewalk Construction		SF	\$6.00			
32		Off Alignment Signal Modifications		EA	\$75,000.00			
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638		
41		Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000		
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000		
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833		
50		<b>2 - Insurance - Included other in Items</b>						
57		<b>3 - Utilities</b>						\$250,000
59		Utility Allowance - High		RF	\$600.00			
60		Utility Allowance - Medium		RF	\$350.00			
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70		<b>4 - Track Materials - Included in the Rail Items</b>						
74		<b>5 - Structures</b>						
75		Bridge Structures DEA		LS	\$1.00			
76		Bridge Location						
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78		MSE Retaining Wall - Typical DEA		SF	\$30.00			
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104		<b>6 - Stations</b>						\$850,000
105		Stations	1	LS	\$750,000	\$750,000		
106		Station Name	Trent Station Center Platform					
107		Artwork (*Subject to Board Policy)		LS	\$1.00			
108		Platform Electrical LTK610	1	LS	\$100,000	\$100,000		
115		<b>7 - Park &amp; Rides</b>						
116		Park & Ride		Space	\$4,300			
117		Park & Ride Location	Trent Station					
119		<b>8 - Operations Facility (All Yard elements Included)</b>						
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 203.2

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Trent Station to Hamilton St Bridge Area			50+00	75+00	2,500 FT	0.5 mile		
C -203.2	BN Section Alternate 2								
	Description	Quantity	Unit	Unit Cost	Extension	2001\$			
124	Operations Facility Building LTK		SF	\$171.00					
125	Yard Maintenance Equipment LTK		LS	\$4,160,844					
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460					
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000					
133	<b>9 - Traction Power System</b>								\$1,138,928
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000				
138	OCS Single Contact Wire LTK920		RF	\$123.00					
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500				
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265				
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163				
147	<b>10 - Signal System</b>								\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190				
151	<b>11 - Communications</b>								\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808				
157	<b>12 - Fare Collection</b>								\$202,321
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321				
160	<b>Subtotal - Infrastructure</b>				Subtotal				\$5,609,036
161									
162	<b>13. Right of Way</b>								
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000					
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00					
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00					
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
174	<b>14. Vehicles</b>								
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00					
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18					
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000					
179	<b>15 - Engineering &amp; Administration</b>				Subtotal				\$1,963,163
180	Infrastructure E & A 35.00%							\$1,963,163	
181	Vehicle E & A 5.00%								
185	<b>16 - Contingencies</b>				Subtotal				\$1,321,807
187	Vehicles Contingency 5.00%								
189	Infrastructure Contingency 20.00%							\$1,071,807	
191	Utilities Contingency 100.00%							\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>								\$388,127
195	Sales Tax 8.40%							\$388,127.25	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.								
								Total	\$9,282,134

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 204.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing		Hamilton St Bridge Area to Helena Street	75+00	100+00	2,500 FT	0.5 mile	
C -204.2		BN Section Alternate 2					
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
		<b>1-Civil Construction</b>					\$2,130,745
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance		LF	\$35.00		
4		Common Excavation	2,088	CY	\$15.00	\$31,320	
5		Select Backfill (MSE Retaining Walls)	13,697	CY	\$15.00	\$205,455	
6		Common Backfill (From Project Excavation)	31,400	CY	\$4.00	\$125,600	
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10		Chain Link Fencing 6'	200	LF	\$22.00	\$4,400	
11		Ballast Walls (Curb-no drainage)		LF	\$22.00		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction		SF	\$6.00		
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR	1,400	TF	\$130.00	\$182,000	
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41		Signal Communication Building LTK130		EA	\$60,000.00		
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					\$1,596,000
75		Bridge Structures DEA	891,000	LS	\$1.00	\$891,000	
76		Bridge Location	Erie & Helena				
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA	23,500	SF	\$30.00	\$705,000	
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Artwork (*Subject to Board Policy)		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 204.2

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing	Hamilton St Bridge Area to Helena Street			75+00	100+00	2,500 FT	0.5 mile
C -204.2	BN Section Alternate 2						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$388,928
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>						\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>						\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$5,405,670
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal		\$1,891,985
180	Infrastructure E & A 35.00%					\$1,891,985	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal		\$1,281,134
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$1,031,134	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>						\$374,461
195	Sales Tax 8.40%					\$374,461.02	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
						Total	\$8,953,250

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 205.2

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing	Helena Street to New BN Yard Bridge			100+00	125+00	2,500 FT	0.5 mile
C -205.2	BN Section Alternate 2						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
<b>1-Civil Construction</b>							
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3	Curb & Gutter Allowance		LF	\$35.00			
4	Common Excavation		CY	\$15.00			
5	Select Backfill (MSE Retaining Walls)	35,831	CY	\$15.00	\$537,465		
6	Common Backfill (From Project Excavation)	58,932	CY	\$4.00	\$235,728		
8	Landscaping Allowance		SF	\$2.00			
9	Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00			
10	Chain Link Fencing 6'	500	LF	\$22.00	\$11,000		
11	Ballast Walls (Curb-no drainage)		LF	\$22.00			
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13	Transition Slab Ballasted to Embedded /Bridge /Structure	2	EA	\$8,000	\$16,000		
14	Ballasted Track at Grade or Structure	4,400	TF	\$223	\$981,200		
15	Embedded (Paved) Track at Grade		TF	\$312			
16	Direct Fixation (DF) Track, Elevated Structure	600	TF	\$280	\$168,000		
19	LRT Siding or Pocket Track		TF	\$230			
20	Double Crossover		EA	\$300,000			
21	Single Crossover		EA	\$150,000			
22	Turnout		EA	\$75,000			
23	Impact Attenuators		EA	\$35,000			
24	Minor Street Closures Allowance		EA	\$25,000			
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000			
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28	Major Traffic Signal (4 Lanes)		EA	\$200,000			
29	Complex Major Intersection Rebuild		EA	\$300,000			
30	Roadway Construction		SF	\$9.00			
31	Sidewalk Construction		SF	\$6.00			
32	Off Alignment Signal Modifications		EA	\$75,000.00			
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00			
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638		
41	Signal Communication Building LTK130		EA	\$60,000.00			
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000		
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833		
50	<b>2 - Insurance - Included other in Items</b>						
57	<b>3 - Utilities</b>						
59	Utility Allowance - High		RF	\$600.00			
60	Utility Allowance - Medium		RF	\$350.00			
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70	<b>4 - Track Materials - Included in the Rail Items</b>						
74	<b>5 - Structures</b>						
75	Bridge Structures DEA	2,046,000	LS	\$1.00	\$2,046,000		\$3,168,000
76	Bridge Location	Madelia, Napa					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78	MSE Retaining Wall - Typical DEA	37,400	SF	\$30.00	\$1,122,000		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104	<b>6 - Stations</b>						
105	Stations	1	LS				
106	Station Name						
107	Artwork (*Subject to Board Policy)		LS	\$1.00			
108	Platform Electrical LTK610		LS	\$100,000			
115	<b>7 - Park &amp; Rides</b>						
116	Park & Ride		Space	\$4,300			
117	Park & Ride Location						
119	<b>8 - Operations Facility (All Yard elements Included)</b>						
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 205.2

Spokane Regional							
Light Rail Project		Estimate Basics					
Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Helena Street to New BN Yard Bridge	100+00	125+00	2,500 FT	0.5 mile		
C -205.2	BN Section Alternate 2						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$7,263,288	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$2,542,151	
180	Infrastructure E & A 35.00%					\$2,542,151	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal	\$1,652,658	
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$1,402,658	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$499,293	
195	Sales Tax 8.40%					\$499,292.95	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$11,957,389	



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 206.2

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing		New BN Yard Bridge to Regal Street	125+00	150+00	2,500 FT	0.5 mile
C -206.2		UP Section Alternate 2				
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance		LF	\$35.00		
4	Common Excavation	2,078	CY	\$15.00	\$31,170	
5	Select Backfill (MSE Retaining Walls)	21,120	CY	\$15.00	\$316,800	
6	Common Backfill (From Project Excavation)	568	CY	\$4.00	\$2,272	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	2,850	LF	\$16.00	\$45,600	
10	Chain Link Fencing 6'	2,000	LF	\$22.00	\$44,000	
11	Ballast Walls (Curb-no drainage)	1,250	LF	\$22.00	\$27,500	
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover	1	EA	\$150,000	\$150,000	
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction		SF	\$6.00		
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line	950	TF	\$100.00	\$95,000	
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000	
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41	Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000	
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA	280,500	LS	\$1.00	\$280,500	
76	Bridge Location	Altamont				
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA	16,500	SF	\$30.00	\$495,000	
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS	\$750,000	\$750,000	
106	Station Name	Altamont Station Center Platform				
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 206.2

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing		New BN Yard Bridge to Regal Street		125+00	150+00	2,500 FT	0.5 mile
C -206.2		UP Section Alternate 2					
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
124		Operations Facility Building LTK		SF	\$171.00		
125		Yard Maintenance Equipment LTK		LS	\$4,160,844		
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460		
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133		<b>9 - Traction Power System</b>					\$1,138,928
136		Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000	
138		OCS Single Contact Wire LTK920		RF	\$123.00		
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500	
141		Lighting LTK940	2,500	RF	\$8.11	\$20,265	
142		Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163	
147		<b>10 - Signal System</b>					\$722,190
148		Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190	
151		<b>11 - Communications</b>					\$317,808
152		Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808	
157		<b>12 - Fare Collection</b>					\$202,321
158		Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321	
160		<b>Subtotal - Infrastructure</b>			Subtotal		\$6,671,058
161							
162		<b>13. Right of Way</b>					
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00		
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00		
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174		<b>14. Vehicles</b>					
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18		
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000		
179		<b>15 - Engineering &amp; Administration</b>				Subtotal	\$2,334,870
180		Infrastructure E & A 35.00%					\$2,334,870
181		Vehicle E & A 5.00%					
185		<b>16 - Contingencies</b>				Subtotal	\$1,534,212
187		Vehicles Contingency 5.00%					
189		Infrastructure Contingency 20.00%					\$1,284,212
191		Utilities Contingency 100.00%					\$250,000
194		<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$459,495
195		Sales Tax 8.40%					\$459,495.13
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
						Total	\$10,999,636

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 207.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Regal Street to Freya Street		150+00	175+00	2,500 FT	0.5 mile	
C -207.2	UP Section Alternate 2						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
		<b>1-Civil Construction</b>					\$2,541,117
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance		LF	\$35.00		
4		Common Excavation	5,709	CY	\$15.00	\$85,635	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)	28	CY	\$4.00	\$112	
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)	2,100	LF	\$16.00	\$33,600	
10		Chain Link Fencing 6'	2,850	LF	\$22.00	\$62,700	
11		Ballast Walls (Curb-no drainage)	4,600	LF	\$22.00	\$101,200	
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance	3	EA	\$25,000	\$75,000	
25		Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000	
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction		SF	\$6.00		
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR	2	EA	\$65,000.00	\$130,000	
35		Relocate UPRR Yard Lead or Branch Line	2,500	TF	\$100.00	\$250,000	
36		Remove & Relocate Industrial Spur HDR	930	TF	\$130.00	\$120,900	
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41		Signal Communication Building LTK130		EA	\$60,000.00		
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Artwork (*Subject to Board Policy)		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 207.2

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing	Regal Street to Freya Street			150+00	175+00	2,500 FT	0.5 mile
C -207.2	UP Section Alternate 2						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$388,928
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>						\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>						\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$4,220,042
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal		\$1,477,015
180	Infrastructure E & A 35.00%					\$1,477,015	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal		\$1,044,008
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$794,008	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>						\$294,787
195	Sales Tax 8.40%					\$294,786.82	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
						Total	\$7,035,852

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 208.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Freya Street to Havana Street Area		175+00	200+00	2,500 FT	0.5 mile	
C -208.2	UP Section Alternate 2						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
		<b>1-Civil Construction</b>					\$2,819,629
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance		LF	\$35.00		
4		Common Excavation	5,861	CY	\$15.00	\$87,915	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)	486	CY	\$4.00	\$1,944	
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)	4,700	LF	\$16.00	\$75,200	
10		Chain Link Fencing 6'	300	LF	\$22.00	\$6,600	
11		Ballast Walls (Curb-no drainage)	4,000	LF	\$22.00	\$88,000	
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout	1	EA	\$75,000	\$75,000	
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance	2	EA	\$25,000	\$50,000	
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26		Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000	
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction		SF	\$6.00		
32		Off Alignment Signal Modifications	1	EA	\$75,000.00	\$75,000	
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line	2,500	TF	\$100.00	\$250,000	
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)	1	LS	\$208,000.00	\$208,000	
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000	
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41		Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000	
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					\$105,000
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA	3,500	SF	\$30.00	\$105,000	
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					\$850,000
105		Stations	1	LS	\$750,000	\$750,000	
106		Station Name	Central Station Center Platform				
107		Artwork (*Subject to Board Policy)		LS	\$1.00		
108		Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 208.2

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Freya Street to Havana Street Area			175+00	200+00	2,500 FT	0.5 mile		
C -208.2	UP Section Alternate 2								
	Description	Quantity	Unit	Unit Cost	Extension	2001\$			
124	Operations Facility Building LTK		SF	\$171.00					
125	Yard Maintenance Equipment LTK		LS	\$4,160,844					
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460					
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000					
133	<b>9 - Traction Power System</b>								\$1,138,928
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000				
138	OCS Single Contact Wire LTK920		RF	\$123.00					
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500				
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265				
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163				
147	<b>10 - Signal System</b>								\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190				
151	<b>11 - Communications</b>								\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808				
157	<b>12 - Fare Collection</b>								\$202,321
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321				
160	<b>Subtotal - Infrastructure</b>				Subtotal				\$6,405,875
161									
162	<b>13. Right of Way</b>								
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000					
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00					
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00					
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
174	<b>14. Vehicles</b>								
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00					
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18					
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000					
179	<b>15 - Engineering &amp; Administration</b>				Subtotal				\$2,242,056
180	Infrastructure E & A 35.00%							\$2,242,056	
181	Vehicle E & A 5.00%								
185	<b>16 - Contingencies</b>				Subtotal				\$1,481,175
187	Vehicles Contingency 5.00%								
189	Infrastructure Contingency 20.00%							\$1,231,175	
191	Utilities Contingency 100.00%							\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>								\$441,675
195	Sales Tax 8.40%							\$441,674.83	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.								
								Total	\$10,570,782

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 209.2

Spokane Regional						
Light Rail Project		Estimate Basics				
Order of Magnitude		Start Sta	End Sta	Length		
Drawing	Havana Street Area toUPRR Spokane Yard Area	200+00	225+00	2,500 FT		0.5 mile
C -209.2	UP Section Alternate 2					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance		LF	\$35.00		
4	Common Excavation	1,322	CY	\$15.00	\$19,830	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)	16,413	CY	\$4.00	\$65,652	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	700	LF	\$16.00	\$11,200	
10	Chain Link Fencing 6'	4,300	LF	\$22.00	\$94,600	
11	Ballast Walls (Curb-no drainage)		LF	\$22.00		
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	6,150	TF	\$223	\$1,371,450	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track	1,500	TF	\$230	\$345,000	
20	Double Crossover		EA	\$300,000		
21	Single Crossover		EA	\$150,000		
22	Turnout	6	EA	\$75,000	\$450,000	
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000	
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction		SF	\$6.00		
32	Off Alignment Signal Modifications	1	EA	\$75,000.00	\$75,000	
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line	500	TF	\$100.00	\$50,000	
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000	
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41	Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000	
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		\$250,000
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		\$285,000
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA	9,500	SF	\$30.00	\$285,000	
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS	\$750,000	\$750,000	\$850,000
106	Station Name	Fairgrounds W Station Triple Platform				
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride	200	Space	\$4,300	\$860,000	
117	Park & Ride Location	Fairgrounds W Sta				
119	<b>8 - Operations Facility (All Yard elements Included)</b>					

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 209.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing		Havana Street Area toUPRR Spokane Yard Area	200+00	225+00	2,500 FT	0.5 mile	
C -209.2		UP Section Alternate 2					
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		
124		Operations Facility Building LTK		SF	\$171.00		
125		Yard Maintenance Equipment LTK		LS	\$4,160,844		
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460		
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133		<b>9 - Traction Power System</b>					\$1,138,928
136		Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000	
138		OCS Single Contact Wire LTK920		RF	\$123.00		
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500	
141		Lighting LTK940	2,500	RF	\$8.11	\$20,265	
142		Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163	
147		<b>10 - Signal System</b>					\$722,190
148		Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190	
151		<b>11 - Communications</b>					\$317,808
152		Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808	
157		<b>12 - Fare Collection</b>					\$202,321
158		Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321	
160		<b>Subtotal - Infrastructure</b>			Subtotal		\$7,895,948
161							
162		<b>13. Right of Way</b>					
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00		
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate		LS	\$26,771,815.00		
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174		<b>14. Vehicles</b>					
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & 3)		EA	\$681,818.18		
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000		
179		<b>15 - Engineering &amp; Administration</b>			Subtotal		\$2,763,582
180	Infrastructure	E & A 35.00%				\$2,763,582	
181	Vehicle	E & A 5.00%					
185		<b>16 - Contingencies</b>			Subtotal		\$1,779,190
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$1,529,190	
191	Utilities	Contingency 100.00%				\$250,000	
194		<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$541,808
195		Sales Tax 8.40%				\$541,807.73	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
						Total	\$12,980,528



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 210.2

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing	UPRR Spokane Yard Area		225+00	250+00	2,500 FT	0.5 mile
C -210.2	UP Section Alternate 2					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance		LF	\$35.00		
4	Common Excavation	393	CY	\$15.00	\$5,895	
5	Select Backfill (MSE Retaining Walls)	17,333	CY	\$15.00	\$259,995	
6	Common Backfill (From Project Excavation)	1,722	CY	\$4.00	\$6,888	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	3,600	LF	\$16.00	\$57,600	
10	Chain Link Fencing 6'	1,400	LF	\$22.00	\$30,800	
11	Ballast Walls (Curb-no drainage)		LF	\$22.00		
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure	2	EA	\$8,000	\$16,000	
14	Ballasted Track at Grade or Structure	3,700	TF	\$223	\$825,100	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure	1,300	TF	\$280	\$364,000	
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction		SF	\$6.00		
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41	Signal Communication Building LTK130		EA	\$60,000.00		
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA	2,211,000	LS	\$1.00	\$2,211,000	
76	Bridge Location	RR Spur Over				
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA	35,500	SF	\$30.00	\$1,065,000	
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS			
106	Station Name					
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610		LS	\$100,000		
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 210.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	UPRR Spokane Yard Area		225+00	250+00	2,500 FT	0.5 mile	
C -210.2	UP Section Alternate 2						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$6,988,173	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$2,445,861	
180	Infrastructure	E & A 35.00%				\$2,445,861	
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>				Subtotal	\$1,597,635	
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$1,347,635	
191	Utilities	Contingency 100.00%				\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$480,805	
195	Sales Tax	8.40%				\$480,805.23	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$11,512,473	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 211.2

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing	UPRR Spokane Yard Area to Interstate 90			250+00	275+00	2,500 FT	0.5 mile
C -211.2	UP Section Alternate 2						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
<b>1-Civil Construction</b>							
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3	Curb & Gutter Allowance		LF	\$35.00			
4	Common Excavation	8,327	CY	\$15.00	\$124,905		
5	Select Backfill (MSE Retaining Walls)	12,840	CY	\$15.00	\$192,600		
6	Common Backfill (From Project Excavation)	273	CY	\$4.00	\$1,092		
8	Landscaping Allowance		SF	\$2.00			
9	Chain Link Fencing 4' (on walls or Ballast Curb)	2,500	LF	\$16.00	\$40,000		
10	Chain Link Fencing 6'	1,900	LF	\$22.00	\$41,800		
11	Ballast Walls (Curb-no drainage)	100	LF	\$22.00	\$2,200		
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15	Embedded (Paved) Track at Grade		TF	\$312			
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19	LRT Siding or Pocket Track		TF	\$230			
20	Double Crossover		EA	\$300,000			
21	Single Crossover		EA	\$150,000			
22	Turnout	1	EA	\$75,000	\$75,000		
23	Impact Attenuators		EA	\$35,000			
24	Minor Street Closures Allowance		EA	\$25,000			
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000			
26	Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000		
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28	Major Traffic Signal (4 Lanes)		EA	\$200,000			
29	Complex Major Intersection Rebuild		EA	\$300,000			
30	Roadway Construction		SF	\$9.00			
31	Sidewalk Construction		SF	\$6.00			
32	Off Alignment Signal Modifications		EA	\$75,000.00			
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35	Relocate UPRR Yard Lead or Branch Line	1,200	TF	\$100.00	\$120,000		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38	Lake Rd Industrial Spur Modifications (HDR)	1	LS	\$476,000.00	\$476,000		
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000		
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638		
41	Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000		
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000		
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833		
50	<b>2 - Insurance - Included other in Items</b>						
57	<b>3 - Utilities</b>						
59	Utility Allowance - High		RF	\$600.00			
60	Utility Allowance - Medium		RF	\$350.00			
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70	<b>4 - Track Materials - Included in the Rail Items</b>						
74	<b>5 - Structures</b>						
75	Bridge Structures DEA	1,122,000	LS	\$1.00	\$1,122,000		\$2,179,500
76	Bridge Location	Lake Rd Spur					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78	MSE Retaining Wall - Typical DEA	35,250	SF	\$30.00	\$1,057,500		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104	<b>6 - Stations</b>						
105	Stations	1	LS				
106	Station Name	Future Station Possible					
107	Artwork (*Subject to Board Policy)		LS	\$1.00			
108	Platform Electrical LTK610		LS	\$100,000			
115	<b>7 - Park &amp; Rides</b>						
116	Park & Ride		Space	\$4,300			
117	Park & Ride Location						
119	<b>8 - Operations Facility (All Yard elements Included)</b>						
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 211.2

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	UPRR Spokane Yard Area to Interstate 90			250+00	275+00	2,500 FT	0.5 mile		
C -211.2	UP Section Alternate 2								
	Description	Quantity	Unit	Unit Cost	Extension	2001\$			
124	Operations Facility Building LTK		SF	\$171.00					
125	Yard Maintenance Equipment LTK		LS	\$4,160,844					
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460					
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000					
133	<b>9 - Traction Power System</b>								\$1,138,928
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000				
138	OCS Single Contact Wire LTK920		RF	\$123.00					
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500				
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265				
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163				
147	<b>10 - Signal System</b>								\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190				
151	<b>11 - Communications</b>								\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808				
157	<b>12 - Fare Collection</b>								
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321					
160	<b>Subtotal - Infrastructure</b>				Subtotal				\$7,583,992
161									
162	<b>13. Right of Way</b>								
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000					
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00					
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00					
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
174	<b>14. Vehicles</b>								
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00					
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18					
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000					
179	<b>15 - Engineering &amp; Administration</b>				Subtotal				\$2,654,397
180	Infrastructure E & A 35.00%							\$2,654,397	
181	Vehicle E & A 5.00%								
185	<b>16 - Contingencies</b>				Subtotal				\$1,716,798
187	Vehicles Contingency 5.00%								
189	Infrastructure Contingency 20.00%							\$1,466,798	
191	Utilities Contingency 100.00%							\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>								\$520,844
195	Sales Tax 8.40%							\$520,844.26	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.								
								Total	\$12,476,032

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 212.2

Spokane Regional								
		Light Rail Project	Estimate Basics					
		Order of Magnitude	Start Sta	End Sta	Length			
Drawing	Interstate 90 to Approx Station 300+00		275+00	300+00	2,500 FT	0.5 mile		
C -212.2	UP Section Alternate 2							
		Description	Quantity	Unit	Unit Cost	Extension	2001\$	
		<b>1-Civil Construction</b>						\$2,141,571
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3		Curb & Gutter Allowance		LF	\$35.00			
4		Common Excavation	6,267	CY	\$15.00	\$94,005		
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6		Common Backfill (From Project Excavation)	1,699	CY	\$4.00	\$6,796		
8		Landscaping Allowance		SF	\$2.00			
9		Chain Link Fencing 4' (on walls or Ballast Curb)	1,000	LF	\$16.00	\$16,000		
10		Chain Link Fencing 6'	3,900	LF	\$22.00	\$85,800		
11		Ballast Walls (Curb-no drainage)	1,000	LF	\$22.00	\$22,000		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15		Embedded (Paved) Track at Grade		TF	\$312			
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19		LRT Siding or Pocket Track		TF	\$230			
20		Double Crossover		EA	\$300,000			
21		Single Crossover		EA	\$150,000			
22		Turnout		EA	\$75,000			
23		Impact Attenuators		EA	\$35,000			
24		Minor Street Closures Allowance	1	EA	\$25,000	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000		
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28		Major Traffic Signal (4 Lanes)		EA	\$200,000			
29		Complex Major Intersection Rebuild		EA	\$300,000			
30		Roadway Construction		SF	\$9.00			
31		Sidewalk Construction		SF	\$6.00			
32		Off Alignment Signal Modifications		EA	\$75,000.00			
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35		Relocate UPRR Yard Lead or Branch Line	2,100	TF	\$100.00	\$210,000		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00			
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638		
41		Signal Communication Building LTK130		EA	\$60,000.00			
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000		
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833		
50		<b>2 - Insurance - Included other in Items</b>						
57		<b>3 - Utilities</b>						\$250,000
59		Utility Allowance - High		RF	\$600.00			
60		Utility Allowance - Medium		RF	\$350.00			
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70		<b>4 - Track Materials - Included in the Rail Items</b>						
74		<b>5 - Structures</b>						
75		Bridge Structures DEA		LS	\$1.00			
76		Bridge Location						
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78		MSE Retaining Wall - Typical DEA		SF	\$30.00			
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104		<b>6 - Stations</b>						
105		Stations	1	LS				
106		Station Name						
107		Artwork (*Subject to Board Policy)		LS	\$1.00			
108		Platform Electrical LTK610		LS	\$100,000			
115		<b>7 - Park &amp; Rides</b>						
116		Park & Ride		Space	\$4,300			
117		Park & Ride Location						
119		<b>8 - Operations Facility (All Yard elements Included)</b>						
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 212.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Interstate 90 to Approx Station 300+00		275+00	300+00	2,500 FT	0.5 mile	
C -212.2	UP Section Alternate 2						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$3,820,496	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$1,337,174	
180	Infrastructure	E & A 35.00%				\$1,337,174	
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>				Subtotal	\$964,099	
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$714,099	
191	Utilities	Contingency 100.00%				\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$267,937	
195	Sales Tax	8.40%				\$267,937.33	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$6,389,706	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 213.2

Spokane Regional								
		Light Rail Project	Estimate Basics					
		Order of Magnitude	Start Sta	End Sta	Length			
Drawing	Park Road & Spear Ave Area		300+00	325+00	2,500 FT	0.5 mile		
C -213.2	UP Section Alternate 2							
		Description	Quantity	Unit	Unit Cost	Extension	2001\$	
		<b>1-Civil Construction</b>						\$1,948,211
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3		Curb & Gutter Allowance		LF	\$35.00			
4		Common Excavation	369	CY	\$15.00	\$5,535		
5		Select Backfill (MSE Retaining Walls)	16,694	CY	\$15.00	\$250,410		
6		Common Backfill (From Project Excavation)	524	CY	\$4.00	\$2,096		
8		Landscaping Allowance		SF	\$2.00			
9		Chain Link Fencing 4' (on walls or Ballast Curb)	2,500	LF	\$16.00	\$40,000		
10		Chain Link Fencing 6'	2,500	LF	\$22.00	\$55,000		
11		Ballast Walls (Curb-no drainage)	600	LF	\$22.00	\$13,200		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15		Embedded (Paved) Track at Grade		TF	\$312			
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19		LRT Siding or Pocket Track		TF	\$230			
20		Double Crossover		EA	\$300,000			
21		Single Crossover		EA	\$150,000			
22		Turnout		EA	\$75,000			
23		Impact Attenuators		EA	\$35,000			
24		Minor Street Closures Allowance		EA	\$25,000			
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000			
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28		Major Traffic Signal (4 Lanes)		EA	\$200,000			
29		Complex Major Intersection Rebuild		EA	\$300,000			
30		Roadway Construction		SF	\$9.00			
31		Sidewalk Construction		SF	\$6.00			
32		Off Alignment Signal Modifications		EA	\$75,000.00			
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00			
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638		
41		Signal Communication Building LTK130		EA	\$60,000.00			
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000		
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833		
50		<b>2 - Insurance - Included other in Items</b>						
57		<b>3 - Utilities</b>						\$250,000
59		Utility Allowance - High		RF	\$600.00			
60		Utility Allowance - Medium		RF	\$350.00			
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70		<b>4 - Track Materials - Included in the Rail Items</b>						
74		<b>5 - Structures</b>						\$1,494,000
75		Bridge Structures DEA	841,500	LS	\$1.00	\$841,500		
76		Bridge Location	Park Rd & Sp					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78		MSE Retaining Wall - Typical DEA	21,750	SF	\$30.00	\$652,500		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104		<b>6 - Stations</b>						
105		Stations	1	LS				
106		Station Name						
107		Artwork (*Subject to Board Policy)		LS	\$1.00			
108		Platform Electrical LTK610		LS	\$100,000			
115		<b>7 - Park &amp; Rides</b>						
116		Park & Ride		Space	\$4,300			
117		Park & Ride Location						
119		<b>8 - Operations Facility (All Yard elements Included)</b>						
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 213.2

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing	Park Road & Spear Ave Area			300+00	325+00	2,500 FT	0.5 mile
C -213.2	UP Section Alternate 2						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$5,121,136	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & 4)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$1,792,398	
180	Infrastructure E & A 35.00%					\$1,792,398	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal	\$1,224,227	
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$974,227	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$355,340	
195	Sales Tax 8.40%					\$355,340.34	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$8,493,101	



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 214.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Vista Road Area		325+00	350+00	2,500 FT	0.5 mile	
C -214.2	UP Section Alternate 2						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
		<b>1-Civil Construction</b>					\$2,235,167
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance		LF	\$35.00		
4		Common Excavation	3,431	CY	\$15.00	\$51,465	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)	308	CY	\$4.00	\$1,232	
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)	2,500	LF	\$16.00	\$40,000	
10		Chain Link Fencing 6'	2,500	LF	\$22.00	\$55,000	
11		Ballast Walls (Curb-no drainage)	2,750	LF	\$22.00	\$60,500	
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover	1	EA	\$150,000	\$150,000	
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000	
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction		SF	\$6.00		
32		Off Alignment Signal Modifications	1	EA	\$75,000.00	\$75,000	
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000	
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41		Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000	
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					\$850,000
105		Stations	1	LS	\$750,000	\$750,000	
106		Station Name	Park/Vista Station Center Platform				
107		Artwork (*Subject to Board Policy)		LS	\$1.00		
108		Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location	Vista Station				
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 214.2

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Vista Road Area			325+00	350+00	2,500 FT	0.5 mile		
C -214.2	UP Section Alternate 2								
	Description	Quantity	Unit	Unit Cost	Extension	2001\$			
124	Operations Facility Building LTK		SF	\$171.00					
125	Yard Maintenance Equipment LTK		LS	\$4,160,844					
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460					
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000					
133	<b>9 - Traction Power System</b>								\$1,138,928
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000				
138	OCS Single Contact Wire LTK920		RF	\$123.00					
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500				
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265				
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163				
147	<b>10 - Signal System</b>								\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190				
151	<b>11 - Communications</b>								\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808				
157	<b>12 - Fare Collection</b>								\$202,321
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321				
160	<b>Subtotal - Infrastructure</b>				Subtotal				\$5,716,413
161									
162	<b>13. Right of Way</b>								
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000					
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00					
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00					
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
174	<b>14. Vehicles</b>								
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00					
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18					
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000					
179	<b>15 - Engineering &amp; Administration</b>				Subtotal				\$2,000,745
180	Infrastructure E & A 35.00%							\$2,000,745	
181	Vehicle E & A 5.00%								
185	<b>16 - Contingencies</b>				Subtotal				\$1,343,283
187	Vehicles Contingency 5.00%								
189	Infrastructure Contingency 20.00%							\$1,093,283	
191	Utilities Contingency 100.00%							\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>								\$395,343
195	Sales Tax 8.40%							\$395,342.98	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.								
								Total	\$9,455,784

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 215.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Sargent Road to Argonne Station		350+00	375+00	2,500 FT	0.5 mile	
C -215.2	UP Section Alternate 2						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
		<b>1-Civil Construction</b>					\$2,019,166
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance		LF	\$35.00		
4		Common Excavation	185	CY	\$15.00	\$2,775	
5		Select Backfill (MSE Retaining Walls)	291	CY	\$15.00	\$4,365	
6		Common Backfill (From Project Excavation)	914	CY	\$4.00	\$3,656	
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)	4,000	LF	\$16.00	\$64,000	
10		Chain Link Fencing 6'	1,000	LF	\$22.00	\$22,000	
11		Ballast Walls (Curb-no drainage)	900	LF	\$22.00	\$19,800	
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure	2	EA	\$8,000	\$16,000	
14		Ballasted Track at Grade or Structure	2,200	TF	\$223	\$490,600	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure	2,800	TF	\$280	\$784,000	
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance	1	EA	\$25,000	\$25,000	
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction		SF	\$6.00		
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000	
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41		Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000	
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					\$4,850,000
75		Bridge Structures DEA	4,760,000	LS	\$1.00	\$4,760,000	
76		Bridge Location	Argonne-Dish				
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA	3,000	SF	\$30.00	\$90,000	
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Artwork (*Subject to Board Policy)		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					\$1,075,000
116		Park & Ride	250	Space	\$4,300	\$1,075,000	
117		Park & Ride Location	Argonne Station				
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 215.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Sargent Road to Argonne Station		350+00	375+00	2,500 FT	0.5 mile	
C -215.2	UP Section Alternate 2						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$1,138,928	
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000		
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>					\$202,321	
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321		
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$10,575,412	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$3,701,394	
180	Infrastructure	E & A 35.00%				\$3,701,394	
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>				Subtotal	\$2,315,082	
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$2,065,082	
191	Utilities	Contingency 100.00%				\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$721,868	
195	Sales Tax	8.40%				\$721,867.72	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$17,313,757	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 216.2

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing		Willow Road to Dartmouth Rd Area	375+00	400+00	2,500 FT	0.5 mile
C -216.2		UP Section Alternate 2				
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	\$2,136,361
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance		LF	\$35.00		
4	Common Excavation	7,623	CY	\$15.00	\$114,345	
5	Select Backfill (MSE Retaining Walls)	6,222	CY	\$15.00	\$93,330	
6	Common Backfill (From Project Excavation)	2,529	CY	\$4.00	\$10,116	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	2,900	LF	\$16.00	\$46,400	
10	Chain Link Fencing 6'		LF	\$22.00		
11	Ballast Walls (Curb-no drainage)	4,100	LF	\$22.00	\$90,200	
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000	
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27	Minor Traffic Signal (2 Lanes)	1	EA	\$100,000	\$100,000	
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction		SF	\$6.00		
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41	Signal Communication Building LTK130		EA	\$60,000.00		
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		\$250,000
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		\$315,000
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA	10,500	SF	\$30.00	\$315,000	
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS			
106	Station Name					
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610		LS	\$100,000		
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 216.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Willow Road to Dartmouth Rd Area		375+00	400+00	2,500 FT	0.5 mile	
C -216.2	UP Section Alternate 2						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$4,130,286	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$1,445,600	
180	Infrastructure	E & A 35.00%				\$1,445,600	
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>				Subtotal	\$1,026,057	
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$776,057	
191	Utilities	Contingency 100.00%				\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$288,755	
195	Sales Tax 8.40%					\$288,755.22	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$6,890,699	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 217.2

Spokane Regional						
Light Rail Project		Estimate Basics				
Order of Magnitude		Start Sta	End Sta	Length		
Drawing	Dartmouth Road Area to University Rd	400+00	425+00	2,500 FT		0.5 mile
C -217.2	East Valley Section Alternate 2					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance	300	LF	\$35.00	\$10,500	
4	Common Excavation	3,180	CY	\$15.00	\$47,700	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)	4,183	CY	\$4.00	\$16,732	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	375	LF	\$16.00	\$6,000	
10	Chain Link Fencing 6'	4,325	LF	\$22.00	\$95,150	
11	Ballast Walls (Curb-no drainage)	375	LF	\$22.00	\$8,250	
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover	1	EA	\$300,000	\$300,000	
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000	
26	Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000	
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)	1	EA	\$200,000	\$200,000	
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction	1,920	SF	\$6.00	\$11,520	
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000	
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41	Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000	
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA	1,200,000	LS	\$1.00	\$1,200,000	
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS	\$750,000	\$750,000	
106	Station Name					
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 217.2

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Dartmouth Road Area to University Rd		400+00	425+00	2,500 FT	0.5 mile			
C -217.2	East Valley Section Alternate 2								
	Description	Quantity	Unit	Unit Cost	Extension	2001\$			
124	Operations Facility Building LTK		SF	\$171.00					
125	Yard Maintenance Equipment LTK		LS	\$4,160,844					
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460					
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000					
133	<b>9 - Traction Power System</b>								\$1,138,928
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000				
138	OCS Single Contact Wire LTK920		RF	\$123.00					
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500				
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265				
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163				
147	<b>10 - Signal System</b>								\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190				
151	<b>11 - Communications</b>								\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808				
157	<b>12 - Fare Collection</b>								\$202,321
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321				
160	<b>Subtotal - Infrastructure</b>				Subtotal				\$7,379,068
161									
162	<b>13. Right of Way</b>								
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000					
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00					
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00					
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
174	<b>14. Vehicles</b>								
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00					
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18					
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000					
179	<b>15 - Engineering &amp; Administration</b>				Subtotal				\$2,582,674
180	Infrastructure E & A 35.00%							\$2,582,674	
181	Vehicle E & A 5.00%								
185	<b>16 - Contingencies</b>				Subtotal				\$1,675,814
187	Vehicles Contingency 5.00%								
189	Infrastructure Contingency 20.00%							\$1,425,814	
191	Utilities Contingency 100.00%							\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>								\$507,073
195	Sales Tax 8.40%							\$507,073.40	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.								
								Total	\$12,144,629



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 218.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	University Road to Bodish Road Area		425+00	450+00	2,500 FT	0.5 mile	
C -218.2	East Valley Section Alternate 2	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>							\$1,892,415
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3	Curb & Gutter Allowance	400	LF	\$35.00	\$14,000		
4	Common Excavation	1,919	CY	\$15.00	\$28,785		
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6	Common Backfill (From Project Excavation)	7,715	CY	\$4.00	\$30,860		
8	Landscaping Allowance		SF	\$2.00			
9	Chain Link Fencing 4' (on walls or Ballast Curb)	730	LF	\$16.00	\$11,680		
10	Chain Link Fencing 6'	4,270	LF	\$22.00	\$93,940		
11	Ballast Walls (Curb-no drainage)	730	LF	\$22.00	\$16,060		
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15	Embedded (Paved) Track at Grade		TF	\$312			
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19	LRT Siding or Pocket Track		TF	\$230			
20	Double Crossover		EA	\$300,000			
21	Single Crossover		EA	\$150,000			
22	Turnout		EA	\$75,000			
23	Impact Attenuators		EA	\$35,000			
24	Minor Street Closures Allowance		EA	\$25,000			
25	Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000		
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28	Major Traffic Signal (4 Lanes)		EA	\$200,000			
29	Complex Major Intersection Rebuild		EA	\$300,000			
30	Roadway Construction		SF	\$9.00			
31	Sidewalk Construction	2,520	SF	\$6.00	\$15,120		
32	Off Alignment Signal Modifications		EA	\$75,000.00			
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00			
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638		
41	Signal Communication Building LTK130		EA	\$60,000.00			
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000		
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833		
50	<b>2 - Insurance - Included other in Items</b>						
57	<b>3 - Utilities</b>						\$250,000
59	Utility Allowance - High		RF	\$600.00			
60	Utility Allowance - Medium		RF	\$350.00			
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70	<b>4 - Track Materials - Included in the Rail Items</b>						
74	<b>5 - Structures</b>						
75	Bridge Structures DEA		LS	\$1.00			
76	Bridge Location						
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78	MSE Retaining Wall - Typical DEA		SF	\$30.00			
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104	<b>6 - Stations</b>						
105	Stations	1	LS				
106	Station Name						
107	Artwork (*Subject to Board Policy)		LS	\$1.00			
108	Platform Electrical LTK610		LS	\$100,000			
115	<b>7 - Park &amp; Rides</b>						
116	Park & Ride		Space	\$4,300			
117	Park & Ride Location						
119	<b>8 - Operations Facility (All Yard elements Included)</b>						
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 218.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	University Road to Bodish Road Area		425+00	450+00	2,500 FT	0.5 mile	
C -218.2	East Valley Section Alternate 2						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
124		Operations Facility Building LTK		SF	\$171.00		
125		Yard Maintenance Equipment LTK		LS	\$4,160,844		
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460		
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133		<b>9 - Traction Power System</b>					\$388,928
136		Sub-Station Type 3 LTK 910		EA	\$750,000		
138		OCS Single Contact Wire LTK920		RF	\$123.00		
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500	
141		Lighting LTK940	2,500	RF	\$8.11	\$20,265	
142		Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163	
147		<b>10 - Signal System</b>					\$722,190
148		Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190	
151		<b>11 - Communications</b>					\$317,808
152		Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808	
157		<b>12 - Fare Collection</b>					
158		Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321		
160		<b>Subtotal - Infrastructure</b>			Subtotal		\$3,571,340
161							
162		<b>13. Right of Way</b>					
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00		
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00		
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174		<b>14. Vehicles</b>					
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18		
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000		
179		<b>15 - Engineering &amp; Administration</b>			Subtotal		\$1,249,969
180		Infrastructure E & A 35.00%				\$1,249,969	
181		Vehicle E & A 5.00%					
185		<b>16 - Contingencies</b>			Subtotal		\$914,268
187		Vehicles Contingency 5.00%					
189		Infrastructure Contingency 20.00%				\$664,268	
191		Utilities Contingency 100.00%				\$250,000	
194		<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$251,194
195		Sales Tax 8.40%				\$251,194.05	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
						Total	\$5,986,771

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 219.2

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing		Bodish Road to Pines Road (At Grade) Area	450+00	475+00	2,500 FT	0.5 mile
C -219.2		East Valley Section Alternate 2				
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance	400	LF	\$35.00	\$14,000	
4	Common Excavation	2,253	CY	\$15.00	\$33,795	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)	10,982	CY	\$4.00	\$43,928	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	1,200	LF	\$16.00	\$19,200	
10	Chain Link Fencing 6'	3,640	LF	\$22.00	\$80,080	
11	Ballast Walls (Curb-no drainage)	1,200	LF	\$22.00	\$26,400	
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance	2	EA	\$25,000	\$50,000	
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000	
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction	2,640	SF	\$6.00	\$15,840	
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41	Signal Communication Building LTK130		EA	\$60,000.00		
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS			
106	Station Name					
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610		LS	\$100,000		
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 219.2

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing	Bodish Road to Pines Road (At Grade) Area			450+00	475+00	2,500 FT	0.5 mile
C -219.2	East Valley Section Alternate 2						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$388,928
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>						\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>						\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$3,744,138
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal		\$1,310,448
180	Infrastructure E & A 35.00%					\$1,310,448	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal		\$948,828
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$698,828	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>						\$262,806
195	Sales Tax 8.40%					\$262,806.07	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
						Total	\$6,266,220

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 220.2

Spokane Regional								
		Light Rail Project		Estimate Basics				
		Order of Magnitude		Start Sta	End Sta	Length		
Drawing	Pine Roads (At Grade) to McDonald Road Area			475+00	500+00	2,500 FT	0.5 mile	
C -220.2	East Valley Section Alternate 2							
		Description	Quantity	Unit	Unit Cost	Extension	2001\$	
<b>1-Civil Construction</b>							\$1,868,389	
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00		\$25,000		
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00		\$87,500		
3	Curb & Gutter Allowance		LF	\$35.00				
4	Common Excavation	1,481	CY	\$15.00		\$22,215		
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00				
6	Common Backfill (From Project Excavation)	5,151	CY	\$4.00		\$20,604		
8	Landscaping Allowance		SF	\$2.00				
9	Chain Link Fencing 4' (on walls or Ballast Curb)	850	LF	\$16.00		\$13,600		
10	Chain Link Fencing 6'	4,150	LF	\$22.00		\$91,300		
11	Ballast Walls (Curb-no drainage)	850	LF	\$22.00		\$18,700		
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00		\$15,000		
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000				
14	Ballasted Track at Grade or Structure	5,000	TF	\$223		\$1,115,000		
15	Embedded (Paved) Track at Grade		TF	\$312				
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280				
19	LRT Siding or Pocket Track		TF	\$230				
20	Double Crossover		EA	\$300,000				
21	Single Crossover		EA	\$150,000				
22	Turnout		EA	\$75,000				
23	Impact Attenuators		EA	\$35,000				
24	Minor Street Closures Allowance		EA	\$25,000				
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000				
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000				
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000				
28	Major Traffic Signal (4 Lanes)		EA	\$200,000				
29	Complex Major Intersection Rebuild		EA	\$300,000				
30	Roadway Construction		SF	\$9.00				
31	Sidewalk Construction		SF	\$6.00				
32	Off Alignment Signal Modifications		EA	\$75,000.00				
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00				
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00				
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00				
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00				
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00				
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00				
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00		\$60,000		
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06		\$37,638		
41	Signal Communication Building LTK130	1	EA	\$60,000.00		\$60,000		
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00				
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00		\$275,000		
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73		\$26,833		
50	<b>2 - Insurance - Included other in Items</b>							
57	<b>3 - Utilities</b>							
59	Utility Allowance - High		RF	\$600.00			\$250,000	
60	Utility Allowance - Medium		RF	\$350.00				
61	Utility Allowance - Low	2,500	RF	\$100.00		\$250,000		
70	<b>4 - Track Materials - Included in the Rail Items</b>							
74	<b>5 - Structures</b>							
75	Bridge Structures DEA		LS	\$1.00				
76	Bridge Location							
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00				
78	MSE Retaining Wall - Typical DEA		SF	\$30.00				
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00				
104	<b>6 - Stations</b>							
105	Stations	1	LS	\$750,000		\$750,000	\$850,000	
106	Station Name	Pines Station Center Platform						
107	Artwork (*Subject to Board Policy)		LS	\$1.00				
108	Platform Electrical LTK610	1	LS	\$100,000		\$100,000		
115	<b>7 - Park &amp; Rides</b>							
116	Park & Ride	400	Space	\$4,300		\$1,720,000		
117	Park & Ride Location	Pines Station						
119	<b>8 - Operations Facility (All Yard elements Included)</b>							

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 220.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Pine Roads (At Grade) to McDonald Road Area		475+00	500+00	2,500 FT	0.5 mile	
C -220.2	East Valley Section Alternate 2						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$1,138,928	
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000		
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>					\$202,321	
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321		
160	<b>Subtotal - Infrastructure</b>				Subtotal	\$7,069,635	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$2,474,372	
180	Infrastructure	E & A 35.00%				\$2,474,372	
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>				Subtotal	\$1,613,927	
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$1,363,927	
191	Utilities	Contingency 100.00%				\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$486,280	
195	Sales Tax	8.40%				\$486,279.50	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$11,644,214	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 221.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	McDonald Road to Evergreen Road Area		500+00	525+00	2,500 FT	0.5 mile	
C -221.2	East Valley Section Alternate 2						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>							\$2,134,921
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00		\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00		\$87,500	
3	Curb & Gutter Allowance	800	LF	\$35.00		\$28,000	
4	Common Excavation	4,029	CY	\$15.00		\$60,435	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6	Common Backfill (From Project Excavation)	3,204	CY	\$4.00		\$12,816	
8	Landscaping Allowance		SF	\$2.00			
9	Chain Link Fencing 4' (on walls or Ballast Curb)	730	LF	\$16.00		\$11,680	
10	Chain Link Fencing 6'	4,260	LF	\$22.00		\$93,720	
11	Ballast Walls (Curb-no drainage)	730	LF	\$22.00		\$16,060	
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00		\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14	Ballasted Track at Grade or Structure	5,000	TF	\$223		\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312			
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19	LRT Siding or Pocket Track		TF	\$230			
20	Double Crossover		EA	\$300,000			
21	Single Crossover		EA	\$150,000			
22	Turnout		EA	\$75,000			
23	Impact Attenuators		EA	\$35,000			
24	Minor Street Closures Allowance		EA	\$25,000			
25	Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000		\$100,000	
26	Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000		\$200,000	
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28	Major Traffic Signal (4 Lanes)		EA	\$200,000			
29	Complex Major Intersection Rebuild		EA	\$300,000			
30	Roadway Construction		SF	\$9.00			
31	Sidewalk Construction	5,040	SF	\$6.00		\$30,240	
32	Off Alignment Signal Modifications		EA	\$75,000.00			
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00			
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06		\$37,638	
41	Signal Communication Building LTK130		EA	\$60,000.00			
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00		\$275,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73		\$26,833	
50	<b>2 - Insurance - Included other in Items</b>						
57	<b>3 - Utilities</b>						\$250,000
59	Utility Allowance - High		RF	\$600.00			
60	Utility Allowance - Medium		RF	\$350.00			
61	Utility Allowance - Low	2,500	RF	\$100.00		\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>						
74	<b>5 - Structures</b>						
75	Bridge Structures DEA		LS	\$1.00			
76	Bridge Location						
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78	MSE Retaining Wall - Typical DEA		SF	\$30.00			
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104	<b>6 - Stations</b>						
105	Stations	1	LS				
106	Station Name						
107	Artwork (*Subject to Board Policy)		LS	\$1.00			
108	Platform Electrical LTK610		LS	\$100,000			
115	<b>7 - Park &amp; Rides</b>						
116	Park & Ride		Space	\$4,300			
117	Park & Ride Location						
119	<b>8 - Operations Facility (All Yard elements Included)</b>						
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 221.2

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing	McDonald Road to Evergreen Road Area			500+00	525+00	2,500 FT	0.5 mile
C -221.2	East Valley Section Alternate 2						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$388,928
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>						\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>						\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$3,813,846
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal		\$1,334,846
180	Infrastructure E & A 35.00%					\$1,334,846	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal		\$962,769
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$712,769	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>						\$267,490
195	Sales Tax 8.40%					\$267,490.45	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
						Total	\$6,378,952



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 222.2

Spokane Regional						
Light Rail Project		Estimate Basics				
Order of Magnitude		Start Sta	End Sta	Length		
Drawing	Evergreen Road Area to Adams Road Area	525+00	550+00	2,500 FT	0.5 mile	
C -222.2	East Valley Section Alternate 2					
Description		Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>		\$2,233,947				
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance	400	LF	\$35.00	\$14,000	
4	Common Excavation	6,787	CY	\$15.00	\$101,805	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)	4,483	CY	\$4.00	\$17,932	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	1,665	LF	\$16.00	\$26,640	
10	Chain Link Fencing 6'	3,175	LF	\$22.00	\$69,850	
11	Ballast Walls (Curb-no drainage)	1,665	LF	\$22.00	\$36,630	
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover	1	EA	\$150,000	\$150,000	
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000	
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction	2,520	SF	\$6.00	\$15,120	
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000	
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41	Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000	
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>	\$250,000				
59	Utility Allowance - High		RF	\$600.00		
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>	\$850,000				
105	Stations	1	LS	\$750,000	\$750,000	
106	Station Name	Evergreen Station Center Platform				
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location	Evergreen Station				
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 222.2

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Evergreen Road Area to Adams Road Area			525+00	550+00	2,500 FT	0.5 mile		
C -222.2	East Valley Section Alternate 2								
	Description	Quantity	Unit	Unit Cost	Extension	2001\$			
124	Operations Facility Building LTK		SF	\$171.00					
125	Yard Maintenance Equipment LTK		LS	\$4,160,844					
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460					
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000					
133	<b>9 - Traction Power System</b>								\$1,138,928
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000				
138	OCS Single Contact Wire LTK920		RF	\$123.00					
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500				
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265				
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163				
147	<b>10 - Signal System</b>								\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190				
151	<b>11 - Communications</b>								\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808				
157	<b>12 - Fare Collection</b>								\$202,321
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321				
160	<b>Subtotal - Infrastructure</b>				Subtotal				\$5,715,193
161									
162	<b>13. Right of Way</b>								
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000					
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00					
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00					
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
174	<b>14. Vehicles</b>								
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00					
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18					
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000					
179	<b>15 - Engineering &amp; Administration</b>				Subtotal				\$2,000,318
180	Infrastructure E & A 35.00%							\$2,000,318	
181	Vehicle E & A 5.00%								
185	<b>16 - Contingencies</b>				Subtotal				\$1,343,039
187	Vehicles Contingency 5.00%								
189	Infrastructure Contingency 20.00%							\$1,093,039	
191	Utilities Contingency 100.00%							\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>								\$395,261
195	Sales Tax 8.40%							\$395,261.00	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.								
								Total	\$9,453,811

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 223.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Adams Road Area to Sullivan Road Area		550+00	575+00	2,500 FT	0.5 mile	
C -223.2	East Valley Section Alternate 2	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>							\$1,992,243
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance	800	LF	\$35.00	\$28,000	
4		Common Excavation	947	CY	\$15.00	\$14,205	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)	4,597	CY	\$4.00	\$18,388	
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)	810	LF	\$16.00	\$12,960	
10		Chain Link Fencing 6'	4,030	LF	\$22.00	\$88,660	
11		Ballast Walls (Curb-no drainage)	810	LF	\$22.00	\$17,820	
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)	2	EA	\$100,000	\$200,000	
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction	5,040	SF	\$6.00	\$30,240	
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41		Signal Communication Building LTK130		EA	\$60,000.00		
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					\$105,000
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA	3,500	SF	\$30.00	\$105,000	
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Artwork (*Subject to Board Policy)		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 223.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Adams Road Area to Sullivan Road Area		550+00	575+00	2,500 FT	0.5 mile	
C -223.2	East Valley Section Alternate 2						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$388,928
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>						\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>						\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$3,776,168
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal		\$1,321,659
180	Infrastructure E & A 35.00%					\$1,321,659	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal		\$955,234
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$705,234	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>						\$264,958
195	Sales Tax 8.40%					\$264,958.49	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total		\$6,318,019

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 224.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Sullivan Road Area to Cannery Street Area		575+00	600+00	2,500 FT	0.5 mile	
C -224.2	East Valley Section Alternate 2						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
		<b>1-Civil Construction</b>					\$1,966,162
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance	400	LF	\$35.00	\$14,000	
4		Common Excavation	2,196	CY	\$15.00	\$32,940	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)	1,223	CY	\$4.00	\$4,892	
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)	700	LF	\$16.00	\$11,200	
10		Chain Link Fencing 6'	4,120	LF	\$22.00	\$90,640	
11		Ballast Walls (Curb-no drainage)	700	LF	\$22.00	\$15,400	
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26		Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000	
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction	2,520	SF	\$6.00	\$15,120	
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41		Signal Communication Building LTK130		EA	\$60,000.00		
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Artwork (*Subject to Board Policy)		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 224.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Sullivan Road Area to Cannery Street Area		575+00	600+00	2,500 FT	0.5 mile	
C -224.2	East Valley Section Alternate 2						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$3,645,087	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$1,275,780	
180	Infrastructure E & A 35.00%					\$1,275,780	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal	\$929,017	
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$679,017	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$256,150	
195	Sales Tax 8.40%					\$256,149.85	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$6,106,035	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 225.2

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing		Cannery Street Area to Steen Road Area	600+00	625+00	2,500 FT	0.5 mile
C -225.2		East Valley Section Alternate 2				
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance	400	LF	\$35.00	\$14,000	
4	Common Excavation	815	CY	\$15.00	\$12,225	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)	2,272	CY	\$4.00	\$9,088	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	250	LF	\$16.00	\$4,000	
10	Chain Link Fencing 6'	4,630	LF	\$22.00	\$101,860	
11	Ballast Walls (Curb-no drainage)	250	LF	\$22.00	\$5,500	
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000	
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction	2,640	SF	\$6.00	\$15,840	
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000	
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41	Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000	
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS	\$750,000	\$750,000	
106	Station Name	Sullivan/Bogue Station Center Platform				
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride	400	Space	\$4,300	\$1,720,000	
117	Park & Ride Location	Bogue Station				
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 225.2

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Cannery Street Area to Steen Road Area			600+00	625+00	2,500 FT	0.5 mile		
C -225.2	East Valley Section Alternate 2								
	Description	Quantity	Unit	Unit Cost	Extension	2001\$			
124	Operations Facility Building LTK		SF	\$171.00					
125	Yard Maintenance Equipment LTK		LS	\$4,160,844					
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460					
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000					
133	<b>9 - Traction Power System</b>								\$1,138,928
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000				
138	OCS Single Contact Wire LTK920		RF	\$123.00					
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500				
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265				
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163				
147	<b>10 - Signal System</b>								\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190				
151	<b>11 - Communications</b>								\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808				
157	<b>12 - Fare Collection</b>								\$202,321
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321				
160	<b>Subtotal - Infrastructure</b>				Subtotal				\$7,265,729
161									
162	<b>13. Right of Way</b>								
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000					
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00					
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00					
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
174	<b>14. Vehicles</b>								
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00					
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18					
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000					
179	<b>15 - Engineering &amp; Administration</b>				Subtotal				\$2,543,005
180	Infrastructure	E & A 35.00%						\$2,543,005	
181	Vehicle	E & A 5.00%							
185	<b>16 - Contingencies</b>				Subtotal				\$1,653,146
187	Vehicles	Contingency 5.00%							
189	Infrastructure	Contingency 20.00%						\$1,403,146	
191	Utilities	Contingency 100.00%						\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>								\$499,457
195	Sales Tax	8.40%						\$499,457.02	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.								
						Total	\$11,961,338		



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 226.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing		Steen Road Area to Sprague Ave Crossing	625+00	650+00	2,500 FT	0.5 mile	
C -226.2		East Valley Section Alternate 2					
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>							
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance	800	LF	\$35.00	\$28,000	
4		Common Excavation	3,963	CY	\$15.00	\$59,445	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)	257	CY	\$4.00	\$1,028	
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)	305	LF	\$16.00	\$4,880	
10		Chain Link Fencing 6'	4,295	LF	\$22.00	\$94,490	
11		Ballast Walls (Curb-no drainage)	305	LF	\$22.00	\$6,710	
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance	1	EA	\$25,000	\$25,000	
25		Minor Intersection Rebuild (2 Lanes)	2	EA	\$100,000	\$200,000	
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction	5,040	SF	\$6.00	\$30,240	
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41		Signal Communication Building LTK130		EA	\$60,000.00		
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Artwork (*Subject to Board Policy)		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 226.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Steen Road Area to Sprague Ave Crossing			625+00	650+00	2,500 FT	0.5 mile
C -226.2	East Valley Section Alternate 2						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
124		Operations Facility Building LTK		SF	\$171.00		
125		Yard Maintenance Equipment LTK		LS	\$4,160,844		
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460		
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133		<b>9 - Traction Power System</b>					\$388,928
136		Sub-Station Type 3 LTK 910		EA	\$750,000		
138		OCS Single Contact Wire LTK920		RF	\$123.00		
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500	
141		Lighting LTK940	2,500	RF	\$8.11	\$20,265	
142		Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163	
147		<b>10 - Signal System</b>					\$722,190
148		Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190	
151		<b>11 - Communications</b>					\$317,808
152		Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808	
157		<b>12 - Fare Collection</b>					
158		Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321		
160		<b>Subtotal - Infrastructure</b>			Subtotal		\$3,710,688
161							
162		<b>13. Right of Way</b>					
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00		
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00		
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174		<b>14. Vehicles</b>					
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18		
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000		
179		<b>15 - Engineering &amp; Administration</b>			Subtotal		\$1,298,741
180		Infrastructure E & A 35.00%				\$1,298,741	
181		Vehicle E & A 5.00%					
185		<b>16 - Contingencies</b>			Subtotal		\$942,138
187		Vehicles Contingency 5.00%					
189		Infrastructure Contingency 20.00%				\$692,138	
191		Utilities Contingency 100.00%				\$250,000	
194		<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$260,558
195		Sales Tax 8.40%				\$260,558.23	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
						Total	\$6,212,125

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 227.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Sprague Ave Crossing to Greenacres Road		650+00	675+00	2,500 FT	0.5 mile	
C -227.2	East Valley Section Alternate 2						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
		<b>1-Civil Construction</b>					\$2,233,702
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance	280	LF	\$35.00	\$9,800	
4		Common Excavation	924	CY	\$15.00	\$13,860	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)	2,318	CY	\$4.00	\$9,272	
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10		Chain Link Fencing 6'	1,500	LF	\$22.00	\$33,000	
11		Ballast Walls (Curb-no drainage)		LF	\$22.00		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000	
26		Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000	
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)	1	EA	\$200,000	\$200,000	
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction	1,800	SF	\$6.00	\$10,800	
32		Off Alignment Signal Modifications	1	EA	\$75,000.00	\$75,000	
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41		Signal Communication Building LTK130		EA	\$60,000.00		
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Artwork (*Subject to Board Policy)		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 227.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Sprague Ave Crossing to Greenacres Road		650+00	675+00	2,500 FT	0.5 mile	
C -227.2	East Valley Section Alternate 2						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$3,912,627	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$1,369,419	
180	Infrastructure	E & A 35.00%				\$1,369,419	
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>				Subtotal	\$982,525	
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$732,525	
191	Utilities	Contingency 100.00%				\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$274,129	
195	Sales Tax	8.40%				\$274,128.53	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$6,538,700	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 228.2

Spokane Regional								
		Light Rail Project	Estimate Basics					
		Order of Magnitude	Start Sta	End Sta	Length			
Drawing	Greenacres Road to Barker Road Area		675+00	700+00	2,500 FT	0.5 mile		
C -228.2	East Valley Section Alternate 2							
		Description	Quantity	Unit	Unit Cost	Extension	2001\$	
		<b>1-Civil Construction</b>						\$2,209,436
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3		Curb & Gutter Allowance	320	LF	\$35.00	\$11,200		
4		Common Excavation	1,028	CY	\$15.00	\$15,420		
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6		Common Backfill (From Project Excavation)	10,619	CY	\$4.00	\$42,476		
8		Landscaping Allowance		SF	\$2.00			
9		Chain Link Fencing 4' (on walls or Ballast Curb)	2,415	LF	\$16.00	\$38,640		
10		Chain Link Fencing 6'	100	LF	\$22.00	\$2,200		
11		Ballast Walls (Curb-no drainage)	2,415	LF	\$22.00	\$53,130		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15		Embedded (Paved) Track at Grade		TF	\$312			
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19		LRT Siding or Pocket Track		TF	\$230			
20		Double Crossover		EA	\$300,000			
21		Single Crossover	1	EA	\$150,000	\$150,000		
22		Turnout		EA	\$75,000			
23		Impact Attenuators		EA	\$35,000			
24		Minor Street Closures Allowance		EA	\$25,000			
25		Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000		
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28		Major Traffic Signal (4 Lanes)	1	EA	\$200,000	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000			
30		Roadway Construction		SF	\$9.00			
31		Sidewalk Construction	2,400	SF	\$6.00	\$14,400		
32		Off Alignment Signal Modifications		EA	\$75,000.00			
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00			
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638		
41		Signal Communication Building LTK130		EA	\$60,000.00			
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000		
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833		
50		<b>2 - Insurance - Included other in Items</b>						
57		<b>3 - Utilities</b>						\$250,000
59		Utility Allowance - High		RF	\$600.00			
60		Utility Allowance - Medium		RF	\$350.00			
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70		<b>4 - Track Materials - Included in the Rail Items</b>						
74		<b>5 - Structures</b>						\$102,400
75		Bridge Structures DEA		LS	\$1.00			
76		Bridge Location						
77		Retaining Wall 4' Max (Low Gravity Wall)	3,200	SF	\$32.00	\$102,400		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00			
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104		<b>6 - Stations</b>						
105		Stations	1	LS				
106		Station Name						
107		Artwork (*Subject to Board Policy)		LS	\$1.00			
108		Platform Electrical LTK610		LS	\$100,000			
115		<b>7 - Park &amp; Rides</b>						
116		Park & Ride		Space	\$4,300			
117		Park & Ride Location						
119		<b>8 - Operations Facility (All Yard elements Included)</b>						
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 228.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Greenacres Road to Barker Road Area			675+00	700+00	2,500 FT	0.5 mile
C -228.2	East Valley Section Alternate 2						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
124		Operations Facility Building LTK		SF	\$171.00		
125		Yard Maintenance Equipment LTK		LS	\$4,160,844		
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460		
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133		<b>9 - Traction Power System</b>					\$388,928
136		Sub-Station Type 3 LTK 910		EA	\$750,000		
138		OCS Single Contact Wire LTK920		RF	\$123.00		
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500	
141		Lighting LTK940	2,500	RF	\$8.11	\$20,265	
142		Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163	
147		<b>10 - Signal System</b>					\$722,190
148		Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190	
151		<b>11 - Communications</b>					\$317,808
152		Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808	
157		<b>12 - Fare Collection</b>					
158		Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321		
160		<b>Subtotal - Infrastructure</b>			Subtotal		\$3,990,761
161							
162		<b>13. Right of Way</b>					
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00		
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00		
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174		<b>14. Vehicles</b>					
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18		
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000		
179		<b>15 - Engineering &amp; Administration</b>				Subtotal	\$1,396,766
180		Infrastructure E & A 35.00%				\$1,396,766	
181		Vehicle E & A 5.00%					
185		<b>16 - Contingencies</b>				Subtotal	\$998,152
187		Vehicles Contingency 5.00%					
189		Infrastructure Contingency 20.00%				\$748,152	
191		Utilities Contingency 100.00%				\$250,000	
194		<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$279,379
195		Sales Tax 8.40%				\$279,379.14	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
						Total	\$6,665,059

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 229.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Barker Road Area to Appleway Station Area		700+00	725+00	2,500 FT	0.5 mile	
C -229.2	Liberty Lake Section Alternate 2						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
		<b>1-Civil Construction</b>					\$1,722,242
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance		LF	\$35.00		
4		Common Excavation		CY	\$15.00		
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)	22,493	CY	\$4.00	\$89,972	
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)	1,700	LF	\$16.00	\$27,200	
10		Chain Link Fencing 6'	650	LF	\$22.00	\$14,300	
11		Ballast Walls (Curb-no drainage)	400	LF	\$22.00	\$8,800	
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction		SF	\$6.00		
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41		Signal Communication Building LTK130		EA	\$60,000.00		
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					\$166,400
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)	5,200	SF	\$32.00	\$166,400	
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Artwork (*Subject to Board Policy)		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 229.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Barker Road Area to Appleway Station Area		700+00	725+00	2,500 FT	0.5 mile	
C -229.2	Liberty Lake Section Alternate 2						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$388,928
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>						\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>						\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$3,567,567
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal		\$1,248,648
180	Infrastructure E & A 35.00%					\$1,248,648	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal		\$913,513
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$663,513	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>						\$250,941
195	Sales Tax 8.40%					\$250,940.50	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total		\$5,980,669



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 230.2

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing		Appleway Station Area to Country Vista Road Area	725+00	750+00	2,500 FT	0.5 mile
C -230.2		Liberty Lake Section Alternate 2				
		Description	Quantity	Unit	Unit Cost	Extension
						2001\$
		<b>1-Civil Construction</b>				\$2,031,532
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500
3		Curb & Gutter Allowance		LF	\$35.00	
4		Common Excavation		CY	\$15.00	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00	
6		Common Backfill (From Project Excavation)	35,768	CY	\$4.00	\$143,072
8		Landscaping Allowance		SF	\$2.00	
9		Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00	
10		Chain Link Fencing 6'	5,000	LF	\$22.00	\$110,000
11		Ballast Walls (Curb-no drainage)	2,000	LF	\$22.00	\$44,000
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000	
14		Ballasted Track at Grade or Structure	4,430	TF	\$223	\$987,890
15		Embedded (Paved) Track at Grade		TF	\$312	
16		Direct Fixation (DF) Track, Elevated Structure	570	TF	\$280	\$159,600
19		LRT Siding or Pocket Track		TF	\$230	
20		Double Crossover		EA	\$300,000	
21		Single Crossover		EA	\$150,000	
22		Turnout		EA	\$75,000	
23		Impact Attenuators		EA	\$35,000	
24		Minor Street Closures Allowance		EA	\$25,000	
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000	
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000	
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000	
28		Major Traffic Signal (4 Lanes)		EA	\$200,000	
29		Complex Major Intersection Rebuild		EA	\$300,000	
30		Roadway Construction		SF	\$9.00	
31		Sidewalk Construction		SF	\$6.00	
32		Off Alignment Signal Modifications		EA	\$75,000.00	
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00	
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00	
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00	
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00	
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00	
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00	
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638
41		Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00	
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833
50		<b>2 - Insurance - Included other in Items</b>				
57		<b>3 - Utilities</b>				\$250,000
59		Utility Allowance - High		RF	\$600.00	
60		Utility Allowance - Medium		RF	\$350.00	
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000
70		<b>4 - Track Materials - Included in the Rail Items</b>				
74		<b>5 - Structures</b>				\$726,000
75		Bridge Structures DEA	726,000	LS	\$1.00	\$726,000
76		Bridge Location	Country Vista			
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00	
78		MSE Retaining Wall - Typical DEA		SF	\$30.00	
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00	
104		<b>6 - Stations</b>				\$850,000
105		Stations	1	LS	\$750,000	\$750,000
106		Station Name	Appleway Station Center Platform			
107		Artwork (*Subject to Board Policy)		LS	\$1.00	
108		Platform Electrical LTK610	1	LS	\$100,000	\$100,000
115		<b>7 - Park &amp; Rides</b>				\$4,300,000
116		Park & Ride	1,000	Space	\$4,300	\$4,300,000
117		Park & Ride Location	Appleway Station			
119		<b>8 - Operations Facility (All Yard elements Included)</b>				

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 230.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Area	Appleyway Station Area to Country Vista Road	725+00	750+00	2,500 FT	0.5 mile	
C -230.2		Liberty Lake Section Alternate 2					
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		
124		Operations Facility Building LTK		SF	\$171.00		
125		Yard Maintenance Equipment LTK		LS	\$4,160,844		
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460		
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133		<b>9 - Traction Power System</b>					\$1,138,928
136		Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000	
138		OCS Single Contact Wire LTK920		RF	\$123.00		
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500	
141		Lighting LTK940	2,500	RF	\$8.11	\$20,265	
142		Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163	
147		<b>10 - Signal System</b>					\$722,190
148		Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190	
151		<b>11 - Communications</b>					\$317,808
152		Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808	
157		<b>12 - Fare Collection</b>					\$202,321
158		Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321	
160		<b>Subtotal - Infrastructure</b>			Subtotal		\$10,538,778
161							
162		<b>13. Right of Way</b>					
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00		
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate		LS	\$26,771,815.00		
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174		<b>14. Vehicles</b>					
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & 3)		EA	\$681,818.18		
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000		
179		<b>15 - Engineering &amp; Administration</b>			Subtotal		\$3,688,572
180	Infrastructure	E & A 35.00%				\$3,688,572	
181	Vehicle	E & A 5.00%					
185		<b>16 - Contingencies</b>			Subtotal		\$2,307,756
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$2,057,756	
191	Utilities	Contingency 100.00%				\$250,000	
194		<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$719,406
195		Sales Tax 8.40%				\$719,405.91	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
						Total	\$17,254,512

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 231.2

Spokane Regional								
		Light Rail Project	Estimate Basics					
		Order of Magnitude	Start Sta	End Sta	Length			
Drawing	Liberty Lake Area along side Interstate 90		750+00	775+00	2,500 FT	0.5 mile		
C -231.2	Liberty Lake Section Alternate 2							
		Description	Quantity	Unit	Unit Cost	Extension	2001\$	
		<b>1-Civil Construction</b>						\$2,383,246
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3		Curb & Gutter Allowance		LF	\$35.00			
4		Common Excavation	8,360	CY	\$15.00	\$125,400		
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6		Common Backfill (From Project Excavation)	219	CY	\$4.00	\$876		
8		Landscaping Allowance		SF	\$2.00			
9		Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00			
10		Chain Link Fencing 6'	2,500	LF	\$22.00	\$55,000		
11		Ballast Walls (Curb-no drainage)		LF	\$22.00			
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15		Embedded (Paved) Track at Grade		TF	\$312			
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19		LRT Siding or Pocket Track		TF	\$230			
20		Double Crossover		EA	\$300,000			
21		Single Crossover		EA	\$150,000			
22		Turnout		EA	\$75,000			
23		Impact Attenuators		EA	\$35,000			
24		Minor Street Closures Allowance		EA	\$25,000			
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000			
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28		Major Traffic Signal (4 Lanes)		EA	\$200,000			
29		Complex Major Intersection Rebuild		EA	\$300,000			
30		Roadway Construction		SF	\$9.00			
31		Sidewalk Construction		SF	\$6.00			
32		Off Alignment Signal Modifications		EA	\$75,000.00			
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638		
41		Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000		
42		Ductbank/ Conduit -PAVED TRACK- LTK140	2,500	RF	\$200.00	\$500,000		
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000		
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833		
50		<b>2 - Insurance - Included other in Items</b>						
57		<b>3 - Utilities</b>						\$250,000
59		Utility Allowance - High		RF	\$600.00			
60		Utility Allowance - Medium		RF	\$350.00			
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70		<b>4 - Track Materials - Included in the Rail Items</b>						
74		<b>5 - Structures</b>						
75		Bridge Structures DEA		LS	\$1.00			
76		Bridge Location						
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78		MSE Retaining Wall - Typical DEA		SF	\$30.00			
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104		<b>6 - Stations</b>						
105		Stations	1	LS				
106		Station Name						
107		Artwork (*Subject to Board Policy)		LS	\$1.00			
108		Platform Electrical LTK610		LS	\$100,000			
115		<b>7 - Park &amp; Rides</b>						
116		Park & Ride		Space	\$4,300			
117		Park & Ride Location						
119		<b>8 - Operations Facility (All Yard elements Included)</b>						
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 231.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Liberty Lake Area along side Interstate 90		750+00	775+00	2,500 FT	0.5 mile	
C -231.2	Liberty Lake Section Alternate 2						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$1,138,928	
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000		
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$4,812,171	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & 4)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$1,684,260	
180	Infrastructure	E & A 35.00%				\$1,684,260	
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>				Subtotal	\$1,162,434	
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$912,434	
191	Utilities	Contingency 100.00%				\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$334,578	
195	Sales Tax	8.40%				\$334,577.89	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$7,993,443	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 232.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Liberty Lake Area along side Interstate 90		775+00	800+00	2,500 FT	0.5 mile	
C -232.2	Liberty Lake Section Alternate 2						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>							\$2,158,947
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00		\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00		\$87,500	
3	Curb & Gutter Allowance		LF	\$35.00			
4	Common Excavation	659	CY	\$15.00		\$9,885	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6	Common Backfill (From Project Excavation)	3,023	CY	\$4.00		\$12,092	
8	Landscaping Allowance		SF	\$2.00			
9	Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00			
10	Chain Link Fencing 6'	2,500	LF	\$22.00		\$55,000	
11	Ballast Walls (Curb-no drainage)		LF	\$22.00			
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00		\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14	Ballasted Track at Grade or Structure	5,000	TF	\$223		\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312			
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19	LRT Siding or Pocket Track		TF	\$230			
20	Double Crossover		EA	\$300,000			
21	Single Crossover		EA	\$150,000			
22	Turnout		EA	\$75,000			
23	Impact Attenuators		EA	\$35,000			
24	Minor Street Closures Allowance		EA	\$25,000			
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000			
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28	Major Traffic Signal (4 Lanes)		EA	\$200,000			
29	Complex Major Intersection Rebuild		EA	\$300,000			
30	Roadway Construction		SF	\$9.00			
31	Sidewalk Construction		SF	\$6.00			
32	Off Alignment Signal Modifications		EA	\$75,000.00			
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00			
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06		\$37,638	
41	Signal Communication Building LTK130		EA	\$60,000.00			
42	Ductbank/ Conduit -PAVED TRACK- LTK140	2,500	RF	\$200.00		\$500,000	
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00		\$275,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73		\$26,833	
50	<b>2 - Insurance - Included other in Items</b>						
57	<b>3 - Utilities</b>						\$250,000
59	Utility Allowance - High		RF	\$600.00			
60	Utility Allowance - Medium		RF	\$350.00			
61	Utility Allowance - Low	2,500	RF	\$100.00		\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>						
74	<b>5 - Structures</b>						
75	Bridge Structures DEA		LS	\$1.00			
76	Bridge Location						
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78	MSE Retaining Wall - Typical DEA		SF	\$30.00			
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104	<b>6 - Stations</b>						
105	Stations	1	LS				
106	Station Name						
107	Artwork (*Subject to Board Policy)		LS	\$1.00			
108	Platform Electrical LTK610		LS	\$100,000			
115	<b>7 - Park &amp; Rides</b>						
116	Park & Ride		Space	\$4,300			
117	Park & Ride Location						
119	<b>8 - Operations Facility (All Yard elements Included)</b>						
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 232.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Liberty Lake Area along side Interstate 90		775+00	800+00	2,500 FT	0.5 mile	
C -232.2	Liberty Lake Section Alternate 2						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$3,837,872	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$1,343,255	
180	Infrastructure E & A 35.00%					\$1,343,255	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal	\$967,574	
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$717,574	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$269,105	
195	Sales Tax 8.40%					\$269,105.00	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$6,417,807	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 233.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Liberty Lake Road Area to Signal Road		800+00	825+00	2,500 FT	0.5 mile	
C -233.2	Liberty Lake Section Alternate 2						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
		<b>1-Civil Construction</b>					\$2,934,911
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance	300	LF	\$35.00	\$10,500	
4		Common Excavation	487	CY	\$15.00	\$7,305	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)	5,109	CY	\$4.00	\$20,436	
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10		Chain Link Fencing 6'	2,350	LF	\$22.00	\$51,700	
11		Ballast Walls (Curb-no drainage)		LF	\$22.00		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance	1	EA	\$25,000	\$25,000	
25		Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000	
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)	1	EA	\$200,000	\$200,000	
29		Complex Major Intersection Rebuild	1	EA	\$300,000	\$300,000	
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction	3,000	SF	\$6.00	\$18,000	
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000	
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41		Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000	
42		Ductbank/ Conduit -PAVED TRACK- LTK140	2,500	RF	\$200.00	\$500,000	
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Artwork (*Subject to Board Policy)		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 233.2

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Liberty Lake Road Area to Signal Road			800+00	825+00	2,500 FT	0.5 mile		
C -233.2	Liberty Lake Section Alternate 2								
		Description	Quantity	Unit	Unit Cost	Extension	2001\$		
124		Operations Facility Building LTK		SF	\$171.00				
125		Yard Maintenance Equipment LTK		LS	\$4,160,844				
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460				
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000				
133		<b>9 - Traction Power System</b>					\$1,138,928		
136		Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000			
138		OCS Single Contact Wire LTK920		RF	\$123.00				
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500			
141		Lighting LTK940	2,500	RF	\$8.11	\$20,265			
142		Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163			
147		<b>10 - Signal System</b>					\$722,190		
148		Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190			
151		<b>11 - Communications</b>					\$317,808		
152		Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808			
157		<b>12 - Fare Collection</b>							
158		Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321				
160		<b>Subtotal - Infrastructure</b>			Subtotal		\$5,363,836		
161									
162		<b>13. Right of Way</b>							
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000				
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00				
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00				
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
174		<b>14. Vehicles</b>							
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00				
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18				
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000				
179		<b>15 - Engineering &amp; Administration</b>				Subtotal			\$1,877,343
180		Infrastructure E & A 35.00%					\$1,877,343		
181		Vehicle E & A 5.00%							
185		<b>16 - Contingencies</b>				Subtotal			\$1,272,767
187		Vehicles Contingency 5.00%							
189		Infrastructure Contingency 20.00%					\$1,022,767		
191		Utilities Contingency 100.00%					\$250,000		
194		<b>17 - Washington State Sales Tax and Real Estate Tax</b>							\$371,650
195		Sales Tax 8.40%					\$371,649.78		
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.							
							Total		\$8,885,596



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 234.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Signal Road to Madson Road Area		825+00	850+00	2,500 FT	0.5 mile	
C -234.2	Liberty Lake Section Alternate 2						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
		<b>1-Civil Construction</b>					\$2,783,990
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance	500	LF	\$35.00	\$17,500	
4		Common Excavation	7,500	CY	\$15.00	\$112,500	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)		CY	\$4.00		
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10		Chain Link Fencing 6'	2,390	LF	\$22.00	\$52,580	
11		Ballast Walls (Curb-no drainage)		LF	\$22.00		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance	4	EA	\$25,000	\$100,000	
25		Minor Intersection Rebuild (2 Lanes)	2	EA	\$100,000	\$200,000	
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)	2	EA	\$100,000	\$200,000	
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction	3,240	SF	\$6.00	\$19,440	
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41		Signal Communication Building LTK130		EA	\$60,000.00		
42		Ductbank/ Conduit -PAVED TRACK- LTK140	2,500	RF	\$200.00	\$500,000	
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Artwork (*Subject to Board Policy)		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 234.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Signal Road to Madson Road Area		825+00	850+00	2,500 FT	0.5 mile	
C -234.2	Liberty Lake Section Alternate 2						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$4,462,915	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$1,562,020	
180	Infrastructure	E & A 35.00%				\$1,562,020	
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>				Subtotal	\$1,092,583	
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$842,583	
191	Utilities	Contingency 100.00%				\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$311,108	
195	Sales Tax	8.40%				\$311,107.89	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$7,428,626	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 235.2

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing		Liberty Lake Station (Molter Rd) and Line Terminus Area	850+00	868+50	1,850 FT	0.4 mile
C -235.2		Liberty Lake Section Alternate 2				
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	1,850	LF	\$10.00	\$18,500	
2	Grade Preparation to Top of subballast.	1,850	LF	\$35.00	\$64,750	
3	Curb & Gutter Allowance	300	LF	\$35.00	\$10,500	
4	Common Excavation	9,860	CY	\$15.00	\$147,900	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)		CY	\$4.00		
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10	Chain Link Fencing 6'	1,850	LF	\$22.00	\$40,700	
11	Ballast Walls (Curb-no drainage)		LF	\$22.00		
12	Site Cleanup and Final Grading Allowance	1,850	LF	\$6.00	\$11,100	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	3,700	TF	\$223	\$825,100	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover	1	EA	\$300,000	\$300,000	
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators	2	EA	\$35,000	\$70,000	
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000	
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)	1	EA	\$200,000	\$200,000	
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction	2,040	SF	\$6.00	\$12,240	
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000	
40	OCS Pole Foundations LTK120	1,850	RF	\$15.06	\$27,852	
41	Signal Communication Building LTK130		EA	\$60,000.00		
42	Ductbank/ Conduit -PAVED TRACK- LTK140	1,850	RF	\$200.00	\$370,000	
43	Ductbank/ Conduit -OPEN TRACK- LTK140	1,850	RF	\$110.00	\$203,500	
45	Corrosion Mitigation LTK150	1,850	RF	\$10.73	\$19,856	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		\$185,000
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	1,850	RF	\$100.00	\$185,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS	\$750,000	\$750,000	\$850,000
106	Station Name	Liberty Lake Station Center Platform Terminus				
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride	200	Space	\$4,300	\$860,000	
117	Park & Ride Location	Liberty Lake Station				
119	<b>8 - Operations Facility (All Yard elements Included)</b>					

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 235.2

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing		Liberty Lake Station (Molter Rd) and Line Terminus Area	850+00	868+50	1,850 FT	0.4 mile	
C -235.2		Liberty Lake Section Alternate 2					
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		
124		Operations Facility Building LTK		SF	\$171.00		
125		Yard Maintenance Equipment LTK		LS	\$4,160,844		
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460		
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133		<b>9 - Traction Power System</b>					\$1,037,806
136		Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000	
138		OCS Single Contact Wire LTK920		RF	\$123.00		
139		OCS Simple Catenary LTK930	1,850	RF	\$109.00	\$201,650	
141		Lighting LTK940	1,850	RF	\$8.11	\$14,996	
142		Spare Parts/ System support LTK950	1,850	LS	\$38.47	\$71,160	
147		<b>10 - Signal System</b>					\$534,421
148		Signal (Alt 2 & Alt 3)	1,850	RF	\$288.88	\$534,421	
151		<b>11 - Communications</b>					\$235,178
152		Communications (Alt 2 & Alt 3)	1,850	RF	\$127.12	\$235,178	
157		<b>12 - Fare Collection</b>					\$202,321
158		Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321	
160		<b>Subtotal - Infrastructure</b>			Subtotal		\$6,486,724
161							
162		<b>13. Right of Way</b>					
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00		
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate		LS	\$26,771,815.00		
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174		<b>14. Vehicles</b>					
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & 3)		EA	\$681,818.18		
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000		
179		<b>15 - Engineering &amp; Administration</b>			Subtotal		\$2,270,353
180	Infrastructure	E & A 35.00%				\$2,270,353	
181	Vehicle	E & A 5.00%					
185		<b>16 - Contingencies</b>			Subtotal		\$1,445,345
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$1,260,345	
191	Utilities	Contingency 100.00%				\$185,000	
194		<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$444,196
195		Sales Tax 8.40%				\$444,195.83	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
						Total	\$10,646,618

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 300.2

Spokane Regional						
Light Rail Project		Estimate Basics				
Order of Magnitude		Start Sta	End Sta	Length		
Drawing						
C -300.2	<b>Maintenance Facility Alternate 2</b>					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing		LF	\$10.00		
2	Grade Preparation to Top of subballast.		LF	\$35.00		
3	Curb & Gutter Allowance		LF	\$35.00		
4	Common Excavation		CY	\$15.00		
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)		CY	\$4.00		
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10	Chain Link Fencing 6'		LF	\$22.00		
11	Ballast Walls (Curb-no drainage)		LF	\$22.00		
12	Site Cleanup and Final Grading Allowance		LF	\$6.00		
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure		TF	\$223		
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction		SF	\$6.00		
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40	OCS Pole Foundations LTK120		RF	\$15.06		
41	Signal Communication Building LTK130		EA	\$60,000.00		
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140		RF	\$110.00		
45	Corrosion Mitigation LTK150		RF	\$10.73		
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low		RF	\$100.00		
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS			
106	Station Name					
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610		LS	\$100,000		
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811	1.0	LS	\$18,551,516	\$18,551,516	\$39,284,820

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 300.2

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing									
C -300.2	Maintenance Facility Alternate 2								
	Description	Quantity	Unit	Unit Cost	Extension	2001\$			
124	Operations Facility Building LTK	75,000	SF	\$171.00	\$12,825,000				
125	Yard Maintenance Equipment LTK	1	LS	\$4,160,844	\$4,160,844				
126	Maintenance of Way Vehicles LTK	1	LS	\$1,847,460	\$1,847,460				
127	Communications Control Center/ Hardware/ Software LTK	1	LS	\$1,900,000	\$1,900,000				
133	<b>9 - Traction Power System</b>								
136	Sub-Station Type 3 LTK 910		EA	\$750,000					
138	OCS Single Contact Wire LTK920		RF	\$123.00					
139	OCS Simple Catenary LTK930		RF	\$109.00					
141	Lighting LTK940		RF	\$8.11					
142	Spare Parts/ System support LTK950		LS	\$38.47					
147	<b>10 - Signal System</b>								
148	Signal (Alt 2 & Alt 3)		RF	\$288.88					
151	<b>11 - Communications</b>								
152	Communications (Alt 2 & Alt 3)		RF	\$127.12					
157	<b>12 - Fare Collection</b>								
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321					
160	<b>Subtotal - Infrastructure</b>			Subtotal				\$39,284,820	
161									
162	<b>13. Right of Way</b>								
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000					
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00					
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00					
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
174	<b>14. Vehicles</b>								
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00					
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18					
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000					
179	<b>15 - Engineering &amp; Administration</b>				Subtotal			\$13,749,687	
180	Infrastructure	E & A 35.00%						\$13,749,687	
181	Vehicle	E & A 5.00%							
185	<b>16 - Contingencies</b>				Subtotal			\$7,856,964	
187	Vehicles	Contingency 5.00%							
189	Infrastructure	Contingency 20.00%						\$7,856,964	
191	Utilities	Contingency 100.00%							
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>							\$2,639,940	
195		Sales Tax 8.40%						\$2,639,939.90	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.								
								Total \$63,531,411	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 201.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Lincoln to Convention Center		5+00	25+00	2,000 FT	0.4 mile	
C -201.3	Downtown Section Alternate 3						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>							\$6,360,598
1		Site Preparation - Clearing & Grubbing	2,000	LF	\$10.00	\$20,000	
2		Grade Preparation to Top of subballast.	2,000	LF	\$35.00	\$70,000	
3		Curb & Gutter Allowance	4,000	LF	\$35.00	\$140,000	
4		Common Excavation	14,815	CY	\$15.00	\$222,222	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)		CY	\$4.00		
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10		Chain Link Fencing 6'		LF	\$22.00		
11		Ballast Walls (Curb-no drainage)		LF	\$22.00		
12		Site Cleanup and Final Grading Allowance	2,000	LF	\$6.00	\$12,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure	1	EA	\$8,000	\$8,000	
14		Ballasted Track at Grade or Structure		TF	\$223		
15		Embedded (Paved) Track at Grade	4,000	TF	\$312	\$1,248,000	
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover	1	EA	\$300,000	\$300,000	
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators	2	EA	\$35,000	\$70,000	
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26		Major Intersection Rebuild (4 Lanes)	6	EA	\$200,000	\$1,200,000	
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)	6	EA	\$200,000	\$1,200,000	
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction	85,200	SF	\$9.00	\$766,800	
31		Sidewalk Construction	72,000	SF	\$6.00	\$432,000	
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40		OCS Pole Foundations LTK120	2,000	RF	\$15.06	\$30,110	
41		Signal Communication Building LTK130		EA	\$60,000.00		
42		Ductbank/ Conduit -PAVED TRACK- LTK140	2,000	RF	\$200.00	\$400,000	
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,000	RF	\$110.00	\$220,000	
45		Corrosion Mitigation LTK150	2,000	RF	\$10.73	\$21,466	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$1,200,000
59		Utility Allowance - High	2,000	RF	\$600.00	\$1,200,000	
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low		RF	\$100.00		
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					\$800,000
105		Stations	1	LS	\$700,000	\$700,000	
106		Station Name	Plaza Station	Side-by-Side Platform			
107		Artwork (*Subject to Board Policy)		LS	\$1.00		
108		Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 201.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Lincoln to Convention Center		5+00	25+00	2,000 FT	0.4 mile	
C -201.3	Downtown Section Alternate 3	Description	Quantity	Unit	Unit Cost	Extension	2001\$
124		Operations Facility Building LTK		SF	\$171.00		
125		Yard Maintenance Equipment LTK		LS	\$4,160,844		
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460		
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133		<b>9 - Traction Power System</b>					\$339,142
136		Sub-Station Type 3 LTK 910		EA	\$750,000		
138		OCS Single Contact Wire LTK920	2,000	RF	\$123.00	\$246,000	
139		OCS Simple Catenary LTK930		RF	\$109.00		
141		Lighting LTK940	2,000	RF	\$8.11	\$16,212	
142		Spare Parts/ System support LTK950	2,000	LS	\$38.47	\$76,930	
147		<b>10 - Signal System</b>					\$577,752
148		Signal (Alt 2 & Alt 3)	2,000	RF	\$288.88	\$577,752	
151		<b>11 - Communications</b>					\$254,246
152		Communications (Alt 2 & Alt 3)	2,000	RF	\$127.12	\$254,246	
157		<b>12 - Fare Collection</b>					\$202,321
158		Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321	
160		<b>Subtotal - Infrastructure</b>				Subtotal	\$9,734,060
161							
162		<b>13. Right of Way</b>					
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00		
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00		
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174		<b>14. Vehicles</b>					
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18		
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000		
179		<b>15 - Engineering &amp; Administration</b>				Subtotal	\$3,406,921
180		Infrastructure E & A 35.00%				\$3,406,921	
181		Vehicle E & A 5.00%					
185		<b>16 - Contingencies</b>				Subtotal	\$2,906,812
187		Vehicles Contingency 5.00%					
189		Infrastructure Contingency 20.00%				\$1,706,812	
191		Utilities Contingency 100.00%				\$1,200,000	
194		<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$707,889
195		Sales Tax 8.40%				\$707,888.81	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
						Total	\$16,755,681



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 202.3

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing	Convention Center to Trent Station		25+00	50+00	2,500 FT	0.5 mile
C -202.3	Downtown Section Alternate 3					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance	3,200	LF	\$35.00	\$112,000	
4	Common Excavation	13,074	CY	\$15.00	\$196,110	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)	463	CY	\$4.00	\$1,852	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10	Chain Link Fencing 6'		LF	\$22.00		
11	Ballast Walls (Curb-no drainage)		LF	\$22.00		
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	2,000	TF	\$223	\$446,000	
15	Embedded (Paved) Track at Grade	3,000	TF	\$312	\$936,000	
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover	1	EA	\$300,000	\$300,000	
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)	3	EA	\$200,000	\$600,000	
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)	3	EA	\$200,000	\$600,000	
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction	63,000	SF	\$9.00	\$567,000	
31	Sidewalk Construction	48,000	SF	\$6.00	\$288,000	
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000	
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41	Signal Communication Building LTK130		EA	\$60,000.00		
42	Ductbank/ Conduit -PAVED TRACK- LTK140	2,000	RF	\$200.00	\$400,000	
43	Ductbank/ Conduit -OPEN TRACK- LTK140	500	RF	\$110.00	\$55,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High	1,500	RF	\$600.00	\$900,000	
60	Utility Allowance - Medium	1,000	RF	\$350.00	\$350,000	
61	Utility Allowance - Low		RF	\$100.00		
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS	\$700,000	\$700,000	
106	Station Name	Convention Center Center Platform				
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 202.3

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Convention Center to Trent Station			25+00	50+00	2,500 FT	0.5 mile		
C -202.3	Downtown Section Alternate 3								
		Description	Quantity	Unit	Unit Cost	Extension	2001\$		
124		Operations Facility Building LTK		SF	\$171.00				
125		Yard Maintenance Equipment LTK		LS	\$4,160,844				
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460				
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000				
133		<b>9 - Traction Power System</b>					\$1,166,928		
136		Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000			
138		OCS Single Contact Wire LTK920	2,000	RF	\$123.00	\$246,000			
139		OCS Simple Catenary LTK930	500	RF	\$109.00	\$54,500			
141		Lighting LTK940	2,500	RF	\$8.11	\$20,265			
142		Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163			
147		<b>10 - Signal System</b>					\$722,190		
148		Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190			
151		<b>11 - Communications</b>					\$317,808		
152		Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808			
157		<b>12 - Fare Collection</b>					\$202,321		
158		Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321			
160		<b>Subtotal - Infrastructure</b>				Subtotal	\$9,213,178		
161									
162		<b>13. Right of Way</b>							
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000				
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00				
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00				
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
174		<b>14. Vehicles</b>							
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00				
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18				
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000				
179		<b>15 - Engineering &amp; Administration</b>				Subtotal	\$3,224,612		
180		Infrastructure E & A 35.00%					\$3,224,612		
181		Vehicle E & A 5.00%							
185		<b>16 - Contingencies</b>				Subtotal	\$2,842,636		
187		Vehicles Contingency 5.00%							
189		Infrastructure Contingency 20.00%					\$1,592,636		
191		Utilities Contingency 100.00%					\$1,250,000		
194		<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$675,126		
195		Sales Tax 8.40%					\$675,125.59		
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.							
						Total	\$15,955,552		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 203.3

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Trent Station to Hamilton St Bridge Area			50+00	75+00	2,500 FT	0.5 mile		
C -203.3	BN Section Alternate 3								
		Description	Quantity	Unit	Unit Cost	Extension	2001\$		
<b>1-Civil Construction</b>									
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000			
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500			
3		Curb & Gutter Allowance		LF	\$35.00				
4		Common Excavation	21,044	CY	\$15.00	\$315,660			
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00				
6		Common Backfill (From Project Excavation)	2,790	CY	\$4.00	\$11,160			
8		Landscaping Allowance		SF	\$2.00				
9		Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00				
10		Chain Link Fencing 6'	4,500	LF	\$22.00	\$99,000			
11		Ballast Walls (Curb-no drainage)		LF	\$22.00				
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000			
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000				
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000			
15		Embedded (Paved) Track at Grade		TF	\$312				
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280				
19		LRT Siding or Pocket Track		TF	\$230				
20		Double Crossover		EA	\$300,000				
21		Single Crossover		EA	\$150,000				
22		Turnout		EA	\$75,000				
23		Impact Attenuators		EA	\$35,000				
24		Minor Street Closures Allowance		EA	\$25,000				
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000				
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000				
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000				
28		Major Traffic Signal (4 Lanes)		EA	\$200,000				
29		Complex Major Intersection Rebuild		EA	\$300,000				
30		Roadway Construction		SF	\$9.00				
31		Sidewalk Construction		SF	\$6.00				
32		Off Alignment Signal Modifications		EA	\$75,000.00				
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00				
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00				
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00				
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00				
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00				
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00				
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000			
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638			
41		Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000			
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00				
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000			
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833			
50		<b>2 - Insurance - Included other in Items</b>							
57		<b>3 - Utilities</b>							
59		Utility Allowance - High		RF	\$600.00				
60		Utility Allowance - Medium		RF	\$350.00				
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000			
70		<b>4 - Track Materials - Included in the Rail Items</b>							
74		<b>5 - Structures</b>							
75		Bridge Structures DEA		LS	\$1.00				
76		Bridge Location							
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00				
78		MSE Retaining Wall - Typical DEA		SF	\$30.00				
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00				
104		<b>6 - Stations</b>							
105		Stations	1	LS	\$750,000	\$750,000			
106		Station Name	Trent Station Center Platform						
107		Artwork (*Subject to Board Policy)		LS	\$1.00				
108		Platform Electrical LTK610	1	LS	\$100,000	\$100,000			
115		<b>7 - Park &amp; Rides</b>							
116		Park & Ride		Space	\$4,300				
117		Park & Ride Location	Trent Station						
119		<b>8 - Operations Facility (All Yard elements Included)</b>							
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516				

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 203.3

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Trent Station to Hamilton St Bridge Area			50+00	75+00	2,500 FT	0.5 mile		
C -203.3	BN Section Alternate 3								
		Description	Quantity	Unit	Unit Cost	Extension	2001\$		
124		Operations Facility Building LTK		SF	\$171.00				
125		Yard Maintenance Equipment LTK		LS	\$4,160,844				
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460				
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000				
133		<b>9 - Traction Power System</b>							\$1,138,928
136		Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000			
138		OCS Single Contact Wire LTK920		RF	\$123.00				
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500			
141		Lighting LTK940	2,500	RF	\$8.11	\$20,265			
142		Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163			
147		<b>10 - Signal System</b>							\$722,190
148		Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190			
151		<b>11 - Communications</b>							\$317,808
152		Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808			
157		<b>12 - Fare Collection</b>							\$202,321
158		Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321			
160		<b>Subtotal - Infrastructure</b>				Subtotal			\$5,609,036
161									
162		<b>13. Right of Way</b>							
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000				
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00				
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00				
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
174		<b>14. Vehicles</b>							
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00				
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18				
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000				
179		<b>15 - Engineering &amp; Administration</b>				Subtotal			\$1,963,163
180		Infrastructure E & A 35.00%						\$1,963,163	
181		Vehicle E & A 5.00%							
185		<b>16 - Contingencies</b>				Subtotal			\$1,321,807
187		Vehicles Contingency 5.00%							
189		Infrastructure Contingency 20.00%						\$1,071,807	
191		Utilities Contingency 100.00%						\$250,000	
194		<b>17 - Washington State Sales Tax and Real Estate Tax</b>							\$388,127
195		Sales Tax 8.40%						\$388,127.25	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.							
								Total	\$9,282,134

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 204.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Hamilton St Bridge Area to Helena Street		75+00	100+00	2,500 FT	0.5 mile	
C -204.3	BN Section Alternate 3						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>							
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance		LF	\$35.00		
4		Common Excavation	2,088	CY	\$15.00	\$31,320	
5		Select Backfill (MSE Retaining Walls)	13,697	CY	\$15.00	\$205,455	
6		Common Backfill (From Project Excavation)	31,400	CY	\$4.00	\$125,600	
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10		Chain Link Fencing 6'	200	LF	\$22.00	\$4,400	
11		Ballast Walls (Curb-no drainage)		LF	\$22.00		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction		SF	\$6.00		
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR	1,400	TF	\$130.00	\$182,000	
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41		Signal Communication Building LTK130		EA	\$60,000.00		
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					\$1,596,000
75		Bridge Structures DEA	891,000	LS	\$1.00	\$891,000	
76		Bridge Location	Erie & Helena				
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA	23,500	SF	\$30.00	\$705,000	
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Artwork (*Subject to Board Policy)		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 204.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Hamilton St Bridge Area to Helena Street		75+00	100+00	2,500 FT	0.5 mile	
C -204.3	BN Section Alternate 3						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$388,928
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>						\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>						\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$5,405,670
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal		\$1,891,985
180	Infrastructure E & A 35.00%					\$1,891,985	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal		\$1,281,134
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$1,031,134	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>						\$374,461
195	Sales Tax 8.40%					\$374,461.02	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total		\$8,953,250

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 205.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Helena Street to New BN Yard Bridge		100+00	125+00	2,500 FT	0.5 mile	
C -205.3	BN Section Alternate 3						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>							\$2,416,363
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00		\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00		\$87,500	
3	Curb & Gutter Allowance		LF	\$35.00			
4	Common Excavation		CY	\$15.00			
5	Select Backfill (MSE Retaining Walls)	35,831	CY	\$15.00		\$537,465	
6	Common Backfill (From Project Excavation)	58,932	CY	\$4.00		\$235,728	
8	Landscaping Allowance		SF	\$2.00			
9	Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00			
10	Chain Link Fencing 6'	500	LF	\$22.00		\$11,000	
11	Ballast Walls (Curb-no drainage)		LF	\$22.00			
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00		\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure	2	EA	\$8,000		\$16,000	
14	Ballasted Track at Grade or Structure	4,400	TF	\$223		\$981,200	
15	Embedded (Paved) Track at Grade		TF	\$312			
16	Direct Fixation (DF) Track, Elevated Structure	600	TF	\$280		\$168,000	
19	LRT Siding or Pocket Track		TF	\$230			
20	Double Crossover		EA	\$300,000			
21	Single Crossover		EA	\$150,000			
22	Turnout		EA	\$75,000			
23	Impact Attenuators		EA	\$35,000			
24	Minor Street Closures Allowance		EA	\$25,000			
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000			
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28	Major Traffic Signal (4 Lanes)		EA	\$200,000			
29	Complex Major Intersection Rebuild		EA	\$300,000			
30	Roadway Construction		SF	\$9.00			
31	Sidewalk Construction		SF	\$6.00			
32	Off Alignment Signal Modifications		EA	\$75,000.00			
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00			
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06		\$37,638	
41	Signal Communication Building LTK130		EA	\$60,000.00			
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00		\$275,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73		\$26,833	
50	<b>2 - Insurance - Included other in Items</b>						
57	<b>3 - Utilities</b>						
59	Utility Allowance - High		RF	\$600.00			
60	Utility Allowance - Medium		RF	\$350.00			
61	Utility Allowance - Low	2,500	RF	\$100.00		\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>						
74	<b>5 - Structures</b>						
75	Bridge Structures DEA	2,046,000	LS	\$1.00		\$2,046,000	
76	Bridge Location	Madelia, Napa					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78	MSE Retaining Wall - Typical DEA	37,400	SF	\$30.00		\$1,122,000	
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104	<b>6 - Stations</b>						
105	Stations	1	LS				
106	Station Name						
107	Artwork (*Subject to Board Policy)		LS	\$1.00			
108	Platform Electrical LTK610		LS	\$100,000			
115	<b>7 - Park &amp; Rides</b>						
116	Park & Ride		Space	\$4,300			
117	Park & Ride Location						
119	<b>8 - Operations Facility (All Yard elements Included)</b>						
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 205.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Helena Street to New BN Yard Bridge		100+00	125+00	2,500 FT	0.5 mile	
C -205.3	BN Section Alternate 3						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$7,263,288	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & 4)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$2,542,151	
180	Infrastructure E & A 35.00%					\$2,542,151	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal	\$1,652,658	
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$1,402,658	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$499,293	
195	Sales Tax 8.40%					\$499,292.95	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$11,957,389	



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 206.3

Spokane Regional								
		Light Rail Project	Estimate Basics					
		Order of Magnitude	Start Sta	End Sta	Length			
Drawing		New BN Yard Bridge to Regal Street	125+00	150+00	2,500 FT	0.5 mile		
C -206.3		UP Section Alternate 3						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$	
		<b>1-Civil Construction</b>						\$2,414,312
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3		Curb & Gutter Allowance		LF	\$35.00			
4		Common Excavation	2,078	CY	\$15.00	\$31,170		
5		Select Backfill (MSE Retaining Walls)	21,120	CY	\$15.00	\$316,800		
6		Common Backfill (From Project Excavation)	568	CY	\$4.00	\$2,272		
8		Landscaping Allowance		SF	\$2.00			
9		Chain Link Fencing 4' (on walls or Ballast Curb)	2,850	LF	\$16.00	\$45,600		
10		Chain Link Fencing 6'	2,000	LF	\$22.00	\$44,000		
11		Ballast Walls (Curb-no drainage)	1,250	LF	\$22.00	\$27,500		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15		Embedded (Paved) Track at Grade		TF	\$312			
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19		LRT Siding or Pocket Track		TF	\$230			
20		Double Crossover		EA	\$300,000			
21		Single Crossover	1	EA	\$150,000	\$150,000		
22		Turnout		EA	\$75,000			
23		Impact Attenuators		EA	\$35,000			
24		Minor Street Closures Allowance		EA	\$25,000			
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000			
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28		Major Traffic Signal (4 Lanes)		EA	\$200,000			
29		Complex Major Intersection Rebuild		EA	\$300,000			
30		Roadway Construction		SF	\$9.00			
31		Sidewalk Construction		SF	\$6.00			
32		Off Alignment Signal Modifications		EA	\$75,000.00			
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35		Relocate UPRR Yard Lead or Branch Line	950	TF	\$100.00	\$95,000		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638		
41		Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000		
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000		
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833		
50		<b>2 - Insurance - Included other in Items</b>						
57		<b>3 - Utilities</b>						\$250,000
59		Utility Allowance - High		RF	\$600.00			
60		Utility Allowance - Medium		RF	\$350.00			
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70		<b>4 - Track Materials - Included in the Rail Items</b>						
74		<b>5 - Structures</b>						\$775,500
75		Bridge Structures DEA	280,500	LS	\$1.00	\$280,500		
76		Bridge Location	Altamont					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78		MSE Retaining Wall - Typical DEA	16,500	SF	\$30.00	\$495,000		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104		<b>6 - Stations</b>						\$850,000
105		Stations	1	LS	\$750,000	\$750,000		
106		Station Name	Altamont Station Center Platform					
107		Artwork (*Subject to Board Policy)		LS	\$1.00			
108		Platform Electrical LTK610	1	LS	\$100,000	\$100,000		
115		<b>7 - Park &amp; Rides</b>						
116		Park & Ride		Space	\$4,300			
117		Park & Ride Location						
119		<b>8 - Operations Facility (All Yard elements Included)</b>						
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 206.3

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing		New BN Yard Bridge to Regal Street		125+00	150+00	2,500 FT	0.5 mile
C -206.3		UP Section Alternate 3					
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
124		Operations Facility Building LTK		SF	\$171.00		
125		Yard Maintenance Equipment LTK		LS	\$4,160,844		
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460		
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133		<b>9 - Traction Power System</b>					\$1,138,928
136		Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000	
138		OCS Single Contact Wire LTK920		RF	\$123.00		
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500	
141		Lighting LTK940	2,500	RF	\$8.11	\$20,265	
142		Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163	
147		<b>10 - Signal System</b>					\$722,190
148		Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190	
151		<b>11 - Communications</b>					\$317,808
152		Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808	
157		<b>12 - Fare Collection</b>					\$202,321
158		Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321	
160		<b>Subtotal - Infrastructure</b>			Subtotal		\$6,671,058
161							
162		<b>13. Right of Way</b>					
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00		
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00		
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174		<b>14. Vehicles</b>					
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & 4)		EA	\$681,818.18		
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000		
179		<b>15 - Engineering &amp; Administration</b>				Subtotal	\$2,334,870
180		Infrastructure E & A 35.00%					\$2,334,870
181		Vehicle E & A 5.00%					
185		<b>16 - Contingencies</b>				Subtotal	\$1,534,212
187		Vehicles Contingency 5.00%					
189		Infrastructure Contingency 20.00%					\$1,284,212
191		Utilities Contingency 100.00%					\$250,000
194		<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$459,495
195		Sales Tax 8.40%					\$459,495.13
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
						Total	\$10,999,636

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 207.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Regal Street to Freya Street		150+00	175+00	2,500 FT	0.5 mile	
C -207.3	UP Section Alternate 3						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
<b>1-Civil Construction</b>							
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3	Curb & Gutter Allowance		LF	\$35.00			
4	Common Excavation	5,709	CY	\$15.00	\$85,635		
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6	Common Backfill (From Project Excavation)	28	CY	\$4.00	\$112		
8	Landscaping Allowance		SF	\$2.00			
9	Chain Link Fencing 4' (on walls or Ballast Curb)	2,100	LF	\$16.00	\$33,600		
10	Chain Link Fencing 6'	2,850	LF	\$22.00	\$62,700		
11	Ballast Walls (Curb-no drainage)	4,600	LF	\$22.00	\$101,200		
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15	Embedded (Paved) Track at Grade		TF	\$312			
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19	LRT Siding or Pocket Track		TF	\$230			
20	Double Crossover		EA	\$300,000			
21	Single Crossover		EA	\$150,000			
22	Turnout		EA	\$75,000			
23	Impact Attenuators		EA	\$35,000			
24	Minor Street Closures Allowance	3	EA	\$25,000	\$75,000		
25	Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000		
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28	Major Traffic Signal (4 Lanes)		EA	\$200,000			
29	Complex Major Intersection Rebuild		EA	\$300,000			
30	Roadway Construction		SF	\$9.00			
31	Sidewalk Construction		SF	\$6.00			
32	Off Alignment Signal Modifications		EA	\$75,000.00			
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR	2	EA	\$65,000.00	\$130,000		
35	Relocate UPRR Yard Lead or Branch Line	2,500	TF	\$100.00	\$250,000		
36	Remove & Relocate Industrial Spur HDR	930	TF	\$130.00	\$120,900		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00			
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638		
41	Signal Communication Building LTK130		EA	\$60,000.00			
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000		
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833		
50	<b>2 - Insurance - Included other in Items</b>						
57	<b>3 - Utilities</b>						
59	Utility Allowance - High		RF	\$600.00			
60	Utility Allowance - Medium		RF	\$350.00			
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70	<b>4 - Track Materials - Included in the Rail Items</b>						
74	<b>5 - Structures</b>						
75	Bridge Structures DEA		LS	\$1.00			
76	Bridge Location						
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78	MSE Retaining Wall - Typical DEA		SF	\$30.00			
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104	<b>6 - Stations</b>						
105	Stations	1	LS				
106	Station Name						
107	Artwork (*Subject to Board Policy)		LS	\$1.00			
108	Platform Electrical LTK610		LS	\$100,000			
115	<b>7 - Park &amp; Rides</b>						
116	Park & Ride		Space	\$4,300			
117	Park & Ride Location						
119	<b>8 - Operations Facility (All Yard elements Included)</b>						
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 207.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Regal Street to Freya Street		150+00	175+00	2,500 FT	0.5 mile	
C -207.3	UP Section Alternate 3						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$4,220,042	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$1,477,015	
180	Infrastructure	E & A 35.00%				\$1,477,015	
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>				Subtotal	\$1,044,008	
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$794,008	
191	Utilities	Contingency 100.00%				\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$294,787	
195	Sales Tax	8.40%				\$294,786.82	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$7,035,852	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 208.3

Spokane Regional								
		Light Rail Project		Estimate Basics				
		Order of Magnitude		Start Sta	End Sta	Length		
Drawing	Freya Street to Havana Street Area			175+00	200+00	2,500 FT	0.5 mile	
C -208.3	UP Section Alternate 3							
		Description	Quantity	Unit	Unit Cost	Extension	2001\$	
		<b>1-Civil Construction</b>						\$2,819,629
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3		Curb & Gutter Allowance		LF	\$35.00			
4		Common Excavation	5,861	CY	\$15.00	\$87,915		
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6		Common Backfill (From Project Excavation)	486	CY	\$4.00	\$1,944		
8		Landscaping Allowance		SF	\$2.00			
9		Chain Link Fencing 4' (on walls or Ballast Curb)	4,700	LF	\$16.00	\$75,200		
10		Chain Link Fencing 6'	300	LF	\$22.00	\$6,600		
11		Ballast Walls (Curb-no drainage)	4,000	LF	\$22.00	\$88,000		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15		Embedded (Paved) Track at Grade		TF	\$312			
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19		LRT Siding or Pocket Track		TF	\$230			
20		Double Crossover		EA	\$300,000			
21		Single Crossover		EA	\$150,000			
22		Turnout	1	EA	\$75,000	\$75,000		
23		Impact Attenuators		EA	\$35,000			
24		Minor Street Closures Allowance	2	EA	\$25,000	\$50,000		
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000			
26		Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28		Major Traffic Signal (4 Lanes)		EA	\$200,000			
29		Complex Major Intersection Rebuild		EA	\$300,000			
30		Roadway Construction		SF	\$9.00			
31		Sidewalk Construction		SF	\$6.00			
32		Off Alignment Signal Modifications	1	EA	\$75,000.00	\$75,000		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35		Relocate UPRR Yard Lead or Branch Line	2,500	TF	\$100.00	\$250,000		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37		Provide Team Track and Loading Dock (HDR)	1	LS	\$208,000.00	\$208,000		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638		
41		Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000		
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000		
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833		
50	<b>2 - Insurance - Included other in Items</b>							
57	<b>3 - Utilities</b>						\$250,000	
59		Utility Allowance - High		RF	\$600.00			
60		Utility Allowance - Medium		RF	\$350.00			
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70	<b>4 - Track Materials - Included in the Rail Items</b>							
74	<b>5 - Structures</b>						\$105,000	
75		Bridge Structures DEA		LS	\$1.00			
76		Bridge Location						
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78		MSE Retaining Wall - Typical DEA	3,500	SF	\$30.00	\$105,000		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104	<b>6 - Stations</b>						\$850,000	
105		Stations	1	LS	\$750,000	\$750,000		
106		Station Name	Central Station Center Platform					
107		Artwork (*Subject to Board Policy)		LS	\$1.00			
108		Platform Electrical LTK610	1	LS	\$100,000	\$100,000		
115	<b>7 - Park &amp; Rides</b>							
116		Park & Ride		Space	\$4,300			
117		Park & Ride Location						
119	<b>8 - Operations Facility (All Yard elements Included)</b>							
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 208.3

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Freya Street to Havana Street Area		175+00	200+00	2,500 FT	0.5 mile			
C -208.3	UP Section Alternate 3								
	Description	Quantity	Unit	Unit Cost	Extension	2001\$			
124	Operations Facility Building LTK		SF	\$171.00					
125	Yard Maintenance Equipment LTK		LS	\$4,160,844					
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460					
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000					
133	<b>9 - Traction Power System</b>								\$1,138,928
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000				
138	OCS Single Contact Wire LTK920		RF	\$123.00					
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500				
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265				
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163				
147	<b>10 - Signal System</b>								\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190				
151	<b>11 - Communications</b>								\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808				
157	<b>12 - Fare Collection</b>								\$202,321
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321				
160	<b>Subtotal - Infrastructure</b>				Subtotal				\$6,405,875
161									
162	<b>13. Right of Way</b>								
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000					
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00					
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00					
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
174	<b>14. Vehicles</b>								
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00					
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18					
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000					
179	<b>15 - Engineering &amp; Administration</b>				Subtotal				\$2,242,056
180	Infrastructure	E & A 35.00%						\$2,242,056	
181	Vehicle	E & A 5.00%							
185	<b>16 - Contingencies</b>				Subtotal				\$1,481,175
187	Vehicles	Contingency 5.00%							
189	Infrastructure	Contingency 20.00%						\$1,231,175	
191	Utilities	Contingency 100.00%						\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>								\$441,675
195	Sales Tax 8.40%							\$441,674.83	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.								
								Total	\$10,570,782

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 209.3

Spokane Regional								
		Light Rail Project	Estimate Basics					
		Order of Magnitude	Start Sta	End Sta	Length			
Drawing	Havana Street Area toUPRR Spokane Yard Area		200+00	225+00	2,500 FT	0.5 mile		
C -209.3	UP Section Alternate 3	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
<b>1-Civil Construction</b>							\$3,269,702	
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000			
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500			
3	Curb & Gutter Allowance		LF	\$35.00				
4	Common Excavation	1,322	CY	\$15.00	\$19,830			
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00				
6	Common Backfill (From Project Excavation)	16,413	CY	\$4.00	\$65,652			
8	Landscaping Allowance		SF	\$2.00				
9	Chain Link Fencing 4' (on walls or Ballast Curb)	700	LF	\$16.00	\$11,200			
10	Chain Link Fencing 6'	4,300	LF	\$22.00	\$94,600			
11	Ballast Walls (Curb-no drainage)		LF	\$22.00				
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000			
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000				
14	Ballasted Track at Grade or Structure	6,150	TF	\$223	\$1,371,450			
15	Embedded (Paved) Track at Grade		TF	\$312				
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280				
19	LRT Siding or Pocket Track	1,500	TF	\$230	\$345,000			
20	Double Crossover		EA	\$300,000				
21	Single Crossover		EA	\$150,000				
22	Turnout	6	EA	\$75,000	\$450,000			
23	Impact Attenuators		EA	\$35,000				
24	Minor Street Closures Allowance		EA	\$25,000				
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000				
26	Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000			
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000				
28	Major Traffic Signal (4 Lanes)		EA	\$200,000				
29	Complex Major Intersection Rebuild		EA	\$300,000				
30	Roadway Construction		SF	\$9.00				
31	Sidewalk Construction		SF	\$6.00				
32	Off Alignment Signal Modifications	1	EA	\$75,000.00	\$75,000			
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00				
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00				
35	Relocate UPRR Yard Lead or Branch Line	500	TF	\$100.00	\$50,000			
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00				
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00				
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00				
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000			
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638			
41	Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000			
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00				
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000			
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833			
50	<b>2 - Insurance - Included other in Items</b>							
57	<b>3 - Utilities</b>							
59	Utility Allowance - High		RF	\$600.00			\$250,000	
60	Utility Allowance - Medium		RF	\$350.00				
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000			
70	<b>4 - Track Materials - Included in the Rail Items</b>							
74	<b>5 - Structures</b>							
75	Bridge Structures DEA		LS	\$1.00			\$285,000	
76	Bridge Location							
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00				
78	MSE Retaining Wall - Typical DEA	9,500	SF	\$30.00	\$285,000			
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00				
104	<b>6 - Stations</b>							
105	Stations	1	LS	\$750,000	\$750,000		\$850,000	
106	Station Name	Fairgrounds W Station Triple Platform						
107	Artwork (*Subject to Board Policy)		LS	\$1.00				
108	Platform Electrical LTK610	1	LS	\$100,000	\$100,000			
115	<b>7 - Park &amp; Rides</b>							
116	Park & Ride	200	Space	\$4,300	\$860,000			
117	Park & Ride Location	Fairgrounds W Sta						
119	<b>8 - Operations Facility (All Yard elements Included)</b>							

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 209.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing		Havana Street Area toUPRR Spokane Yard Area	200+00	225+00	2,500 FT	0.5 mile	
C -209.3		UP Section Alternate 3					
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		
124		Operations Facility Building LTK		SF	\$171.00		
125		Yard Maintenance Equipment LTK		LS	\$4,160,844		
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460		
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133		<b>9 - Traction Power System</b>					\$1,138,928
136		Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000	
138		OCS Single Contact Wire LTK920		RF	\$123.00		
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500	
141		Lighting LTK940	2,500	RF	\$8.11	\$20,265	
142		Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163	
147		<b>10 - Signal System</b>					\$722,190
148		Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190	
151		<b>11 - Communications</b>					\$317,808
152		Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808	
157		<b>12 - Fare Collection</b>					\$202,321
158		Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321	
160		<b>Subtotal - Infrastructure</b>			Subtotal		\$7,895,948
161							
162		<b>13. Right of Way</b>					
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00		
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate		LS	\$26,771,815.00		
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174		<b>14. Vehicles</b>					
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & 3)		EA	\$681,818.18		
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000		
179		<b>15 - Engineering &amp; Administration</b>			Subtotal		\$2,763,582
180	Infrastructure	E & A 35.00%				\$2,763,582	
181	Vehicle	E & A 5.00%					
185		<b>16 - Contingencies</b>			Subtotal		\$1,779,190
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$1,529,190	
191	Utilities	Contingency 100.00%				\$250,000	
194		<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$541,808
195		Sales Tax 8.40%				\$541,807.73	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
						Total	\$12,980,528



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 210.3

Spokane Regional								
		Light Rail Project	Estimate Basics					
		Order of Magnitude	Start Sta	End Sta	Length			
Drawing	UPRR Spokane Yard Area		225+00	250+00	2,500 FT	0.5 mile		
C -210.3	UP Section Alternate 3							
		Description	Quantity	Unit	Unit Cost	Extension	2001\$	
		<b>1-Civil Construction</b>						\$2,033,248
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3		Curb & Gutter Allowance		LF	\$35.00			
4		Common Excavation	393	CY	\$15.00	\$5,895		
5		Select Backfill (MSE Retaining Walls)	17,333	CY	\$15.00	\$259,995		
6		Common Backfill (From Project Excavation)	1,722	CY	\$4.00	\$6,888		
8		Landscaping Allowance		SF	\$2.00			
9		Chain Link Fencing 4' (on walls or Ballast Curb)	3,600	LF	\$16.00	\$57,600		
10		Chain Link Fencing 6'	1,400	LF	\$22.00	\$30,800		
11		Ballast Walls (Curb-no drainage)		LF	\$22.00			
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13		Transition Slab Ballasted to Embedded /Bridge /Structure	2	EA	\$8,000	\$16,000		
14		Ballasted Track at Grade or Structure	3,700	TF	\$223	\$825,100		
15		Embedded (Paved) Track at Grade		TF	\$312			
16		Direct Fixation (DF) Track, Elevated Structure	1,300	TF	\$280	\$364,000		
19		LRT Siding or Pocket Track		TF	\$230			
20		Double Crossover		EA	\$300,000			
21		Single Crossover		EA	\$150,000			
22		Turnout		EA	\$75,000			
23		Impact Attenuators		EA	\$35,000			
24		Minor Street Closures Allowance		EA	\$25,000			
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000			
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28		Major Traffic Signal (4 Lanes)		EA	\$200,000			
29		Complex Major Intersection Rebuild		EA	\$300,000			
30		Roadway Construction		SF	\$9.00			
31		Sidewalk Construction		SF	\$6.00			
32		Off Alignment Signal Modifications		EA	\$75,000.00			
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00			
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638		
41		Signal Communication Building LTK130		EA	\$60,000.00			
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000		
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833		
50		<b>2 - Insurance - Included other in Items</b>						
57		<b>3 - Utilities</b>						\$250,000
59		Utility Allowance - High		RF	\$600.00			
60		Utility Allowance - Medium		RF	\$350.00			
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70		<b>4 - Track Materials - Included in the Rail Items</b>						
74		<b>5 - Structures</b>						\$3,276,000
75		Bridge Structures DEA	2,211,000	LS	\$1.00	\$2,211,000		
76		Bridge Location	RR Spur Over					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78		MSE Retaining Wall - Typical DEA	35,500	SF	\$30.00	\$1,065,000		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104		<b>6 - Stations</b>						
105		Stations	1	LS				
106		Station Name						
107		Artwork (*Subject to Board Policy)		LS	\$1.00			
108		Platform Electrical LTK610		LS	\$100,000			
115		<b>7 - Park &amp; Rides</b>						
116		Park & Ride		Space	\$4,300			
117		Park & Ride Location						
119		<b>8 - Operations Facility (All Yard elements Included)</b>						
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 210.3

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	UPRR Spokane Yard Area			225+00	250+00	2,500 FT	0.5 mile		
C -210.3	UP Section Alternate 3								
	Description	Quantity	Unit	Unit Cost	Extension	2001\$			
124	Operations Facility Building LTK		SF	\$171.00					
125	Yard Maintenance Equipment LTK		LS	\$4,160,844					
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460					
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000					
133	<b>9 - Traction Power System</b>								\$388,928
136	Sub-Station Type 3 LTK 910		EA	\$750,000					
138	OCS Single Contact Wire LTK920		RF	\$123.00					
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500				
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265				
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163				
147	<b>10 - Signal System</b>								\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190				
151	<b>11 - Communications</b>								\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808				
157	<b>12 - Fare Collection</b>								
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321					
160	<b>Subtotal - Infrastructure</b>				Subtotal				\$6,988,173
161									
162	<b>13. Right of Way</b>								
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000					
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00					
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00					
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
174	<b>14. Vehicles</b>								
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00					
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18					
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000					
179	<b>15 - Engineering &amp; Administration</b>				Subtotal				\$2,445,861
180	Infrastructure E & A 35.00%							\$2,445,861	
181	Vehicle E & A 5.00%								
185	<b>16 - Contingencies</b>				Subtotal				\$1,597,635
187	Vehicles Contingency 5.00%								
189	Infrastructure Contingency 20.00%							\$1,347,635	
191	Utilities Contingency 100.00%							\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>								\$480,805
195	Sales Tax 8.40%							\$480,805.23	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.								
								Total	\$11,512,473

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 211.3

Spokane Regional						
Light Rail Project		Estimate Basics				
Order of Magnitude		Start Sta	End Sta	Length		
Drawing	UPRR Spokane Yard Area to Interstate 90	250+00	275+00	2,500 FT	0.5 mile	
C -211.3	UP Section Alternate 3					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance		LF	\$35.00		
4	Common Excavation	8,327	CY	\$15.00	\$124,905	
5	Select Backfill (MSE Retaining Walls)	12,840	CY	\$15.00	\$192,600	
6	Common Backfill (From Project Excavation)	273	CY	\$4.00	\$1,092	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	2,500	LF	\$16.00	\$40,000	
10	Chain Link Fencing 6'	1,900	LF	\$22.00	\$41,800	
11	Ballast Walls (Curb-no drainage)	100	LF	\$22.00	\$2,200	
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover		EA	\$150,000		
22	Turnout	1	EA	\$75,000	\$75,000	
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000	
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction		SF	\$6.00		
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line	1,200	TF	\$100.00	\$120,000	
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)	1	LS	\$476,000.00	\$476,000	
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000	
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41	Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000	
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA	1,122,000	LS	\$1.00	\$1,122,000	
76	Bridge Location	Lake Rd Spur				
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA	35,250	SF	\$30.00	\$1,057,500	
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS			
106	Station Name	Future Station Possible				
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610		LS	\$100,000		
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 211.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	UPRR Spokane Yard Area to Interstate 90		250+00	275+00	2,500 FT	0.5 mile	
C -211.3	UP Section Alternate 3						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
124		Operations Facility Building LTK		SF	\$171.00		
125		Yard Maintenance Equipment LTK		LS	\$4,160,844		
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460		
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133		<b>9 - Traction Power System</b>					\$1,138,928
136		Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000	
138		OCS Single Contact Wire LTK920		RF	\$123.00		
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500	
141		Lighting LTK940	2,500	RF	\$8.11	\$20,265	
142		Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163	
147		<b>10 - Signal System</b>					\$722,190
148		Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190	
151		<b>11 - Communications</b>					\$317,808
152		Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808	
157		<b>12 - Fare Collection</b>					
158		Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321		
160		<b>Subtotal - Infrastructure</b>			Subtotal		\$7,583,992
161							
162		<b>13. Right of Way</b>					
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00		
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00		
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174		<b>14. Vehicles</b>					
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18		
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000		
179		<b>15 - Engineering &amp; Administration</b>			Subtotal		\$2,654,397
180		Infrastructure E & A 35.00%				\$2,654,397	
181		Vehicle E & A 5.00%					
185		<b>16 - Contingencies</b>			Subtotal		\$1,716,798
187		Vehicles Contingency 5.00%					
189		Infrastructure Contingency 20.00%				\$1,466,798	
191		Utilities Contingency 100.00%				\$250,000	
194		<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$520,844
195		Sales Tax 8.40%				\$520,844.26	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
						Total	\$12,476,032

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 212.3

Spokane Regional								
		Light Rail Project	Estimate Basics					
		Order of Magnitude	Start Sta	End Sta	Length			
Drawing	Interstate 90 to Approx Station 300+00		275+00	300+00	2,500 FT	0.5 mile		
C -212.3	UP Section Alternate 3							
		Description	Quantity	Unit	Unit Cost	Extension	2001\$	
		<b>1-Civil Construction</b>						\$2,141,571
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3		Curb & Gutter Allowance		LF	\$35.00			
4		Common Excavation	6,267	CY	\$15.00	\$94,005		
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6		Common Backfill (From Project Excavation)	1,699	CY	\$4.00	\$6,796		
8		Landscaping Allowance		SF	\$2.00			
9		Chain Link Fencing 4' (on walls or Ballast Curb)	1,000	LF	\$16.00	\$16,000		
10		Chain Link Fencing 6'	3,900	LF	\$22.00	\$85,800		
11		Ballast Walls (Curb-no drainage)	1,000	LF	\$22.00	\$22,000		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15		Embedded (Paved) Track at Grade		TF	\$312			
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19		LRT Siding or Pocket Track		TF	\$230			
20		Double Crossover		EA	\$300,000			
21		Single Crossover		EA	\$150,000			
22		Turnout		EA	\$75,000			
23		Impact Attenuators		EA	\$35,000			
24		Minor Street Closures Allowance	1	EA	\$25,000	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000		
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28		Major Traffic Signal (4 Lanes)		EA	\$200,000			
29		Complex Major Intersection Rebuild		EA	\$300,000			
30		Roadway Construction		SF	\$9.00			
31		Sidewalk Construction		SF	\$6.00			
32		Off Alignment Signal Modifications		EA	\$75,000.00			
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35		Relocate UPRR Yard Lead or Branch Line	2,100	TF	\$100.00	\$210,000		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00			
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638		
41		Signal Communication Building LTK130		EA	\$60,000.00			
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000		
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833		
50		<b>2 - Insurance - Included other in Items</b>						
57		<b>3 - Utilities</b>						\$250,000
59		Utility Allowance - High		RF	\$600.00			
60		Utility Allowance - Medium		RF	\$350.00			
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70		<b>4 - Track Materials - Included in the Rail Items</b>						
74		<b>5 - Structures</b>						
75		Bridge Structures DEA		LS	\$1.00			
76		Bridge Location						
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78		MSE Retaining Wall - Typical DEA		SF	\$30.00			
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104		<b>6 - Stations</b>						
105		Stations	1	LS				
106		Station Name						
107		Artwork (*Subject to Board Policy)		LS	\$1.00			
108		Platform Electrical LTK610		LS	\$100,000			
115		<b>7 - Park &amp; Rides</b>						
116		Park & Ride		Space	\$4,300			
117		Park & Ride Location						
119		<b>8 - Operations Facility (All Yard elements Included)</b>						
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 212.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Interstate 90 to Approx Station 300+00		275+00	300+00	2,500 FT	0.5 mile	
C -212.3	UP Section Alternate 3						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$3,820,496	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$1,337,174	
180	Infrastructure	E & A 35.00%				\$1,337,174	
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>				Subtotal	\$964,099	
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$714,099	
191	Utilities	Contingency 100.00%				\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$267,937	
195	Sales Tax	8.40%				\$267,937.33	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$6,389,706	

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 213.3

Spokane Regional								
		Light Rail Project	Estimate Basics					
		Order of Magnitude	Start Sta	End Sta	Length			
Drawing	Park Road & Spear Ave Area		300+00	325+00	2,500 FT	0.5 mile		
C -213.3	UP Section Alternate 3							
		Description	Quantity	Unit	Unit Cost	Extension	2001\$	
		<b>1-Civil Construction</b>						\$1,948,211
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3		Curb & Gutter Allowance		LF	\$35.00			
4		Common Excavation	369	CY	\$15.00	\$5,535		
5		Select Backfill (MSE Retaining Walls)	16,694	CY	\$15.00	\$250,410		
6		Common Backfill (From Project Excavation)	524	CY	\$4.00	\$2,096		
8		Landscaping Allowance		SF	\$2.00			
9		Chain Link Fencing 4' (on walls or Ballast Curb)	2,500	LF	\$16.00	\$40,000		
10		Chain Link Fencing 6'	2,500	LF	\$22.00	\$55,000		
11		Ballast Walls (Curb-no drainage)	600	LF	\$22.00	\$13,200		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15		Embedded (Paved) Track at Grade		TF	\$312			
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19		LRT Siding or Pocket Track		TF	\$230			
20		Double Crossover		EA	\$300,000			
21		Single Crossover		EA	\$150,000			
22		Turnout		EA	\$75,000			
23		Impact Attenuators		EA	\$35,000			
24		Minor Street Closures Allowance		EA	\$25,000			
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000			
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28		Major Traffic Signal (4 Lanes)		EA	\$200,000			
29		Complex Major Intersection Rebuild		EA	\$300,000			
30		Roadway Construction		SF	\$9.00			
31		Sidewalk Construction		SF	\$6.00			
32		Off Alignment Signal Modifications		EA	\$75,000.00			
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00			
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638		
41		Signal Communication Building LTK130		EA	\$60,000.00			
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000		
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833		
50		<b>2 - Insurance - Included other in Items</b>						
57		<b>3 - Utilities</b>						\$250,000
59		Utility Allowance - High		RF	\$600.00			
60		Utility Allowance - Medium		RF	\$350.00			
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70		<b>4 - Track Materials - Included in the Rail Items</b>						
74		<b>5 - Structures</b>						\$1,494,000
75		Bridge Structures DEA	841,500	LS	\$1.00	\$841,500		
76		Bridge Location	Park Rd & Sp					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78		MSE Retaining Wall - Typical DEA	21,750	SF	\$30.00	\$652,500		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104		<b>6 - Stations</b>						
105		Stations	1	LS				
106		Station Name						
107		Artwork (*Subject to Board Policy)		LS	\$1.00			
108		Platform Electrical LTK610		LS	\$100,000			
115		<b>7 - Park &amp; Rides</b>						
116		Park & Ride		Space	\$4,300			
117		Park & Ride Location						
119		<b>8 - Operations Facility (All Yard elements Included)</b>						
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 213.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Park Road & Spear Ave Area		300+00	325+00	2,500 FT	0.5 mile	
C -213.3	UP Section Alternate 3						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$5,121,136	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$1,792,398	
180	Infrastructure E & A 35.00%					\$1,792,398	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal	\$1,224,227	
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$974,227	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$355,340	
195	Sales Tax 8.40%					\$355,340.34	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$8,493,101	



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 214.3

Spokane Regional								
		Light Rail Project	Estimate Basics					
		Order of Magnitude	Start Sta	End Sta	Length			
Drawing	Vista Road Area		325+00	350+00	2,500 FT	0.5 mile		
C -214.3	UP Section Alternate 3							
		Description	Quantity	Unit	Unit Cost	Extension	2001\$	
		<b>1-Civil Construction</b>						\$2,235,167
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3		Curb & Gutter Allowance		LF	\$35.00			
4		Common Excavation	3,431	CY	\$15.00	\$51,465		
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6		Common Backfill (From Project Excavation)	308	CY	\$4.00	\$1,232		
8		Landscaping Allowance		SF	\$2.00			
9		Chain Link Fencing 4' (on walls or Ballast Curb)	2,500	LF	\$16.00	\$40,000		
10		Chain Link Fencing 6'	2,500	LF	\$22.00	\$55,000		
11		Ballast Walls (Curb-no drainage)	2,750	LF	\$22.00	\$60,500		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15		Embedded (Paved) Track at Grade		TF	\$312			
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19		LRT Siding or Pocket Track		TF	\$230			
20		Double Crossover		EA	\$300,000			
21		Single Crossover	1	EA	\$150,000	\$150,000		
22		Turnout		EA	\$75,000			
23		Impact Attenuators		EA	\$35,000			
24		Minor Street Closures Allowance		EA	\$25,000			
25		Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000		
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28		Major Traffic Signal (4 Lanes)		EA	\$200,000			
29		Complex Major Intersection Rebuild		EA	\$300,000			
30		Roadway Construction		SF	\$9.00			
31		Sidewalk Construction		SF	\$6.00			
32		Off Alignment Signal Modifications	1	EA	\$75,000.00	\$75,000		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638		
41		Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000		
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000		
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833		
50		<b>2 - Insurance - Included other in Items</b>						
57		<b>3 - Utilities</b>						\$250,000
59		Utility Allowance - High		RF	\$600.00			
60		Utility Allowance - Medium		RF	\$350.00			
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70		<b>4 - Track Materials - Included in the Rail Items</b>						
74		<b>5 - Structures</b>						
75		Bridge Structures DEA		LS	\$1.00			
76		Bridge Location						
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78		MSE Retaining Wall - Typical DEA		SF	\$30.00			
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104		<b>6 - Stations</b>						\$850,000
105		Stations	1	LS	\$750,000	\$750,000		
106		Station Name	Park/Vista Station Center Platform					
107		Artwork (*Subject to Board Policy)		LS	\$1.00			
108		Platform Electrical LTK610	1	LS	\$100,000	\$100,000		
115		<b>7 - Park &amp; Rides</b>						
116		Park & Ride		Space	\$4,300			
117		Park & Ride Location	Vista Station					
119		<b>8 - Operations Facility (All Yard elements Included)</b>						
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 214.3

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Vista Road Area			325+00	350+00	2,500 FT	0.5 mile		
C -214.3	UP Section Alternate 3								
		Description	Quantity	Unit	Unit Cost	Extension	2001\$		
124		Operations Facility Building LTK		SF	\$171.00				
125		Yard Maintenance Equipment LTK		LS	\$4,160,844				
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460				
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000				
133		<b>9 - Traction Power System</b>							\$1,138,928
136		Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000			
138		OCS Single Contact Wire LTK920		RF	\$123.00				
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500			
141		Lighting LTK940	2,500	RF	\$8.11	\$20,265			
142		Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163			
147		<b>10 - Signal System</b>							\$722,190
148		Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190			
151		<b>11 - Communications</b>							\$317,808
152		Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808			
157		<b>12 - Fare Collection</b>							\$202,321
158		Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321			
160		<b>Subtotal - Infrastructure</b>				Subtotal			\$5,716,413
161									
162		<b>13. Right of Way</b>							
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000				
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00				
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00				
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
174		<b>14. Vehicles</b>							
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00				
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18				
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000				
179		<b>15 - Engineering &amp; Administration</b>				Subtotal			\$2,000,745
180		Infrastructure E & A 35.00%						\$2,000,745	
181		Vehicle E & A 5.00%							
185		<b>16 - Contingencies</b>				Subtotal			\$1,343,283
187		Vehicles Contingency 5.00%							
189		Infrastructure Contingency 20.00%						\$1,093,283	
191		Utilities Contingency 100.00%						\$250,000	
194		<b>17 - Washington State Sales Tax and Real Estate Tax</b>							\$395,343
195		Sales Tax 8.40%						\$395,342.98	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.							
								Total	\$9,455,784

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 215.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Sargent Road to Argonne Station		350+00	375+00	2,500 FT	0.5 mile	
C -215.3	UP Section Alternate 3						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
		<b>1-Civil Construction</b>					\$2,019,166
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance		LF	\$35.00		
4		Common Excavation	185	CY	\$15.00	\$2,775	
5		Select Backfill (MSE Retaining Walls)	291	CY	\$15.00	\$4,365	
6		Common Backfill (From Project Excavation)	914	CY	\$4.00	\$3,656	
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)	4,000	LF	\$16.00	\$64,000	
10		Chain Link Fencing 6'	1,000	LF	\$22.00	\$22,000	
11		Ballast Walls (Curb-no drainage)	900	LF	\$22.00	\$19,800	
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure	2	EA	\$8,000	\$16,000	
14		Ballasted Track at Grade or Structure	2,200	TF	\$223	\$490,600	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure	2,800	TF	\$280	\$784,000	
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance	1	EA	\$25,000	\$25,000	
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction		SF	\$6.00		
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000	
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41		Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000	
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					\$4,850,000
75		Bridge Structures DEA	4,760,000	LS	\$1.00	\$4,760,000	
76		Bridge Location	Argonne-Dish				
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA	3,000	SF	\$30.00	\$90,000	
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Artwork (*Subject to Board Policy)		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					\$1,075,000
116		Park & Ride	250	Space	\$4,300	\$1,075,000	
117		Park & Ride Location	Argonne Station				
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 215.3

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Sargent Road to Argonne Station			350+00	375+00	2,500 FT	0.5 mile		
C -215.3	UP Section Alternate 3								
	Description	Quantity	Unit	Unit Cost	Extension	2001\$			
124	Operations Facility Building LTK		SF	\$171.00					
125	Yard Maintenance Equipment LTK		LS	\$4,160,844					
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460					
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000					
133	<b>9 - Traction Power System</b>								\$1,138,928
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000				
138	OCS Single Contact Wire LTK920		RF	\$123.00					
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500				
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265				
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163				
147	<b>10 - Signal System</b>								\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190				
151	<b>11 - Communications</b>								\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808				
157	<b>12 - Fare Collection</b>								\$202,321
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321				
160	<b>Subtotal - Infrastructure</b>				Subtotal				\$10,575,412
161									
162	<b>13. Right of Way</b>								
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000					
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00					
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00					
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
174	<b>14. Vehicles</b>								
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00					
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & 4)		EA	\$681,818.18					
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000					
179	<b>15 - Engineering &amp; Administration</b>				Subtotal				\$3,701,394
180	Infrastructure	E & A 35.00%						\$3,701,394	
181	Vehicle	E & A 5.00%							
185	<b>16 - Contingencies</b>				Subtotal				\$2,315,082
187	Vehicles	Contingency 5.00%							
189	Infrastructure	Contingency 20.00%						\$2,065,082	
191	Utilities	Contingency 100.00%						\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>								\$721,868
195	Sales Tax	8.40%						\$721,867.72	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.								
								Total	\$17,313,757

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 216.3

Spokane Regional						
Light Rail Project		Estimate Basics				
Order of Magnitude		Start Sta	End Sta	Length		
Drawing	Willow Road to Dartmouth Rd Area	375+00	400+00	2,500 FT	0.5 mile	
C -216.3	UP Section Alternate 3					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance		LF	\$35.00		
4	Common Excavation	7,623	CY	\$15.00	\$114,345	
5	Select Backfill (MSE Retaining Walls)	6,222	CY	\$15.00	\$93,330	
6	Common Backfill (From Project Excavation)	2,529	CY	\$4.00	\$10,116	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	2,900	LF	\$16.00	\$46,400	
10	Chain Link Fencing 6'		LF	\$22.00		
11	Ballast Walls (Curb-no drainage)	4,100	LF	\$22.00	\$90,200	
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000	
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27	Minor Traffic Signal (2 Lanes)	1	EA	\$100,000	\$100,000	
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction		SF	\$6.00		
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41	Signal Communication Building LTK130		EA	\$60,000.00		
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA	10,500	SF	\$30.00	\$315,000	
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS			
106	Station Name					
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610		LS	\$100,000		
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 216.3

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing	Willow Road to Dartmouth Rd Area			375+00	400+00	2,500 FT	0.5 mile
C -216.3	UP Section Alternate 3						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$388,928
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>						\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>						\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$4,130,286
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 4)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal		\$1,445,600
180	Infrastructure E & A 35.00%					\$1,445,600	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal		\$1,026,057
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$776,057	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>						\$288,755
195	Sales Tax 8.40%					\$288,755.22	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
						Total	\$6,890,699

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 217.3

Spokane Regional						
Light Rail Project		Estimate Basics				
Order of Magnitude		Start Sta	End Sta	Length		
Drawing	Dartmouth Road Area to University Rd	400+00	425+00	2,500 FT	0.5 mile	
C -217.3	East Valley Section Alternate 3					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance	300	LF	\$35.00	\$10,500	
4	Common Excavation	3,180	CY	\$15.00	\$47,700	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)	4,183	CY	\$4.00	\$16,732	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	375	LF	\$16.00	\$6,000	
10	Chain Link Fencing 6'	4,325	LF	\$22.00	\$95,150	
11	Ballast Walls (Curb-no drainage)	375	LF	\$22.00	\$8,250	
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover	1	EA	\$300,000	\$300,000	
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000	
26	Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000	
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)	1	EA	\$200,000	\$200,000	
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction	1,920	SF	\$6.00	\$11,520	
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000	
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41	Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000	
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		\$250,000
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA	1,200,000	LS	\$1.00	\$1,200,000	\$1,200,000
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS	\$750,000	\$750,000	
106	Station Name					
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 217.3

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Dartmouth Road Area to University Rd			400+00	425+00	2,500 FT	0.5 mile		
C -217.3	East Valley Section Alternate 3								
	Description	Quantity	Unit	Unit Cost	Extension	2001\$			
124	Operations Facility Building LTK		SF	\$171.00					
125	Yard Maintenance Equipment LTK		LS	\$4,160,844					
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460					
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000					
133	<b>9 - Traction Power System</b>						\$1,138,928		
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000				
138	OCS Single Contact Wire LTK920		RF	\$123.00					
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500				
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265				
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163				
147	<b>10 - Signal System</b>						\$722,190		
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190				
151	<b>11 - Communications</b>						\$317,808		
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808				
157	<b>12 - Fare Collection</b>						\$202,321		
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321				
160	<b>Subtotal - Infrastructure</b>				Subtotal		\$7,379,068		
161									
162	<b>13. Right of Way</b>								
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000					
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00					
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00					
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
174	<b>14. Vehicles</b>								
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00					
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18					
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000					
179	<b>15 - Engineering &amp; Administration</b>				Subtotal		\$2,582,674		
180	Infrastructure E & A 35.00%						\$2,582,674		
181	Vehicle E & A 5.00%								
185	<b>16 - Contingencies</b>				Subtotal		\$1,675,814		
187	Vehicles Contingency 5.00%								
189	Infrastructure Contingency 20.00%						\$1,425,814		
191	Utilities Contingency 100.00%						\$250,000		
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>						\$507,073		
195	Sales Tax 8.40%						\$507,073.40		
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.								
							Total \$12,144,629		



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 218.3

Spokane Regional								
		Light Rail Project	Estimate Basics					
		Order of Magnitude	Start Sta	End Sta	Length			
Drawing	University Road to Bodish Road Area		425+00	450+00	2,500 FT	0.5 mile		
C -218.3	East Valley Section Alternate 3							
		Description	Quantity	Unit	Unit Cost	Extension	2001\$	
<b>1-Civil Construction</b>							\$1,892,415	
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00		\$25,000		
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00		\$87,500		
3	Curb & Gutter Allowance	400	LF	\$35.00		\$14,000		
4	Common Excavation	1,919	CY	\$15.00		\$28,785		
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00				
6	Common Backfill (From Project Excavation)	7,715	CY	\$4.00		\$30,860		
8	Landscaping Allowance		SF	\$2.00				
9	Chain Link Fencing 4' (on walls or Ballast Curb)	730	LF	\$16.00		\$11,680		
10	Chain Link Fencing 6'	4,270	LF	\$22.00		\$93,940		
11	Ballast Walls (Curb-no drainage)	730	LF	\$22.00		\$16,060		
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00		\$15,000		
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000				
14	Ballasted Track at Grade or Structure	5,000	TF	\$223		\$1,115,000		
15	Embedded (Paved) Track at Grade		TF	\$312				
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280				
19	LRT Siding or Pocket Track		TF	\$230				
20	Double Crossover		EA	\$300,000				
21	Single Crossover		EA	\$150,000				
22	Turnout		EA	\$75,000				
23	Impact Attenuators		EA	\$35,000				
24	Minor Street Closures Allowance		EA	\$25,000				
25	Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000		\$100,000		
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000				
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000				
28	Major Traffic Signal (4 Lanes)		EA	\$200,000				
29	Complex Major Intersection Rebuild		EA	\$300,000				
30	Roadway Construction		SF	\$9.00				
31	Sidewalk Construction	2,520	SF	\$6.00		\$15,120		
32	Off Alignment Signal Modifications		EA	\$75,000.00				
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00				
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00				
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00				
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00				
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00				
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00				
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00				
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06		\$37,638		
41	Signal Communication Building LTK130		EA	\$60,000.00				
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00				
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00		\$275,000		
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73		\$26,833		
50	<b>2 - Insurance - Included other in Items</b>							
57	<b>3 - Utilities</b>							\$250,000
59	Utility Allowance - High		RF	\$600.00				
60	Utility Allowance - Medium		RF	\$350.00				
61	Utility Allowance - Low	2,500	RF	\$100.00		\$250,000		
70	<b>4 - Track Materials - Included in the Rail Items</b>							
74	<b>5 - Structures</b>							
75	Bridge Structures DEA		LS	\$1.00				
76	Bridge Location							
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00				
78	MSE Retaining Wall - Typical DEA		SF	\$30.00				
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00				
104	<b>6 - Stations</b>							
105	Stations	1	LS					
106	Station Name							
107	Artwork (*Subject to Board Policy)		LS	\$1.00				
108	Platform Electrical LTK610		LS	\$100,000				
115	<b>7 - Park &amp; Rides</b>							
116	Park & Ride		Space	\$4,300				
117	Park & Ride Location							
119	<b>8 - Operations Facility (All Yard elements Included)</b>							
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516				

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 218.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	University Road to Bodish Road Area		425+00	450+00	2,500 FT	0.5 mile	
C -218.3	East Valley Section Alternate 3						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$3,571,340	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$1,249,969	
180	Infrastructure	E & A 35.00%				\$1,249,969	
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>				Subtotal	\$914,268	
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$664,268	
191	Utilities	Contingency 100.00%				\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$251,194	
195	Sales Tax	8.40%				\$251,194.05	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$5,986,771	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 219.3

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing		Bodish Road to Pines Road (At Grade) Area	450+00	475+00	2,500 FT	0.5 mile
C -219.3		East Valley Section Alternate 3				
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance	400	LF	\$35.00	\$14,000	
4	Common Excavation	2,253	CY	\$15.00	\$33,795	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)	10,982	CY	\$4.00	\$43,928	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	1,200	LF	\$16.00	\$19,200	
10	Chain Link Fencing 6'	3,640	LF	\$22.00	\$80,080	
11	Ballast Walls (Curb-no drainage)	1,200	LF	\$22.00	\$26,400	
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance	2	EA	\$25,000	\$50,000	
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000	
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction	2,640	SF	\$6.00	\$15,840	
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41	Signal Communication Building LTK130		EA	\$60,000.00		
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS			
106	Station Name					
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610		LS	\$100,000		
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 219.3

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Bodish Road to Pines Road (At Grade) Area			450+00	475+00	2,500 FT	0.5 mile		
C -219.3	East Valley Section Alternate 3								
	Description	Quantity	Unit	Unit Cost	Extension	2001\$			
124	Operations Facility Building LTK		SF	\$171.00					
125	Yard Maintenance Equipment LTK		LS	\$4,160,844					
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460					
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000					
133	<b>9 - Traction Power System</b>								\$388,928
136	Sub-Station Type 3 LTK 910		EA	\$750,000					
138	OCS Single Contact Wire LTK920		RF	\$123.00					
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500				
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265				
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163				
147	<b>10 - Signal System</b>								\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190				
151	<b>11 - Communications</b>								\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808				
157	<b>12 - Fare Collection</b>								
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321					
160	<b>Subtotal - Infrastructure</b>			Subtotal					\$3,744,138
161									
162	<b>13. Right of Way</b>								
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000					
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00					
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00					
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
174	<b>14. Vehicles</b>								
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00					
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & 4)		EA	\$681,818.18					
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000					
179	<b>15 - Engineering &amp; Administration</b>				Subtotal				\$1,310,448
180	Infrastructure E & A 35.00%							\$1,310,448	
181	Vehicle E & A 5.00%								
185	<b>16 - Contingencies</b>				Subtotal				\$948,828
187	Vehicles Contingency 5.00%								
189	Infrastructure Contingency 20.00%							\$698,828	
191	Utilities Contingency 100.00%							\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>								\$262,806
195	Sales Tax 8.40%							\$262,806.07	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.								
								Total	\$6,266,220

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 220.3

Spokane Regional								
		Light Rail Project		Estimate Basics				
		Order of Magnitude		Start Sta	End Sta	Length		
Drawing	Pines Road (At Grade) to McDonald Road Area			475+00	500+00	2,500 FT	0.5 mile	
C -220.3	East Valley Section Alternate 3							
		Description	Quantity	Unit	Unit Cost	Extension	2001\$	
<b>1-Civil Construction</b>							\$1,868,389	
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00		\$25,000		
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00		\$87,500		
3	Curb & Gutter Allowance		LF	\$35.00				
4	Common Excavation	1,481	CY	\$15.00		\$22,215		
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00				
6	Common Backfill (From Project Excavation)	5,151	CY	\$4.00		\$20,604		
8	Landscaping Allowance		SF	\$2.00				
9	Chain Link Fencing 4' (on walls or Ballast Curb)	850	LF	\$16.00		\$13,600		
10	Chain Link Fencing 6'	4,150	LF	\$22.00		\$91,300		
11	Ballast Walls (Curb-no drainage)	850	LF	\$22.00		\$18,700		
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00		\$15,000		
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000				
14	Ballasted Track at Grade or Structure	5,000	TF	\$223		\$1,115,000		
15	Embedded (Paved) Track at Grade		TF	\$312				
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280				
19	LRT Siding or Pocket Track		TF	\$230				
20	Double Crossover		EA	\$300,000				
21	Single Crossover		EA	\$150,000				
22	Turnout		EA	\$75,000				
23	Impact Attenuators		EA	\$35,000				
24	Minor Street Closures Allowance		EA	\$25,000				
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000				
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000				
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000				
28	Major Traffic Signal (4 Lanes)		EA	\$200,000				
29	Complex Major Intersection Rebuild		EA	\$300,000				
30	Roadway Construction		SF	\$9.00				
31	Sidewalk Construction		SF	\$6.00				
32	Off Alignment Signal Modifications		EA	\$75,000.00				
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00				
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00				
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00				
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00				
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00				
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00				
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00		\$60,000		
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06		\$37,638		
41	Signal Communication Building LTK130	1	EA	\$60,000.00		\$60,000		
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00				
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00		\$275,000		
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73		\$26,833		
50	<b>2 - Insurance - Included other in Items</b>							
57	<b>3 - Utilities</b>							
59	Utility Allowance - High		RF	\$600.00			\$250,000	
60	Utility Allowance - Medium		RF	\$350.00				
61	Utility Allowance - Low	2,500	RF	\$100.00		\$250,000		
70	<b>4 - Track Materials - Included in the Rail Items</b>							
74	<b>5 - Structures</b>							
75	Bridge Structures DEA		LS	\$1.00				
76	Bridge Location							
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00				
78	MSE Retaining Wall - Typical DEA		SF	\$30.00				
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00				
104	<b>6 - Stations</b>							
105	Stations	1	LS	\$750,000		\$750,000	\$850,000	
106	Station Name	Pines Station Center Platform						
107	Artwork (*Subject to Board Policy)		LS	\$1.00				
108	Platform Electrical LTK610	1	LS	\$100,000		\$100,000		
115	<b>7 - Park &amp; Rides</b>							
116	Park & Ride	400	Space	\$4,300		\$1,720,000		
117	Park & Ride Location	Pines Station						
119	<b>8 - Operations Facility (All Yard elements Included)</b>							

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 220.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Pines Road (At Grade) to McDonald Road Area		475+00	500+00	2,500 FT	0.5 mile	
C -220.3	East Valley Section Alternate 3						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$1,138,928	
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000		
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>					\$202,321	
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321		
160	<b>Subtotal - Infrastructure</b>				Subtotal	\$7,069,635	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$2,474,372	
180	Infrastructure	E & A 35.00%				\$2,474,372	
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>				Subtotal	\$1,613,927	
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$1,363,927	
191	Utilities	Contingency 100.00%				\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$486,280	
195	Sales Tax	8.40%				\$486,279.50	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$11,644,214	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 221.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	McDonald Road to Evergreen Road Area		500+00	525+00	2,500 FT	0.5 mile	
C -221.3	East Valley Section Alternate 3						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>							\$2,134,921
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00		\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00		\$87,500	
3	Curb & Gutter Allowance	800	LF	\$35.00		\$28,000	
4	Common Excavation	4,029	CY	\$15.00		\$60,435	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6	Common Backfill (From Project Excavation)	3,204	CY	\$4.00		\$12,816	
8	Landscaping Allowance		SF	\$2.00			
9	Chain Link Fencing 4' (on walls or Ballast Curb)	730	LF	\$16.00		\$11,680	
10	Chain Link Fencing 6'	4,260	LF	\$22.00		\$93,720	
11	Ballast Walls (Curb-no drainage)	730	LF	\$22.00		\$16,060	
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00		\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14	Ballasted Track at Grade or Structure	5,000	TF	\$223		\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312			
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19	LRT Siding or Pocket Track		TF	\$230			
20	Double Crossover		EA	\$300,000			
21	Single Crossover		EA	\$150,000			
22	Turnout		EA	\$75,000			
23	Impact Attenuators		EA	\$35,000			
24	Minor Street Closures Allowance		EA	\$25,000			
25	Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000		\$100,000	
26	Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000		\$200,000	
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28	Major Traffic Signal (4 Lanes)		EA	\$200,000			
29	Complex Major Intersection Rebuild		EA	\$300,000			
30	Roadway Construction		SF	\$9.00			
31	Sidewalk Construction	5,040	SF	\$6.00		\$30,240	
32	Off Alignment Signal Modifications		EA	\$75,000.00			
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00			
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06		\$37,638	
41	Signal Communication Building LTK130		EA	\$60,000.00			
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00		\$275,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73		\$26,833	
50	<b>2 - Insurance - Included other in Items</b>						
57	<b>3 - Utilities</b>						\$250,000
59	Utility Allowance - High		RF	\$600.00			
60	Utility Allowance - Medium		RF	\$350.00			
61	Utility Allowance - Low	2,500	RF	\$100.00		\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>						
74	<b>5 - Structures</b>						
75	Bridge Structures DEA		LS	\$1.00			
76	Bridge Location						
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78	MSE Retaining Wall - Typical DEA		SF	\$30.00			
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104	<b>6 - Stations</b>						
105	Stations	1	LS				
106	Station Name						
107	Artwork (*Subject to Board Policy)		LS	\$1.00			
108	Platform Electrical LTK610		LS	\$100,000			
115	<b>7 - Park &amp; Rides</b>						
116	Park & Ride		Space	\$4,300			
117	Park & Ride Location						
119	<b>8 - Operations Facility (All Yard elements Included)</b>						
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 221.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	McDonald Road to Evergreen Road Area		500+00	525+00	2,500 FT	0.5 mile	
C -221.3	East Valley Section Alternate 3						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$3,813,846	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$1,334,846	
180	Infrastructure	E & A 35.00%				\$1,334,846	
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>				Subtotal	\$962,769	
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$712,769	
191	Utilities	Contingency 100.00%				\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$267,490	
195	Sales Tax	8.40%				\$267,490.45	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$6,378,952	



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 222.3

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing	Evergreen Road Area to Adams Road Area		525+00	550+00	2,500 FT	0.5 mile
C -222.3	East Valley Section Alternate 3					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance	400	LF	\$35.00	\$14,000	
4	Common Excavation	6,787	CY	\$15.00	\$101,805	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)	4,483	CY	\$4.00	\$17,932	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	1,665	LF	\$16.00	\$26,640	
10	Chain Link Fencing 6'	3,175	LF	\$22.00	\$69,850	
11	Ballast Walls (Curb-no drainage)	1,665	LF	\$22.00	\$36,630	
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover	1	EA	\$150,000	\$150,000	
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000	
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction	2,520	SF	\$6.00	\$15,120	
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000	
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41	Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000	
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS	\$750,000	\$750,000	
106	Station Name	Evergreen Station Center Platform				
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location	Evergreen Station				
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 222.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Evergreen Road Area to Adams Road Area		525+00	550+00	2,500 FT	0.5 mile	
C -222.3	East Valley Section Alternate 3						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$1,138,928	
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000		
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>					\$202,321	
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321		
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$5,715,193	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$2,000,318	
180	Infrastructure E & A 35.00%					\$2,000,318	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal	\$1,343,039	
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$1,093,039	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$395,261	
195	Sales Tax 8.40%					\$395,261.00	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$9,453,811	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 223.3

Spokane Regional						
Light Rail Project		Estimate Basics				
Order of Magnitude		Start Sta	End Sta	Length		
Drawing	Adams Road Area to Sullivan Road Area	550+00	575+00	2,500 FT		0.5 mile
C -223.3	East Valley Section Alternate 3					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance	800	LF	\$35.00	\$28,000	
4	Common Excavation	947	CY	\$15.00	\$14,205	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)	4,597	CY	\$4.00	\$18,388	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	810	LF	\$16.00	\$12,960	
10	Chain Link Fencing 6'	4,030	LF	\$22.00	\$88,660	
11	Ballast Walls (Curb-no drainage)	810	LF	\$22.00	\$17,820	
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)	2	EA	\$100,000	\$200,000	
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction	5,040	SF	\$6.00	\$30,240	
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41	Signal Communication Building LTK130		EA	\$60,000.00		
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		\$250,000
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		\$105,000
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA	3,500	SF	\$30.00	\$105,000	
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS			
106	Station Name					
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610		LS	\$100,000		
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 223.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Adams Road Area to Sullivan Road Area		550+00	575+00	2,500 FT	0.5 mile	
C -223.3	East Valley Section Alternate 3						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$3,776,168	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 4)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$1,321,659	
180	Infrastructure E & A 35.00%					\$1,321,659	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal	\$955,234	
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$705,234	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$264,958	
195	Sales Tax 8.40%					\$264,958.49	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$6,318,019	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 224.3

Spokane Regional						
Light Rail Project		Estimate Basics				
Order of Magnitude		Start Sta	End Sta	Length		
Drawing	Sullivan Road Area to Cannery Street Area	575+00	600+00	2,500 FT	0.5 mile	
C -224.3	East Valley Section Alternate 3					
Description		Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance	400	LF	\$35.00	\$14,000	
4	Common Excavation	2,196	CY	\$15.00	\$32,940	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)	1,223	CY	\$4.00	\$4,892	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	700	LF	\$16.00	\$11,200	
10	Chain Link Fencing 6'	4,120	LF	\$22.00	\$90,640	
11	Ballast Walls (Curb-no drainage)	700	LF	\$22.00	\$15,400	
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000	
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction	2,520	SF	\$6.00	\$15,120	
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41	Signal Communication Building LTK130		EA	\$60,000.00		
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS			
106	Station Name					
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610		LS	\$100,000		
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 224.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Sullivan Road Area to Cannery Street Area		575+00	600+00	2,500 FT	0.5 mile	
C -224.3	East Valley Section Alternate 3						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
124		Operations Facility Building LTK		SF	\$171.00		
125		Yard Maintenance Equipment LTK		LS	\$4,160,844		
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460		
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133		<b>9 - Traction Power System</b>					\$388,928
136		Sub-Station Type 3 LTK 910		EA	\$750,000		
138		OCS Single Contact Wire LTK920		RF	\$123.00		
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500	
141		Lighting LTK940	2,500	RF	\$8.11	\$20,265	
142		Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163	
147		<b>10 - Signal System</b>					\$722,190
148		Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190	
151		<b>11 - Communications</b>					\$317,808
152		Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808	
157		<b>12 - Fare Collection</b>					
158		Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321		
160		<b>Subtotal - Infrastructure</b>			Subtotal		\$3,645,087
161							
162		<b>13. Right of Way</b>					
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00		
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00		
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174		<b>14. Vehicles</b>					
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & 4)		EA	\$681,818.18		
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000		
179		<b>15 - Engineering &amp; Administration</b>			Subtotal		\$1,275,780
180		Infrastructure E & A 35.00%				\$1,275,780	
181		Vehicle E & A 5.00%					
185		<b>16 - Contingencies</b>			Subtotal		\$929,017
187		Vehicles Contingency 5.00%					
189		Infrastructure Contingency 20.00%				\$679,017	
191		Utilities Contingency 100.00%				\$250,000	
194		<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$256,150
195		Sales Tax 8.40%				\$256,149.85	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
						Total	\$6,106,035

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 225.3

Spokane Regional								
		Light Rail Project	Estimate Basics					
		Order of Magnitude	Start Sta	End Sta	Length			
Drawing	Cannery Street Area to Steen Road Area		600+00	625+00	2,500 FT	0.5 mile		
C -225.3	East Valley Section Alternate 3							
		Description	Quantity	Unit	Unit Cost	Extension	2001\$	
		<b>1-Civil Construction</b>						\$2,064,483
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3		Curb & Gutter Allowance	400	LF	\$35.00	\$14,000		
4		Common Excavation	815	CY	\$15.00	\$12,225		
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6		Common Backfill (From Project Excavation)	2,272	CY	\$4.00	\$9,088		
8		Landscaping Allowance		SF	\$2.00			
9		Chain Link Fencing 4' (on walls or Ballast Curb)	250	LF	\$16.00	\$4,000		
10		Chain Link Fencing 6'	4,630	LF	\$22.00	\$101,860		
11		Ballast Walls (Curb-no drainage)	250	LF	\$22.00	\$5,500		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15		Embedded (Paved) Track at Grade		TF	\$312			
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19		LRT Siding or Pocket Track		TF	\$230			
20		Double Crossover		EA	\$300,000			
21		Single Crossover		EA	\$150,000			
22		Turnout		EA	\$75,000			
23		Impact Attenuators		EA	\$35,000			
24		Minor Street Closures Allowance		EA	\$25,000			
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000			
26		Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28		Major Traffic Signal (4 Lanes)		EA	\$200,000			
29		Complex Major Intersection Rebuild		EA	\$300,000			
30		Roadway Construction		SF	\$9.00			
31		Sidewalk Construction	2,640	SF	\$6.00	\$15,840		
32		Off Alignment Signal Modifications		EA	\$75,000.00			
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638		
41		Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000		
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000		
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833		
50		<b>2 - Insurance - Included other in Items</b>						
57		<b>3 - Utilities</b>						\$250,000
59		Utility Allowance - High		RF	\$600.00			
60		Utility Allowance - Medium		RF	\$350.00			
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70		<b>4 - Track Materials - Included in the Rail Items</b>						
74		<b>5 - Structures</b>						
75		Bridge Structures DEA		LS	\$1.00			
76		Bridge Location						
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78		MSE Retaining Wall - Typical DEA		SF	\$30.00			
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104		<b>6 - Stations</b>						\$850,000
105		Stations	1	LS	\$750,000	\$750,000		
106		Station Name	Sullivan/Bogue Station Center Platform					
107		Artwork (*Subject to Board Policy)		LS	\$1.00			
108		Platform Electrical LTK610	1	LS	\$100,000	\$100,000		
115		<b>7 - Park &amp; Rides</b>						\$1,720,000
116		Park & Ride	400	Space	\$4,300	\$1,720,000		
117		Park & Ride Location	Bogue Station					
119		<b>8 - Operations Facility (All Yard elements Included)</b>						
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 225.3

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Cannery Street Area to Steen Road Area			600+00	625+00	2,500 FT	0.5 mile		
C -225.3	East Valley Section Alternate 3								
	Description	Quantity	Unit	Unit Cost	Extension	2001\$			
124	Operations Facility Building LTK		SF	\$171.00					
125	Yard Maintenance Equipment LTK		LS	\$4,160,844					
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460					
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000					
133	<b>9 - Traction Power System</b>								\$1,138,928
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000				
138	OCS Single Contact Wire LTK920		RF	\$123.00					
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500				
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265				
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163				
147	<b>10 - Signal System</b>								\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190				
151	<b>11 - Communications</b>								\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808				
157	<b>12 - Fare Collection</b>								\$202,321
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321				
160	<b>Subtotal - Infrastructure</b>				Subtotal				\$7,265,729
161									
162	<b>13. Right of Way</b>								
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000					
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00					
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00					
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
174	<b>14. Vehicles</b>								
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00					
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & 4)		EA	\$681,818.18					
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000					
179	<b>15 - Engineering &amp; Administration</b>				Subtotal				\$2,543,005
180	Infrastructure	E & A 35.00%						\$2,543,005	
181	Vehicle	E & A 5.00%							
185	<b>16 - Contingencies</b>				Subtotal				\$1,653,146
187	Vehicles	Contingency 5.00%							
189	Infrastructure	Contingency 20.00%						\$1,403,146	
191	Utilities	Contingency 100.00%						\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>								\$499,457
195	Sales Tax	8.40%						\$499,457.02	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.								
								Total	\$11,961,338



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 226.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing		Steen Road Area to Sprague Ave Crossing	625+00	650+00	2,500 FT	0.5 mile	
C -226.3		East Valley Section Alternate 3					
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
		<b>1-Civil Construction</b>					\$2,031,763
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance	800	LF	\$35.00	\$28,000	
4		Common Excavation	3,963	CY	\$15.00	\$59,445	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)	257	CY	\$4.00	\$1,028	
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)	305	LF	\$16.00	\$4,880	
10		Chain Link Fencing 6'	4,295	LF	\$22.00	\$94,490	
11		Ballast Walls (Curb-no drainage)	305	LF	\$22.00	\$6,710	
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance	1	EA	\$25,000	\$25,000	
25		Minor Intersection Rebuild (2 Lanes)	2	EA	\$100,000	\$200,000	
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction	5,040	SF	\$6.00	\$30,240	
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41		Signal Communication Building LTK130		EA	\$60,000.00		
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Artwork (*Subject to Board Policy)		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 226.3

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing	Steen Road Area to Sprague Ave Crossing			625+00	650+00	2,500 FT	0.5 mile
C -226.3	East Valley Section Alternate 3						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						\$388,928
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>						\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>						\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			\$3,710,688
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 4)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal		\$1,298,741
180	Infrastructure E & A 35.00%					\$1,298,741	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal		\$942,138
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$692,138	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>						\$260,558
195	Sales Tax 8.40%					\$260,558.23	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
						Total	\$6,212,125

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 227.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Sprague Ave Crossing to Greenacres Road		650+00	675+00	2,500 FT	0.5 mile	
C -227.3	East Valley Section Alternate 3						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
		<b>1-Civil Construction</b>					\$2,233,702
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance	280	LF	\$35.00	\$9,800	
4		Common Excavation	924	CY	\$15.00	\$13,860	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)	2,318	CY	\$4.00	\$9,272	
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10		Chain Link Fencing 6'	1,500	LF	\$22.00	\$33,000	
11		Ballast Walls (Curb-no drainage)		LF	\$22.00		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000	
26		Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000	
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)	1	EA	\$200,000	\$200,000	
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction	1,800	SF	\$6.00	\$10,800	
32		Off Alignment Signal Modifications	1	EA	\$75,000.00	\$75,000	
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41		Signal Communication Building LTK130		EA	\$60,000.00		
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Artwork (*Subject to Board Policy)		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 227.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Sprague Ave Crossing to Greenacres Road		650+00	675+00	2,500 FT	0.5 mile	
C -227.3	East Valley Section Alternate 3						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$3,912,627	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$1,369,419	
180	Infrastructure E & A 35.00%					\$1,369,419	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal	\$982,525	
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$732,525	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$274,129	
195	Sales Tax 8.40%					\$274,128.53	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
						Total	\$6,538,700

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 228.3

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing		Greenacres Road to Barker Road Area	675+00	700+00	2,500 FT	0.5 mile
C -228.3		East Valley Section Alternate 3				
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance	320	LF	\$35.00	\$11,200	
4	Common Excavation	1,028	CY	\$15.00	\$15,420	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)	10,619	CY	\$4.00	\$42,476	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	2,415	LF	\$16.00	\$38,640	
10	Chain Link Fencing 6'	100	LF	\$22.00	\$2,200	
11	Ballast Walls (Curb-no drainage)	2,415	LF	\$22.00	\$53,130	
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover	1	EA	\$150,000	\$150,000	
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000	
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)	1	EA	\$200,000	\$200,000	
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction	2,400	SF	\$6.00	\$14,400	
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41	Signal Communication Building LTK130		EA	\$60,000.00		
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		\$250,000
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		\$102,400
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)	3,200	SF	\$32.00	\$102,400	
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS			
106	Station Name					
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610		LS	\$100,000		
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 228.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Greenacres Road to Barker Road Area		675+00	700+00	2,500 FT	0.5 mile	
C -228.3	East Valley Section Alternate 3						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$3,990,761	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 4)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$1,396,766	
180	Infrastructure E & A 35.00%					\$1,396,766	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal	\$998,152	
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$748,152	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$279,379	
195	Sales Tax 8.40%					\$279,379.14	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$6,665,059	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 229.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Barker Road Area to Appleway Station Area		700+00	725+00	2,500 FT	0.5 mile	
C -229.3	Liberty Lake Section Alternate 3						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
<b>1-Civil Construction</b>							
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3	Curb & Gutter Allowance		LF	\$35.00			
4	Common Excavation		CY	\$15.00			
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6	Common Backfill (From Project Excavation)	22,493	CY	\$4.00	\$89,972		
8	Landscaping Allowance		SF	\$2.00			
9	Chain Link Fencing 4' (on walls or Ballast Curb)	1,700	LF	\$16.00	\$27,200		
10	Chain Link Fencing 6'	650	LF	\$22.00	\$14,300		
11	Ballast Walls (Curb-no drainage)	400	LF	\$22.00	\$8,800		
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15	Embedded (Paved) Track at Grade		TF	\$312			
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19	LRT Siding or Pocket Track		TF	\$230			
20	Double Crossover		EA	\$300,000			
21	Single Crossover		EA	\$150,000			
22	Turnout		EA	\$75,000			
23	Impact Attenuators		EA	\$35,000			
24	Minor Street Closures Allowance		EA	\$25,000			
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000			
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28	Major Traffic Signal (4 Lanes)		EA	\$200,000			
29	Complex Major Intersection Rebuild		EA	\$300,000			
30	Roadway Construction		SF	\$9.00			
31	Sidewalk Construction		SF	\$6.00			
32	Off Alignment Signal Modifications		EA	\$75,000.00			
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00			
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638		
41	Signal Communication Building LTK130		EA	\$60,000.00			
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000		
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833		
50	<b>2 - Insurance - Included other in Items</b>						
57	<b>3 - Utilities</b>						
59	Utility Allowance - High		RF	\$600.00			
60	Utility Allowance - Medium		RF	\$350.00			
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70	<b>4 - Track Materials - Included in the Rail Items</b>						
74	<b>5 - Structures</b>						
75	Bridge Structures DEA		LS	\$1.00			
76	Bridge Location						
77	Retaining Wall 4' Max (Low Gravity Wall)	5,200	SF	\$32.00	\$166,400		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00			
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104	<b>6 - Stations</b>						
105	Stations	1	LS				
106	Station Name						
107	Artwork (*Subject to Board Policy)		LS	\$1.00			
108	Platform Electrical LTK610		LS	\$100,000			
115	<b>7 - Park &amp; Rides</b>						
116	Park & Ride		Space	\$4,300			
117	Park & Ride Location						
119	<b>8 - Operations Facility (All Yard elements Included)</b>						
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 229.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Barker Road Area to Appleway Station Area		700+00	725+00	2,500 FT	0.5 mile	
C -229.3	Liberty Lake Section Alternate 3						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$3,567,567	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$1,248,648	
180	Infrastructure E & A 35.00%					\$1,248,648	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal	\$913,513	
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$663,513	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$250,941	
195	Sales Tax 8.40%					\$250,940.50	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$5,980,669	



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 230.3

Spokane Regional								
		Light Rail Project	Estimate Basics					
		Order of Magnitude	Start Sta	End Sta	Length			
Drawing	Area	Appleway Station Area to Country Vista Road	725+00	750+00	2,500 FT	0.5 mile		
C -230.3	Liberty Lake Section Alternate 3							
		Description	Quantity	Unit	Unit Cost	Extension	2001\$	
		<b>1-Civil Construction</b>						\$2,031,532
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3		Curb & Gutter Allowance		LF	\$35.00			
4		Common Excavation		CY	\$15.00			
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6		Common Backfill (From Project Excavation)	35,768	CY	\$4.00	\$143,072		
8		Landscaping Allowance		SF	\$2.00			
9		Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00			
10		Chain Link Fencing 6'	5,000	LF	\$22.00	\$110,000		
11		Ballast Walls (Curb-no drainage)	2,000	LF	\$22.00	\$44,000		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14		Ballasted Track at Grade or Structure	4,430	TF	\$223	\$987,890		
15		Embedded (Paved) Track at Grade		TF	\$312			
16		Direct Fixation (DF) Track, Elevated Structure	570	TF	\$280	\$159,600		
19		LRT Siding or Pocket Track		TF	\$230			
20		Double Crossover		EA	\$300,000			
21		Single Crossover		EA	\$150,000			
22		Turnout		EA	\$75,000			
23		Impact Attenuators		EA	\$35,000			
24		Minor Street Closures Allowance		EA	\$25,000			
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000			
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28		Major Traffic Signal (4 Lanes)		EA	\$200,000			
29		Complex Major Intersection Rebuild		EA	\$300,000			
30		Roadway Construction		SF	\$9.00			
31		Sidewalk Construction		SF	\$6.00			
32		Off Alignment Signal Modifications		EA	\$75,000.00			
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638		
41		Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000		
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000		
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833		
50		<b>2 - Insurance - Included other in Items</b>						
57		<b>3 - Utilities</b>						\$250,000
59		Utility Allowance - High		RF	\$600.00			
60		Utility Allowance - Medium		RF	\$350.00			
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70		<b>4 - Track Materials - Included in the Rail Items</b>						
74		<b>5 - Structures</b>						\$726,000
75		Bridge Structures DEA	726,000	LS	\$1.00	\$726,000		
76		Bridge Location	Country Vista					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78		MSE Retaining Wall - Typical DEA		SF	\$30.00			
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104		<b>6 - Stations</b>						\$850,000
105		Stations	1	LS	\$750,000	\$750,000		
106		Station Name	Appleway Station Center Platform					
107		Artwork (*Subject to Board Policy)		LS	\$1.00			
108		Platform Electrical LTK610	1	LS	\$100,000	\$100,000		
115		<b>7 - Park &amp; Rides</b>						\$4,300,000
116		Park & Ride	1,000	Space	\$4,300	\$4,300,000		
117		Park & Ride Location	Appleway Station					
119		<b>8 - Operations Facility (All Yard elements Included)</b>						

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 230.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Area	Appleyway Station Area to Country Vista Road	725+00	750+00	2,500 FT	0.5 mile	
C -230.3		Liberty Lake Section Alternate 3					
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		
124		Operations Facility Building LTK		SF	\$171.00		
125		Yard Maintenance Equipment LTK		LS	\$4,160,844		
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460		
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133		<b>9 - Traction Power System</b>					\$1,138,928
136		Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000	
138		OCS Single Contact Wire LTK920		RF	\$123.00		
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500	
141		Lighting LTK940	2,500	RF	\$8.11	\$20,265	
142		Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163	
147		<b>10 - Signal System</b>					\$722,190
148		Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190	
151		<b>11 - Communications</b>					\$317,808
152		Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808	
157		<b>12 - Fare Collection</b>					\$202,321
158		Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321	
160		<b>Subtotal - Infrastructure</b>			Subtotal		\$10,538,778
161							
162		<b>13. Right of Way</b>					
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00		
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate		LS	\$26,771,815.00		
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174		<b>14. Vehicles</b>					
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 4)		EA	\$681,818.18		
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000		
179		<b>15 - Engineering &amp; Administration</b>			Subtotal		\$3,688,572
180	Infrastructure	E & A 35.00%				\$3,688,572	
181	Vehicle	E & A 5.00%					
185		<b>16 - Contingencies</b>			Subtotal		\$2,307,756
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$2,057,756	
191	Utilities	Contingency 100.00%				\$250,000	
194		<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$719,406
195		Sales Tax 8.40%				\$719,405.91	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
						Total	\$17,254,512

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 231.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Liberty Lake Area along side Interstate 90		750+00	775+00	2,500 FT	0.5 mile	
C -231.3	Liberty Lake Section Alternate 3						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>							\$2,383,246
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3	Curb & Gutter Allowance		LF	\$35.00			
4	Common Excavation	8,360	CY	\$15.00	\$125,400		
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6	Common Backfill (From Project Excavation)	219	CY	\$4.00	\$876		
8	Landscaping Allowance		SF	\$2.00			
9	Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00			
10	Chain Link Fencing 6'	2,500	LF	\$22.00	\$55,000		
11	Ballast Walls (Curb-no drainage)		LF	\$22.00			
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15	Embedded (Paved) Track at Grade		TF	\$312			
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19	LRT Siding or Pocket Track		TF	\$230			
20	Double Crossover		EA	\$300,000			
21	Single Crossover		EA	\$150,000			
22	Turnout		EA	\$75,000			
23	Impact Attenuators		EA	\$35,000			
24	Minor Street Closures Allowance		EA	\$25,000			
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000			
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28	Major Traffic Signal (4 Lanes)		EA	\$200,000			
29	Complex Major Intersection Rebuild		EA	\$300,000			
30	Roadway Construction		SF	\$9.00			
31	Sidewalk Construction		SF	\$6.00			
32	Off Alignment Signal Modifications		EA	\$75,000.00			
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000		
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638		
41	Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000		
42	Ductbank/ Conduit -PAVED TRACK- LTK140	2,500	RF	\$200.00	\$500,000		
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000		
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833		
50	<b>2 - Insurance - Included other in Items</b>						
57	<b>3 - Utilities</b>						
59	Utility Allowance - High		RF	\$600.00			
60	Utility Allowance - Medium		RF	\$350.00			
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		\$250,000
70	<b>4 - Track Materials - Included in the Rail Items</b>						
74	<b>5 - Structures</b>						
75	Bridge Structures DEA		LS	\$1.00			
76	Bridge Location						
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78	MSE Retaining Wall - Typical DEA		SF	\$30.00			
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104	<b>6 - Stations</b>						
105	Stations	1	LS				
106	Station Name						
107	Artwork (*Subject to Board Policy)		LS	\$1.00			
108	Platform Electrical LTK610		LS	\$100,000			
115	<b>7 - Park &amp; Rides</b>						
116	Park & Ride		Space	\$4,300			
117	Park & Ride Location						
119	<b>8 - Operations Facility (All Yard elements Included)</b>						
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 231.3

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Liberty Lake Area along side Interstate 90			750+00	775+00	2,500 FT	0.5 mile		
C -231.3	Liberty Lake Section Alternate 3								
		Description	Quantity	Unit	Unit Cost	Extension	2001\$		
124		Operations Facility Building LTK		SF	\$171.00				
125		Yard Maintenance Equipment LTK		LS	\$4,160,844				
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460				
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000				
133		<b>9 - Traction Power System</b>							\$1,138,928
136		Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000			
138		OCS Single Contact Wire LTK920		RF	\$123.00				
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500			
141		Lighting LTK940	2,500	RF	\$8.11	\$20,265			
142		Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163			
147		<b>10 - Signal System</b>							\$722,190
148		Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190			
151		<b>11 - Communications</b>							\$317,808
152		Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808			
157		<b>12 - Fare Collection</b>							
158		Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321				
160		<b>Subtotal - Infrastructure</b>			Subtotal				\$4,812,171
161									
162		<b>13. Right of Way</b>							
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000				
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00				
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00				
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
174		<b>14. Vehicles</b>							
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00				
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18				
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000				
179		<b>15 - Engineering &amp; Administration</b>				Subtotal			\$1,684,260
180		Infrastructure E & A 35.00%						\$1,684,260	
181		Vehicle E & A 5.00%							
185		<b>16 - Contingencies</b>				Subtotal			\$1,162,434
187		Vehicles Contingency 5.00%							
189		Infrastructure Contingency 20.00%						\$912,434	
191		Utilities Contingency 100.00%						\$250,000	
194		<b>17 - Washington State Sales Tax and Real Estate Tax</b>							\$334,578
195		Sales Tax 8.40%						\$334,577.89	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.							
								Total	\$7,993,443

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 232.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Liberty Lake Area along side Interstate 90		775+00	800+00	2,500 FT	0.5 mile	
C -232.3	Liberty Lake Section Alternate 3						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
		<b>1-Civil Construction</b>					\$2,158,947
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance		LF	\$35.00		
4		Common Excavation	659	CY	\$15.00	\$9,885	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)	3,023	CY	\$4.00	\$12,092	
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10		Chain Link Fencing 6'	2,500	LF	\$22.00	\$55,000	
11		Ballast Walls (Curb-no drainage)		LF	\$22.00		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction		SF	\$6.00		
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41		Signal Communication Building LTK130		EA	\$60,000.00		
42		Ductbank/ Conduit -PAVED TRACK- LTK140	2,500	RF	\$200.00	\$500,000	
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Artwork (*Subject to Board Policy)		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 232.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Liberty Lake Area along side Interstate 90		775+00	800+00	2,500 FT	0.5 mile	
C -232.3	Liberty Lake Section Alternate 3						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$3,837,872	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$1,343,255	
180	Infrastructure	E & A 35.00%				\$1,343,255	
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>				Subtotal	\$967,574	
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$717,574	
191	Utilities	Contingency 100.00%				\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$269,105	
195	Sales Tax	8.40%				\$269,105.00	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$6,417,807	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 233.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Liberty Lake Road Area to Signal Road		800+00	825+00	2,500 FT	0.5 mile	
C -233.3	Liberty Lake Section Alternate 3						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
		<b>1-Civil Construction</b>					\$2,934,911
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance	300	LF	\$35.00	\$10,500	
4		Common Excavation	487	CY	\$15.00	\$7,305	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)	5,109	CY	\$4.00	\$20,436	
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10		Chain Link Fencing 6'	2,350	LF	\$22.00	\$51,700	
11		Ballast Walls (Curb-no drainage)		LF	\$22.00		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance	1	EA	\$25,000	\$25,000	
25		Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000	
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)	1	EA	\$200,000	\$200,000	
29		Complex Major Intersection Rebuild	1	EA	\$300,000	\$300,000	
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction	3,000	SF	\$6.00	\$18,000	
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000	
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41		Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000	
42		Ductbank/ Conduit -PAVED TRACK- LTK140	2,500	RF	\$200.00	\$500,000	
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Artwork (*Subject to Board Policy)		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 233.3

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Liberty Lake Road Area to Signal Road			800+00	825+00	2,500 FT	0.5 mile		
C -233.3	Liberty Lake Section Alternate 3								
	Description	Quantity	Unit	Unit Cost	Extension	2001\$			
124	Operations Facility Building LTK		SF	\$171.00					
125	Yard Maintenance Equipment LTK		LS	\$4,160,844					
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460					
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000					
133	<b>9 - Traction Power System</b>								\$1,138,928
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000				
138	OCS Single Contact Wire LTK920		RF	\$123.00					
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500				
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265				
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163				
147	<b>10 - Signal System</b>								\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190				
151	<b>11 - Communications</b>								\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808				
157	<b>12 - Fare Collection</b>								
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321					
160	<b>Subtotal - Infrastructure</b>				Subtotal				\$5,363,836
161									
162	<b>13. Right of Way</b>								
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000					
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00					
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00					
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
174	<b>14. Vehicles</b>								
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00					
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & 4)		EA	\$681,818.18					
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000					
179	<b>15 - Engineering &amp; Administration</b>				Subtotal				\$1,877,343
180	Infrastructure E & A 35.00%							\$1,877,343	
181	Vehicle E & A 5.00%								
185	<b>16 - Contingencies</b>				Subtotal				\$1,272,767
187	Vehicles Contingency 5.00%								
189	Infrastructure Contingency 20.00%							\$1,022,767	
191	Utilities Contingency 100.00%							\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>								\$371,650
195	Sales Tax 8.40%							\$371,649.78	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.								
								Total	\$8,885,596



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 234.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Signal Road to Madson Road Area						
C -234.3	Liberty Lake Section Alternate 3						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
<b>1-Civil Construction</b>							
1	Site Preparation - Clearing & Grubbing		LF	\$10.00			
2	Grade Preparation to Top of subballast.		LF	\$35.00			
3	Curb & Gutter Allowance		LF	\$35.00			
4	Common Excavation		CY	\$15.00			
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6	Common Backfill (From Project Excavation)		CY	\$4.00			
8	Landscaping Allowance		SF	\$2.00			
9	Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00			
10	Chain Link Fencing 6'		LF	\$22.00			
11	Ballast Walls (Curb-no drainage)		LF	\$22.00			
12	Site Cleanup and Final Grading Allowance		LF	\$6.00			
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14	Ballasted Track at Grade or Structure		TF	\$223			
15	Embedded (Paved) Track at Grade		TF	\$312			
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19	LRT Siding or Pocket Track		TF	\$230			
20	Double Crossover		EA	\$300,000			
21	Single Crossover		EA	\$150,000			
22	Turnout		EA	\$75,000			
23	Impact Attenuators		EA	\$35,000			
24	Minor Street Closures Allowance		EA	\$25,000			
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000			
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28	Major Traffic Signal (4 Lanes)		EA	\$200,000			
29	Complex Major Intersection Rebuild		EA	\$300,000			
30	Roadway Construction		SF	\$9.00			
31	Sidewalk Construction		SF	\$6.00			
32	Off Alignment Signal Modifications		EA	\$75,000.00			
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00			
40	OCS Pole Foundations LTK120		RF	\$15.06			
41	Signal Communication Building LTK130		EA	\$60,000.00			
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43	Ductbank/ Conduit -OPEN TRACK- LTK140		RF	\$110.00			
45	Corrosion Mitigation LTK150		RF	\$10.73			
50	<b>2 - Insurance - Included other in Items</b>						
57	<b>3 - Utilities</b>						
59	Utility Allowance - High		RF	\$600.00			
60	Utility Allowance - Medium		RF	\$350.00			
61	Utility Allowance - Low		RF	\$100.00			
70	<b>4 - Track Materials - Included in the Rail Items</b>						
74	<b>5 - Structures</b>						
75	Bridge Structures DEA		LS	\$1.00			
76	Bridge Location						
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78	MSE Retaining Wall - Typical DEA		SF	\$30.00			
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104	<b>6 - Stations</b>						
105	Stations	1	LS				
106	Station Name						
107	Artwork (*Subject to Board Policy)		LS	\$1.00			
108	Platform Electrical LTK610		LS	\$100,000			
115	<b>7 - Park &amp; Rides</b>						
116	Park & Ride		Space	\$4,300			
117	Park & Ride Location						
119	<b>8 - Operations Facility (All Yard elements Included)</b>						
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 234.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Signal Road to Madson Road Area						
C -234.3	Liberty Lake Section Alternate 3						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930		RF	\$109.00			
141	Lighting LTK940		RF	\$8.11			
142	Spare Parts/ System support LTK950		LS	\$38.47			
147	<b>10 - Signal System</b>						
148	Signal (Alt 2 & Alt 3)		RF	\$288.88			
151	<b>11 - Communications</b>						
152	Communications (Alt 2 & Alt 3)		RF	\$127.12			
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179				Subtotal			
180	Infrastructure	E & A	35.00%				
181	Vehicle	E & A	5.00%				
185				Subtotal			
187	Vehicles	Contingency		5.00%			
189	Infrastructure	Contingency		20.00%			
191	Utilities	Contingency		100.00%			
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>						
195				Sales Tax		8.40%	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 235.3

Spokane Regional								
		Light Rail Project	Estimate Basics					
		Order of Magnitude	Start Sta	End Sta	Length			
Drawing	Liberty Lake Station (Molter Rd) and Line Terminus Area							
C -235.3	Liberty Lake Section Alternate 3							
		Description	Quantity	Unit	Unit Cost	Extension	2001\$	
		<b>1-Civil Construction</b>					\$70,000	
1		Site Preparation - Clearing & Grubbing		LF	\$10.00			
2		Grade Preparation to Top of subballast.		LF	\$35.00			
3		Curb & Gutter Allowance		LF	\$35.00			
4		Common Excavation		CY	\$15.00			
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6		Common Backfill (From Project Excavation)		CY	\$4.00			
8		Landscaping Allowance		SF	\$2.00			
9		Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00			
10		Chain Link Fencing 6'		LF	\$22.00			
11		Ballast Walls (Curb-no drainage)		LF	\$22.00			
12		Site Cleanup and Final Grading Allowance		LF	\$6.00			
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14		Ballasted Track at Grade or Structure		TF	\$223			
15		Embedded (Paved) Track at Grade		TF	\$312			
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19		LRT Siding or Pocket Track		TF	\$230			
20		Double Crossover		EA	\$300,000			
21		Single Crossover		EA	\$150,000			
22		Turnout		EA	\$75,000			
23		Impact Attenuators	2	EA	\$35,000	\$70,000		
24		Minor Street Closures Allowance		EA	\$25,000			
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000			
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28		Major Traffic Signal (4 Lanes)		EA	\$200,000			
29		Complex Major Intersection Rebuild		EA	\$300,000			
30		Roadway Construction		SF	\$9.00			
31		Sidewalk Construction		SF	\$6.00			
32		Off Alignment Signal Modifications		EA	\$75,000.00			
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00			
40		OCS Pole Foundations LTK120		RF	\$15.06			
41		Signal Communication Building LTK130		EA	\$60,000.00			
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43		Ductbank/ Conduit -OPEN TRACK- LTK140		RF	\$110.00			
45		Corrosion Mitigation LTK150		RF	\$10.73			
50		<b>2 - Insurance - Included other in Items</b>						
57		<b>3 - Utilities</b>						
59		Utility Allowance - High		RF	\$600.00			
60		Utility Allowance - Medium		RF	\$350.00			
61		Utility Allowance - Low		RF	\$100.00			
70		<b>4 - Track Materials - Included in the Rail Items</b>						
74		<b>5 - Structures</b>						
75		Bridge Structures DEA		LS	\$1.00			
76		Bridge Location						
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78		MSE Retaining Wall - Typical DEA		SF	\$30.00			
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104		<b>6 - Stations</b>					\$850,000	
105		Stations	1	LS	\$750,000	\$750,000		
106		Station Name	Liberty Lake Station Center Platform Terminus					
107		Artwork (*Subject to Board Policy)		LS	\$1.00			
108		Platform Electrical LTK610	1	LS	\$100,000	\$100,000		
115		<b>7 - Park &amp; Rides</b>						
116		Park & Ride		Space	\$4,300			
117		Park & Ride Location						
119		<b>8 - Operations Facility (All Yard elements Included)</b>						

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 235.3

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Liberty Lake Station (Molter Rd) and Line Terminus Area						
C -235.3	Liberty Lake Section Alternate 3						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$750,000	
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000		
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930		RF	\$109.00			
141	Lighting LTK940		RF	\$8.11			
142	Spare Parts/ System support LTK950		LS	\$38.47			
147	<b>10 - Signal System</b>						
148	Signal (Alt 2 & Alt 3)		RF	\$288.88			
151	<b>11 - Communications</b>						
152	Communications (Alt 2 & Alt 3)		RF	\$127.12			
157	<b>12 - Fare Collection</b>					\$202,321	
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321		
160	<b>Subtotal - Infrastructure</b>				Subtotal		\$1,872,321
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation)		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation)		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal		\$655,313
180	Infrastructure	E & A 35.00%				\$655,313	
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>				Subtotal		\$374,464
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$374,464	
191	Utilities	Contingency 100.00%					
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>						\$125,820
195		Sales Tax 8.40%				\$125,820.00	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
						Total	\$3,027,918

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 300.3

Spokane Regional						
Light Rail Project			Estimate Basics			
Order of Magnitude			Start Sta	End Sta	Length	
Drawing						
C -300.3	<b>Maintenance Facility Alternate 3</b>					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing		LF	\$10.00		
2	Grade Preparation to Top of subballast.		LF	\$35.00		
3	Curb & Gutter Allowance		LF	\$35.00		
4	Common Excavation		CY	\$15.00		
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)		CY	\$4.00		
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10	Chain Link Fencing 6'		LF	\$22.00		
11	Ballast Walls (Curb-no drainage)		LF	\$22.00		
12	Site Cleanup and Final Grading Allowance		LF	\$6.00		
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure		TF	\$223		
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction		SF	\$6.00		
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40	OCS Pole Foundations LTK120		RF	\$15.06		
41	Signal Communication Building LTK130		EA	\$60,000.00		
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140		RF	\$110.00		
45	Corrosion Mitigation LTK150		RF	\$10.73		
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low		RF	\$100.00		
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS			
106	Station Name					
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610		LS	\$100,000		
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811	1.0	LS	\$18,551,516	\$18,551,516	\$39,284,820

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 300.3

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing									
C -300.3	Maintenance Facility Alternate 3								
		Description	Quantity	Unit	Unit Cost	Extension	2001\$		
124		Operations Facility Building LTK	75,000	SF	\$171.00	\$12,825,000			
125		Yard Maintenance Equipment LTK	1	LS	\$4,160,844	\$4,160,844			
126		Maintenance of Way Vehicles LTK	1	LS	\$1,847,460	\$1,847,460			
127		Communications Control Center/ Hardware/ Software LTK	1	LS	\$1,900,000	\$1,900,000			
133	<b>9 - Traction Power System</b>								
136		Sub-Station Type 3 LTK 910		EA	\$750,000				
138		OCS Single Contact Wire LTK920		RF	\$123.00				
139		OCS Simple Catenary LTK930		RF	\$109.00				
141		Lighting LTK940		RF	\$8.11				
142		Spare Parts/ System support LTK950		LS	\$38.47				
147	<b>10 - Signal System</b>								
148		Signal (Alt 2 & Alt 3)		RF	\$288.88				
151	<b>11 - Communications</b>								
152		Communications (Alt 2 & Alt 3)		RF	\$127.12				
157	<b>12 - Fare Collection</b>								
158		Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321				
160		<b>Subtotal - Infrastructure</b>				Subtotal			\$39,284,820
161									
162	<b>13. Right of Way</b>								
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000				
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00				
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00				
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
174	<b>14. Vehicles</b>								
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00				
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18				
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000				
179	<b>15 - Engineering &amp; Administration</b>								
180	Infrastructure	E & A 35.00%				Subtotal		\$13,749,687	
181	Vehicle	E & A 5.00%							
185	<b>16 - Contingencies</b>								
187	Vehicles	Contingency 5.00%							
189	Infrastructure	Contingency 20.00%					\$7,856,964		
191	Utilities	Contingency 100.00%							
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>								
195		Sales Tax 8.40%					\$2,639,939.90		
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.							
							Total		\$63,531,411

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 201.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Lincoln to Convention Center		5+00	25+00	2,000 FT	0.4 mile	
C -201.4	Downtown Section Alternate 4						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>							\$6,360,598
1	Site Preparation - Clearing & Grubbing	2,000	LF	\$10.00	\$20,000		
2	Grade Preparation to Top of subballast.	2,000	LF	\$35.00	\$70,000		
3	Curb & Gutter Allowance	4,000	LF	\$35.00	\$140,000		
4	Common Excavation	14,815	CY	\$15.00	\$222,222		
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6	Common Backfill (From Project Excavation)		CY	\$4.00			
8	Landscaping Allowance		SF	\$2.00			
9	Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00			
10	Chain Link Fencing 6'		LF	\$22.00			
11	Ballast Walls (Curb-no drainage)		LF	\$22.00			
12	Site Cleanup and Final Grading Allowance	2,000	LF	\$6.00	\$12,000		
13	Transition Slab Ballasted to Embedded /Bridge /Structure	1	EA	\$8,000	\$8,000		
14	Ballasted Track at Grade or Structure		TF	\$223			
15	Embedded (Paved) Track at Grade	4,000	TF	\$312	\$1,248,000		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19	LRT Siding or Pocket Track		TF	\$230			
20	Double Crossover	1	EA	\$300,000	\$300,000		
21	Single Crossover		EA	\$150,000			
22	Turnout		EA	\$75,000			
23	Impact Attenuators	2	EA	\$35,000	\$70,000		
24	Minor Street Closures Allowance		EA	\$25,000			
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000			
26	Major Intersection Rebuild (4 Lanes)	6	EA	\$200,000	\$1,200,000		
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28	Major Traffic Signal (4 Lanes)	6	EA	\$200,000	\$1,200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000			
30	Roadway Construction	85,200	SF	\$9.00	\$766,800		
31	Sidewalk Construction	72,000	SF	\$6.00	\$432,000		
32	Off Alignment Signal Modifications		EA	\$75,000.00			
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00			
40	OCS Pole Foundations LTK120	2,000	RF	\$15.06	\$30,110		
41	Signal Communication Building LTK130		EA	\$60,000.00			
42	Ductbank/ Conduit -PAVED TRACK- LTK140	2,000	RF	\$200.00	\$400,000		
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,000	RF	\$110.00	\$220,000		
45	Corrosion Mitigation LTK150	2,000	RF	\$10.73	\$21,466		
50	<b>2 - Insurance - Included other in Items</b>						
57	<b>3 - Utilities</b>						\$1,200,000
59	Utility Allowance - High	2,000	RF	\$600.00	\$1,200,000		
60	Utility Allowance - Medium		RF	\$350.00			
61	Utility Allowance - Low		RF	\$100.00			
70	<b>4 - Track Materials - Included in the Rail Items</b>						
74	<b>5 - Structures</b>						
75	Bridge Structures DEA		LS	\$1.00			
76	Bridge Location						
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78	MSE Retaining Wall - Typical DEA		SF	\$30.00			
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104	<b>6 - Stations</b>						\$800,000
105	Stations	1	LS	\$700,000	\$700,000		
106	Station Name	Plaza Station	Side-by-Side Platform				
107	Artwork (*Subject to Board Policy)		LS	\$1.00			
108	Platform Electrical LTK610	1	LS	\$100,000	\$100,000		
115	<b>7 - Park &amp; Rides</b>						
116	Park & Ride		Space	\$4,300			
117	Park & Ride Location						
119	<b>8 - Operations Facility (All Yard elements Included)</b>						
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 201.4

Spokane Regional							
Light Rail Project		Estimate Basics					
Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Lincoln to Convention Center	5+00	25+00	2,000 FT	0.4 mile		
C -201.4	Downtown Section Alternate 4						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$339,142	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920	2,000	RF	\$123.00	\$246,000		
139	OCS Simple Catenary LTK930		RF	\$109.00			
141	Lighting LTK940	2,000	RF	\$8.11	\$16,212		
142	Spare Parts/ System support LTK950	2,000	LS	\$38.47	\$76,930		
147	<b>10 - Signal System</b>					\$577,752	
148	Signal (Alt 2 & Alt 3)	2,000	RF	\$288.88	\$577,752		
151	<b>11 - Communications</b>					\$254,246	
152	Communications (Alt 2 & Alt 3)	2,000	RF	\$127.12	\$254,246		
157	<b>12 - Fare Collection</b>					\$202,321	
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321		
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$9,734,060	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$3,406,921	
180	Infrastructure E & A 35.00%					\$3,406,921	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal	\$2,906,812	
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$1,706,812	
191	Utilities Contingency 100.00%					\$1,200,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$707,889	
195	Sales Tax 8.40%					\$707,888.81	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$16,755,681	



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 202.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Convention Center to Trent Station		25+00	50+00	2,500 FT	0.5 mile	
C -202.4	Downtown Section Alternate 4						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>							\$4,753,932
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance	3,200	LF	\$35.00	\$112,000	
4		Common Excavation	13,074	CY	\$15.00	\$196,110	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)	463	CY	\$4.00	\$1,852	
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10		Chain Link Fencing 6'		LF	\$22.00		
11		Ballast Walls (Curb-no drainage)		LF	\$22.00		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	2,000	TF	\$223	\$446,000	
15		Embedded (Paved) Track at Grade	3,000	TF	\$312	\$936,000	
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover	1	EA	\$300,000	\$300,000	
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26		Major Intersection Rebuild (4 Lanes)	3	EA	\$200,000	\$600,000	
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)	3	EA	\$200,000	\$600,000	
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction	63,000	SF	\$9.00	\$567,000	
31		Sidewalk Construction	48,000	SF	\$6.00	\$288,000	
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000	
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41		Signal Communication Building LTK130		EA	\$60,000.00		
42		Ductbank/ Conduit -PAVED TRACK- LTK140	2,000	RF	\$200.00	\$400,000	
43		Ductbank/ Conduit -OPEN TRACK- LTK140	500	RF	\$110.00	\$55,000	
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$1,250,000
59		Utility Allowance - High	1,500	RF	\$600.00	\$900,000	
60		Utility Allowance - Medium	1,000	RF	\$350.00	\$350,000	
61		Utility Allowance - Low		RF	\$100.00		
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					\$800,000
105		Stations	1	LS	\$700,000	\$700,000	
106		Station Name	Convention Center Center Platform				
107		Artwork (*Subject to Board Policy)		LS	\$1.00		
108		Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 202.4

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Convention Center to Trent Station			25+00	50+00	2,500 FT	0.5 mile		
C -202.4	Downtown Section Alternate 4								
		Description	Quantity	Unit	Unit Cost	Extension	2001\$		
124		Operations Facility Building LTK		SF	\$171.00				
125		Yard Maintenance Equipment LTK		LS	\$4,160,844				
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460				
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000				
133		<b>9 - Traction Power System</b>							\$1,166,928
136		Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000			
138		OCS Single Contact Wire LTK920	2,000	RF	\$123.00	\$246,000			
139		OCS Simple Catenary LTK930	500	RF	\$109.00	\$54,500			
141		Lighting LTK940	2,500	RF	\$8.11	\$20,265			
142		Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163			
147		<b>10 - Signal System</b>							\$722,190
148		Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190			
151		<b>11 - Communications</b>							\$317,808
152		Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808			
157		<b>12 - Fare Collection</b>							\$202,321
158		Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321			
160		<b>Subtotal - Infrastructure</b>				Subtotal			\$9,213,178
161									
162		<b>13. Right of Way</b>							
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000				
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00				
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00				
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
174		<b>14. Vehicles</b>							
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00				
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18				
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000				
179		<b>15 - Engineering &amp; Administration</b>				Subtotal			\$3,224,612
180		Infrastructure E & A 35.00%						\$3,224,612	
181		Vehicle E & A 5.00%							
185		<b>16 - Contingencies</b>				Subtotal			\$2,842,636
187		Vehicles Contingency 5.00%							
189		Infrastructure Contingency 20.00%						\$1,592,636	
191		Utilities Contingency 100.00%						\$1,250,000	
194		<b>17 - Washington State Sales Tax and Real Estate Tax</b>							\$675,126
195		Sales Tax 8.40%						\$675,125.59	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.							
								Total	\$15,955,552

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 203.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Trent Station to Hamilton St Bridge Area		50+00	75+00	2,500 FT	0.5 mile	
C -203.4	BN Section Alternate 4						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
		<b>1-Civil Construction</b>					\$2,127,790
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance		LF	\$35.00		
4		Common Excavation	21,044	CY	\$15.00	\$315,660	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)	2,790	CY	\$4.00	\$11,160	
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10		Chain Link Fencing 6'	4,500	LF	\$22.00	\$99,000	
11		Ballast Walls (Curb-no drainage)		LF	\$22.00		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction		SF	\$6.00		
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000	
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41		Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000	
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					\$850,000
105		Stations	1	LS	\$750,000	\$750,000	
106		Station Name	Trent Station Center Platform				
107		Artwork (*Subject to Board Policy)		LS	\$1.00		
108		Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location	Trent Station				
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 203.4

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Trent Station to Hamilton St Bridge Area			50+00	75+00	2,500 FT	0.5 mile		
C -203.4	BN Section Alternate 4								
	Description	Quantity	Unit	Unit Cost	Extension	2001\$			
124	Operations Facility Building LTK		SF	\$171.00					
125	Yard Maintenance Equipment LTK		LS	\$4,160,844					
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460					
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000					
133	<b>9 - Traction Power System</b>								\$1,138,928
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000				
138	OCS Single Contact Wire LTK920		RF	\$123.00					
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500				
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265				
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163				
147	<b>10 - Signal System</b>								\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190				
151	<b>11 - Communications</b>								\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808				
157	<b>12 - Fare Collection</b>								\$202,321
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321				
160	<b>Subtotal - Infrastructure</b>				Subtotal				\$5,609,036
161									
162	<b>13. Right of Way</b>								
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000					
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00					
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00					
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
174	<b>14. Vehicles</b>								
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00					
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18					
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000					
179	<b>15 - Engineering &amp; Administration</b>				Subtotal				\$1,963,163
180	Infrastructure E & A 35.00%							\$1,963,163	
181	Vehicle E & A 5.00%								
185	<b>16 - Contingencies</b>				Subtotal				\$1,321,807
187	Vehicles Contingency 5.00%								
189	Infrastructure Contingency 20.00%							\$1,071,807	
191	Utilities Contingency 100.00%							\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>								\$388,127
195	Sales Tax 8.40%							\$388,127.25	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.								
								Total	\$9,282,134

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 204.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing		Hamilton St Bridge Area to Helena Street	75+00	100+00	2,500 FT	0.5 mile	
C -204.4		BN Section Alternate 4					
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>							
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance		LF	\$35.00		
4		Common Excavation	2,088	CY	\$15.00	\$31,320	
5		Select Backfill (MSE Retaining Walls)	13,697	CY	\$15.00	\$205,455	
6		Common Backfill (From Project Excavation)	31,400	CY	\$4.00	\$125,600	
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10		Chain Link Fencing 6'	200	LF	\$22.00	\$4,400	
11		Ballast Walls (Curb-no drainage)		LF	\$22.00		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction		SF	\$6.00		
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR	1,400	TF	\$130.00	\$182,000	
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41		Signal Communication Building LTK130		EA	\$60,000.00		
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					\$1,596,000
75		Bridge Structures DEA	891,000	LS	\$1.00	\$891,000	
76		Bridge Location	Erie & Helena				
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA	23,500	SF	\$30.00	\$705,000	
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Artwork (*Subject to Board Policy)		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 204.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Hamilton St Bridge Area to Helena Street		75+00	100+00	2,500 FT	0.5 mile	
C -204.4	BN Section Alternate 4						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$5,405,670	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$1,891,985	
180	Infrastructure E & A 35.00%					\$1,891,985	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal	\$1,281,134	
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$1,031,134	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$374,461	
195	Sales Tax 8.40%					\$374,461.02	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$8,953,250	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 205.4

Spokane Regional								
		Light Rail Project	Estimate Basics					
		Order of Magnitude	Start Sta	End Sta	Length			
Drawing	Helena Street to New BN Yard Bridge		100+00	125+00	2,500 FT	0.5 mile		
C -205.4	BN Section Alternate 4							
		Description	Quantity	Unit	Unit Cost	Extension	2001\$	
<b>1-Civil Construction</b>							\$2,416,363	
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000			
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500			
3	Curb & Gutter Allowance		LF	\$35.00				
4	Common Excavation		CY	\$15.00				
5	Select Backfill (MSE Retaining Walls)	35,831	CY	\$15.00	\$537,465			
6	Common Backfill (From Project Excavation)	58,932	CY	\$4.00	\$235,728			
8	Landscaping Allowance		SF	\$2.00				
9	Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00				
10	Chain Link Fencing 6'	500	LF	\$22.00	\$11,000			
11	Ballast Walls (Curb-no drainage)		LF	\$22.00				
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000			
13	Transition Slab Ballasted to Embedded /Bridge /Structure	2	EA	\$8,000	\$16,000			
14	Ballasted Track at Grade or Structure	4,400	TF	\$223	\$981,200			
15	Embedded (Paved) Track at Grade		TF	\$312				
16	Direct Fixation (DF) Track, Elevated Structure	600	TF	\$280	\$168,000			
19	LRT Siding or Pocket Track		TF	\$230				
20	Double Crossover		EA	\$300,000				
21	Single Crossover		EA	\$150,000				
22	Turnout		EA	\$75,000				
23	Impact Attenuators		EA	\$35,000				
24	Minor Street Closures Allowance		EA	\$25,000				
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000				
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000				
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000				
28	Major Traffic Signal (4 Lanes)		EA	\$200,000				
29	Complex Major Intersection Rebuild		EA	\$300,000				
30	Roadway Construction		SF	\$9.00				
31	Sidewalk Construction		SF	\$6.00				
32	Off Alignment Signal Modifications		EA	\$75,000.00				
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00				
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00				
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00				
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00				
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00				
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00				
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00				
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638			
41	Signal Communication Building LTK130		EA	\$60,000.00				
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00				
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000			
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833			
50	<b>2 - Insurance - Included other in Items</b>							
57	<b>3 - Utilities</b>							\$250,000
59	Utility Allowance - High		RF	\$600.00				
60	Utility Allowance - Medium		RF	\$350.00				
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000			
70	<b>4 - Track Materials - Included in the Rail Items</b>							
74	<b>5 - Structures</b>							\$3,168,000
75	Bridge Structures DEA	2,046,000	LS	\$1.00	\$2,046,000			
76	Bridge Location	Madelia, Napa						
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00				
78	MSE Retaining Wall - Typical DEA	37,400	SF	\$30.00	\$1,122,000			
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00				
104	<b>6 - Stations</b>							
105	Stations	1	LS					
106	Station Name							
107	Artwork (*Subject to Board Policy)		LS	\$1.00				
108	Platform Electrical LTK610		LS	\$100,000				
115	<b>7 - Park &amp; Rides</b>							
116	Park & Ride		Space	\$4,300				
117	Park & Ride Location							
119	<b>8 - Operations Facility (All Yard elements Included)</b>							
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516				

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 205.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Helena Street to New BN Yard Bridge		100+00	125+00	2,500 FT	0.5 mile	
C -205.4	BN Section Alternate 4						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$7,263,288	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 4)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$2,542,151	
180	Infrastructure E & A 35.00%					\$2,542,151	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal	\$1,652,658	
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$1,402,658	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$499,293	
195	Sales Tax 8.40%					\$499,292.95	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$11,957,389	



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 206.4

Spokane Regional						
Light Rail Project		Estimate Basics				
Order of Magnitude		Start Sta	End Sta	Length		
Drawing	New BN Yard Bridge to Regal Street	125+00	150+00	2,500 FT		0.5 mile
C -206.4	UP Section Alternate 4					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance		LF	\$35.00		
4	Common Excavation	2,078	CY	\$15.00	\$31,170	
5	Select Backfill (MSE Retaining Walls)	21,120	CY	\$15.00	\$316,800	
6	Common Backfill (From Project Excavation)	568	CY	\$4.00	\$2,272	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	2,850	LF	\$16.00	\$45,600	
10	Chain Link Fencing 6'	2,000	LF	\$22.00	\$44,000	
11	Ballast Walls (Curb-no drainage)	1,250	LF	\$22.00	\$27,500	
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover	1	EA	\$150,000	\$150,000	
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction		SF	\$6.00		
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line	950	TF	\$100.00	\$95,000	
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000	
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41	Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000	
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA	280,500	LS	\$1.00	\$280,500	
76	Bridge Location	Altamont				
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA	16,500	SF	\$30.00	\$495,000	
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS	\$750,000	\$750,000	
106	Station Name	Altamont Station Center Platform				
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 206.4

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	New BN Yard Bridge to Regal Street			125+00	150+00	2,500 FT	0.5 mile		
C -206.4	UP Section Alternate 4								
	Description	Quantity	Unit	Unit Cost	Extension	2001\$			
124	Operations Facility Building LTK		SF	\$171.00					
125	Yard Maintenance Equipment LTK		LS	\$4,160,844					
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460					
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000					
133	<b>9 - Traction Power System</b>								\$1,138,928
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000				
138	OCS Single Contact Wire LTK920		RF	\$123.00					
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500				
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265				
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163				
147	<b>10 - Signal System</b>								\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190				
151	<b>11 - Communications</b>								\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808				
157	<b>12 - Fare Collection</b>								\$202,321
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321				
160	<b>Subtotal - Infrastructure</b>				Subtotal				\$6,671,058
161									
162	<b>13. Right of Way</b>								
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000					
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00					
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00					
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
174	<b>14. Vehicles</b>								
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00					
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18					
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000					
179	<b>15 - Engineering &amp; Administration</b>				Subtotal				\$2,334,870
180	Infrastructure	E & A 35.00%						\$2,334,870	
181	Vehicle	E & A 5.00%							
185	<b>16 - Contingencies</b>				Subtotal				\$1,534,212
187	Vehicles	Contingency 5.00%							
189	Infrastructure	Contingency 20.00%						\$1,284,212	
191	Utilities	Contingency 100.00%						\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>								\$459,495
195	Sales Tax	8.40%						\$459,495.13	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.								
								Total	\$10,999,636

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 207.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Regal Street to Freya Street		150+00	175+00	2,500 FT	0.5 mile	
C -207.4	UP Section Alternate 4						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
<b>1-Civil Construction</b>							
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3	Curb & Gutter Allowance		LF	\$35.00			
4	Common Excavation	5,709	CY	\$15.00	\$85,635		
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6	Common Backfill (From Project Excavation)	28	CY	\$4.00	\$112		
8	Landscaping Allowance		SF	\$2.00			
9	Chain Link Fencing 4' (on walls or Ballast Curb)	2,100	LF	\$16.00	\$33,600		
10	Chain Link Fencing 6'	2,850	LF	\$22.00	\$62,700		
11	Ballast Walls (Curb-no drainage)	4,600	LF	\$22.00	\$101,200		
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15	Embedded (Paved) Track at Grade		TF	\$312			
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19	LRT Siding or Pocket Track		TF	\$230			
20	Double Crossover		EA	\$300,000			
21	Single Crossover		EA	\$150,000			
22	Turnout		EA	\$75,000			
23	Impact Attenuators		EA	\$35,000			
24	Minor Street Closures Allowance	3	EA	\$25,000	\$75,000		
25	Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000		
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28	Major Traffic Signal (4 Lanes)		EA	\$200,000			
29	Complex Major Intersection Rebuild		EA	\$300,000			
30	Roadway Construction		SF	\$9.00			
31	Sidewalk Construction		SF	\$6.00			
32	Off Alignment Signal Modifications		EA	\$75,000.00			
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR	2	EA	\$65,000.00	\$130,000		
35	Relocate UPRR Yard Lead or Branch Line	2,500	TF	\$100.00	\$250,000		
36	Remove & Relocate Industrial Spur HDR	930	TF	\$130.00	\$120,900		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00			
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638		
41	Signal Communication Building LTK130		EA	\$60,000.00			
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000		
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833		
50	<b>2 - Insurance - Included other in Items</b>						
57	<b>3 - Utilities</b>						
59	Utility Allowance - High		RF	\$600.00			
60	Utility Allowance - Medium		RF	\$350.00			
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70	<b>4 - Track Materials - Included in the Rail Items</b>						
74	<b>5 - Structures</b>						
75	Bridge Structures DEA		LS	\$1.00			
76	Bridge Location						
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78	MSE Retaining Wall - Typical DEA		SF	\$30.00			
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104	<b>6 - Stations</b>						
105	Stations	1	LS				
106	Station Name						
107	Artwork (*Subject to Board Policy)		LS	\$1.00			
108	Platform Electrical LTK610		LS	\$100,000			
115	<b>7 - Park &amp; Rides</b>						
116	Park & Ride		Space	\$4,300			
117	Park & Ride Location						
119	<b>8 - Operations Facility (All Yard elements Included)</b>						
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 207.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Regal Street to Freya Street			150+00	175+00	2,500 FT	0.5 mile
C -207.4	UP Section Alternate 4						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
124		Operations Facility Building LTK		SF	\$171.00		
125		Yard Maintenance Equipment LTK		LS	\$4,160,844		
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460		
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133		<b>9 - Traction Power System</b>					\$388,928
136		Sub-Station Type 3 LTK 910		EA	\$750,000		
138		OCS Single Contact Wire LTK920		RF	\$123.00		
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500	
141		Lighting LTK940	2,500	RF	\$8.11	\$20,265	
142		Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163	
147		<b>10 - Signal System</b>					\$722,190
148		Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190	
151		<b>11 - Communications</b>					\$317,808
152		Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808	
157		<b>12 - Fare Collection</b>					
158		Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321		
160		<b>Subtotal - Infrastructure</b>			Subtotal		\$4,220,042
161							
162		<b>13. Right of Way</b>					
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00		
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00		
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174		<b>14. Vehicles</b>					
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18		
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000		
179		<b>15 - Engineering &amp; Administration</b>				Subtotal	\$1,477,015
180		Infrastructure E & A 35.00%				\$1,477,015	
181		Vehicle E & A 5.00%					
185		<b>16 - Contingencies</b>				Subtotal	\$1,044,008
187		Vehicles Contingency 5.00%					
189		Infrastructure Contingency 20.00%				\$794,008	
191		Utilities Contingency 100.00%				\$250,000	
194		<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$294,787
195		Sales Tax 8.40%				\$294,786.82	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
						Total	\$7,035,852

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 208.4

Spokane Regional								
		Light Rail Project	Estimate Basics					
		Order of Magnitude	Start Sta	End Sta	Length			
Drawing	Freya Street to Havana Street Area		175+00	200+00	2,500 FT	0.5 mile		
C -208.4	UP Section Alternate 4							
	Description	Quantity	Unit	Unit Cost	Extension	2001\$		
<b>1-Civil Construction</b>								
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000			
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500			
3	Curb & Gutter Allowance		LF	\$35.00				
4	Common Excavation	5,861	CY	\$15.00	\$87,915			
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00				
6	Common Backfill (From Project Excavation)	486	CY	\$4.00	\$1,944			
8	Landscaping Allowance		SF	\$2.00				
9	Chain Link Fencing 4' (on walls or Ballast Curb)	4,700	LF	\$16.00	\$75,200			
10	Chain Link Fencing 6'	300	LF	\$22.00	\$6,600			
11	Ballast Walls (Curb-no drainage)	4,000	LF	\$22.00	\$88,000			
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000			
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000				
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000			
15	Embedded (Paved) Track at Grade		TF	\$312				
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280				
19	LRT Siding or Pocket Track		TF	\$230				
20	Double Crossover		EA	\$300,000				
21	Single Crossover		EA	\$150,000				
22	Turnout	1	EA	\$75,000	\$75,000			
23	Impact Attenuators		EA	\$35,000				
24	Minor Street Closures Allowance	2	EA	\$25,000	\$50,000			
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000				
26	Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000			
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000				
28	Major Traffic Signal (4 Lanes)		EA	\$200,000				
29	Complex Major Intersection Rebuild		EA	\$300,000				
30	Roadway Construction		SF	\$9.00				
31	Sidewalk Construction		SF	\$6.00				
32	Off Alignment Signal Modifications	1	EA	\$75,000.00	\$75,000			
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00				
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00				
35	Relocate UPRR Yard Lead or Branch Line	2,500	TF	\$100.00	\$250,000			
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00				
37	Provide Team Track and Loading Dock (HDR)	1	LS	\$208,000.00	\$208,000			
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00				
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000			
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638			
41	Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000			
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00				
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000			
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833			
50	<b>2 - Insurance - Included other in Items</b>							
57	<b>3 - Utilities</b>							
59	Utility Allowance - High		RF	\$600.00				
60	Utility Allowance - Medium		RF	\$350.00				
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000			
70	<b>4 - Track Materials - Included in the Rail Items</b>							
74	<b>5 - Structures</b>							
75	Bridge Structures DEA		LS	\$1.00				
76	Bridge Location							
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00				
78	MSE Retaining Wall - Typical DEA	3,500	SF	\$30.00	\$105,000			
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00				
104	<b>6 - Stations</b>							
105	Stations	1	LS	\$750,000	\$750,000			
106	Station Name	Central Station Center Platform						
107	Artwork (*Subject to Board Policy)		LS	\$1.00				
108	Platform Electrical LTK610	1	LS	\$100,000	\$100,000			
115	<b>7 - Park &amp; Rides</b>							
116	Park & Ride		Space	\$4,300				
117	Park & Ride Location							
119	<b>8 - Operations Facility (All Yard elements Included)</b>							
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516				

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 208.4

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Freya Street to Havana Street Area			175+00	200+00	2,500 FT	0.5 mile		
C -208.4	UP Section Alternate 4								
		Description	Quantity	Unit	Unit Cost	Extension	2001\$		
124		Operations Facility Building LTK		SF	\$171.00				
125		Yard Maintenance Equipment LTK		LS	\$4,160,844				
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460				
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000				
133		<b>9 - Traction Power System</b>							\$1,138,928
136		Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000			
138		OCS Single Contact Wire LTK920		RF	\$123.00				
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500			
141		Lighting LTK940	2,500	RF	\$8.11	\$20,265			
142		Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163			
147		<b>10 - Signal System</b>							\$722,190
148		Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190			
151		<b>11 - Communications</b>							\$317,808
152		Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808			
157		<b>12 - Fare Collection</b>							\$202,321
158		Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321			
160		<b>Subtotal - Infrastructure</b>				Subtotal			\$6,405,875
161									
162		<b>13. Right of Way</b>							
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000				
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00				
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00				
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
174		<b>14. Vehicles</b>							
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00				
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18				
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000				
179		<b>15 - Engineering &amp; Administration</b>				Subtotal			\$2,242,056
180		Infrastructure E & A 35.00%						\$2,242,056	
181		Vehicle E & A 5.00%							
185		<b>16 - Contingencies</b>				Subtotal			\$1,481,175
187		Vehicles Contingency 5.00%							
189		Infrastructure Contingency 20.00%						\$1,231,175	
191		Utilities Contingency 100.00%						\$250,000	
194		<b>17 - Washington State Sales Tax and Real Estate Tax</b>							\$441,675
195		Sales Tax 8.40%						\$441,674.83	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.							
								Total	\$10,570,782

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 209.4

Spokane Regional								
		Light Rail Project		Estimate Basics				
		Order of Magnitude		Start Sta	End Sta	Length		
Drawing	Havana Street Area to UPRR Spokane Yard Area			200+00	225+00	2,500 FT	0.5 mile	
C -209.4	UP Section Alternate 4							
		Description	Quantity	Unit	Unit Cost	Extension	2001\$	
<b>1-Civil Construction</b>							\$3,269,702	
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00		\$25,000		
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00		\$87,500		
3	Curb & Gutter Allowance		LF	\$35.00				
4	Common Excavation	1,322	CY	\$15.00		\$19,830		
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00				
6	Common Backfill (From Project Excavation)	16,413	CY	\$4.00		\$65,652		
8	Landscaping Allowance		SF	\$2.00				
9	Chain Link Fencing 4' (on walls or Ballast Curb)	700	LF	\$16.00		\$11,200		
10	Chain Link Fencing 6'	4,300	LF	\$22.00		\$94,600		
11	Ballast Walls (Curb-no drainage)		LF	\$22.00				
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00		\$15,000		
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000				
14	Ballasted Track at Grade or Structure	6,150	TF	\$223		\$1,371,450		
15	Embedded (Paved) Track at Grade		TF	\$312				
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280				
19	LRT Siding or Pocket Track	1,500	TF	\$230		\$345,000		
20	Double Crossover		EA	\$300,000				
21	Single Crossover		EA	\$150,000				
22	Turnout	6	EA	\$75,000		\$450,000		
23	Impact Attenuators		EA	\$35,000				
24	Minor Street Closures Allowance		EA	\$25,000				
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000				
26	Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000		\$200,000		
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000				
28	Major Traffic Signal (4 Lanes)		EA	\$200,000				
29	Complex Major Intersection Rebuild		EA	\$300,000				
30	Roadway Construction		SF	\$9.00				
31	Sidewalk Construction		SF	\$6.00				
32	Off Alignment Signal Modifications	1	EA	\$75,000.00		\$75,000		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00				
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00				
35	Relocate UPRR Yard Lead or Branch Line	500	TF	\$100.00		\$50,000		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00				
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00				
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00				
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00		\$60,000		
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06		\$37,638		
41	Signal Communication Building LTK130	1	EA	\$60,000.00		\$60,000		
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00				
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00		\$275,000		
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73		\$26,833		
50	<b>2 - Insurance - Included other in Items</b>							
57	<b>3 - Utilities</b>							
59	Utility Allowance - High		RF	\$600.00			\$250,000	
60	Utility Allowance - Medium		RF	\$350.00				
61	Utility Allowance - Low	2,500	RF	\$100.00		\$250,000		
70	<b>4 - Track Materials - Included in the Rail Items</b>							
74	<b>5 - Structures</b>							
75	Bridge Structures DEA		LS	\$1.00			\$285,000	
76	Bridge Location							
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00				
78	MSE Retaining Wall - Typical DEA	9,500	SF	\$30.00		\$285,000		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00				
104	<b>6 - Stations</b>							
105	Stations	1	LS	\$750,000		\$750,000		
106	Station Name	Fairgrounds W Station Triple Platform						
107	Artwork (*Subject to Board Policy)		LS	\$1.00				
108	Platform Electrical LTK610	1	LS	\$100,000		\$100,000		
115	<b>7 - Park &amp; Rides</b>							
116	Park & Ride	200	Space	\$4,300		\$860,000		
117	Park & Ride Location	Fairgrounds W Sta						
119	<b>8 - Operations Facility (All Yard elements Included)</b>							

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 209.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing		Havana Street Area to UPRR Spokane Yard Area	200+00	225+00	2,500 FT	0.5 mile	
C -209.4		UP Section Alternate 4					
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		
124		Operations Facility Building LTK		SF	\$171.00		
125		Yard Maintenance Equipment LTK		LS	\$4,160,844		
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460		
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133		<b>9 - Traction Power System</b>					\$1,138,928
136		Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000	
138		OCS Single Contact Wire LTK920		RF	\$123.00		
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500	
141		Lighting LTK940	2,500	RF	\$8.11	\$20,265	
142		Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163	
147		<b>10 - Signal System</b>					\$722,190
148		Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190	
151		<b>11 - Communications</b>					\$317,808
152		Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808	
157		<b>12 - Fare Collection</b>					\$202,321
158		Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321	
160		<b>Subtotal - Infrastructure</b>			Subtotal		\$7,895,948
161							
162		<b>13. Right of Way</b>					
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00		
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate		LS	\$26,771,815.00		
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174		<b>14. Vehicles</b>					
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & 3)		EA	\$681,818.18		
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000		
179		<b>15 - Engineering &amp; Administration</b>			Subtotal		\$2,763,582
180	Infrastructure	E & A 35.00%				\$2,763,582	
181	Vehicle	E & A 5.00%					
185		<b>16 - Contingencies</b>			Subtotal		\$1,779,190
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$1,529,190	
191	Utilities	Contingency 100.00%				\$250,000	
194		<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$541,808
195		Sales Tax 8.40%				\$541,807.73	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
						Total	\$12,980,528



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 210.4

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing	UPRR Spokane Yard Area			225+00	250+00	2,500 FT	0.5 mile
C -210.4	UP Section Alternate 4						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>							
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance		LF	\$35.00		
4		Common Excavation	393	CY	\$15.00	\$5,895	
5		Select Backfill (MSE Retaining Walls)	17,333	CY	\$15.00	\$259,995	
6		Common Backfill (From Project Excavation)	1,722	CY	\$4.00	\$6,888	
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)	3,600	LF	\$16.00	\$57,600	
10		Chain Link Fencing 6'	1,400	LF	\$22.00	\$30,800	
11		Ballast Walls (Curb-no drainage)		LF	\$22.00		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure	2	EA	\$8,000	\$16,000	
14		Ballasted Track at Grade or Structure	3,700	TF	\$223	\$825,100	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure	1,300	TF	\$280	\$364,000	
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction		SF	\$6.00		
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41		Signal Communication Building LTK130		EA	\$60,000.00		
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					\$3,276,000
75		Bridge Structures DEA	2,211,000	LS	\$1.00	\$2,211,000	
76		Bridge Location	RR Spur Over				
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA	35,500	SF	\$30.00	\$1,065,000	
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Artwork (*Subject to Board Policy)		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 210.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	UPRR Spokane Yard Area		225+00	250+00	2,500 FT	0.5 mile	
C -210.4	UP Section Alternate 4						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$6,988,173	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$2,445,861	
180	Infrastructure	E & A 35.00%				\$2,445,861	
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>				Subtotal	\$1,597,635	
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$1,347,635	
191	Utilities	Contingency 100.00%				\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$480,805	
195	Sales Tax	8.40%				\$480,805.23	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$11,512,473	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 211.4

Spokane Regional						
Light Rail Project		Estimate Basics				
Order of Magnitude		Start Sta	End Sta	Length		
Drawing	UPRR Spokane Yard Area to Interstate 90	250+00	275+00	2,500 FT		0.5 mile
C -211.4	UP Section Alternate 4					
Description		Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance		LF	\$35.00		
4	Common Excavation	8,327	CY	\$15.00	\$124,905	
5	Select Backfill (MSE Retaining Walls)	12,840	CY	\$15.00	\$192,600	
6	Common Backfill (From Project Excavation)	273	CY	\$4.00	\$1,092	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	2,500	LF	\$16.00	\$40,000	
10	Chain Link Fencing 6'	1,900	LF	\$22.00	\$41,800	
11	Ballast Walls (Curb-no drainage)	100	LF	\$22.00	\$2,200	
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover		EA	\$150,000		
22	Turnout	1	EA	\$75,000	\$75,000	
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000	
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction		SF	\$6.00		
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line	1,200	TF	\$100.00	\$120,000	
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)	1	LS	\$476,000.00	\$476,000	
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000	
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41	Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000	
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA	1,122,000	LS	\$1.00	\$1,122,000	
76	Bridge Location	Lake Rd Spur				
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA	35,250	SF	\$30.00	\$1,057,500	
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS			
106	Station Name	Future Station Possible				
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610		LS	\$100,000		
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 211.4

Spokane Regional							
Light Rail Project		Estimate Basics					
Order of Magnitude		Start Sta	End Sta	Length			
Drawing	UPRR Spokane Yard Area to Interstate 90	250+00	275+00	2,500 FT	0.5 mile		
C -211.4	UP Section Alternate 4						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$1,138,928	
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000		
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$7,583,992	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$2,654,397	
180	Infrastructure E & A 35.00%					\$2,654,397	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal	\$1,716,798	
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$1,466,798	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$520,844	
195	Sales Tax 8.40%					\$520,844.26	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$12,476,032	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 212.4

Spokane Regional						
Light Rail Project		Estimate Basics				
Order of Magnitude		Start Sta	End Sta	Length		
Drawing	Interstate 90 to Approx Station 300+00	275+00	300+00	2,500 FT	0.5 mile	
C -212.4	UP Section Alternate 4					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance		LF	\$35.00		
4	Common Excavation	6,267	CY	\$15.00	\$94,005	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)	1,699	CY	\$4.00	\$6,796	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	1,000	LF	\$16.00	\$16,000	
10	Chain Link Fencing 6'	3,900	LF	\$22.00	\$85,800	
11	Ballast Walls (Curb-no drainage)	1,000	LF	\$22.00	\$22,000	
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance	1	EA	\$25,000	\$25,000	
25	Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000	
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction		SF	\$6.00		
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line	2,100	TF	\$100.00	\$210,000	
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41	Signal Communication Building LTK130		EA	\$60,000.00		
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS			
106	Station Name					
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610		LS	\$100,000		
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 212.4

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Interstate 90 to Approx Station 300+00			275+00	300+00	2,500 FT	0.5 mile		
C -212.4	UP Section Alternate 4								
	Description	Quantity	Unit	Unit Cost	Extension	2001\$			
124	Operations Facility Building LTK		SF	\$171.00					
125	Yard Maintenance Equipment LTK		LS	\$4,160,844					
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460					
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000					
133	<b>9 - Traction Power System</b>								\$388,928
136	Sub-Station Type 3 LTK 910		EA	\$750,000					
138	OCS Single Contact Wire LTK920		RF	\$123.00					
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500				
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265				
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163				
147	<b>10 - Signal System</b>								\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190				
151	<b>11 - Communications</b>								\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808				
157	<b>12 - Fare Collection</b>								
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321					
160	<b>Subtotal - Infrastructure</b>			Subtotal					\$3,820,496
161									
162	<b>13. Right of Way</b>								
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000					
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00					
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00					
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
174	<b>14. Vehicles</b>								
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00					
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & 4)		EA	\$681,818.18					
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000					
179	<b>15 - Engineering &amp; Administration</b>				Subtotal				\$1,337,174
180	Infrastructure E & A 35.00%							\$1,337,174	
181	Vehicle E & A 5.00%								
185	<b>16 - Contingencies</b>				Subtotal				\$964,099
187	Vehicles Contingency 5.00%								
189	Infrastructure Contingency 20.00%							\$714,099	
191	Utilities Contingency 100.00%							\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>								\$267,937
195	Sales Tax 8.40%							\$267,937.33	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.								
								Total	\$6,389,706

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 213.4

Spokane Regional								
		Light Rail Project	Estimate Basics					
		Order of Magnitude	Start Sta	End Sta	Length			
Drawing	Park Road & Spear Ave Area		300+00	325+00	2,500 FT	0.5 mile		
C -213.4	UP Section Alternate 4							
		Description	Quantity	Unit	Unit Cost	Extension	2001\$	
		<b>1-Civil Construction</b>						\$1,948,211
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3		Curb & Gutter Allowance		LF	\$35.00			
4		Common Excavation	369	CY	\$15.00	\$5,535		
5		Select Backfill (MSE Retaining Walls)	16,694	CY	\$15.00	\$250,410		
6		Common Backfill (From Project Excavation)	524	CY	\$4.00	\$2,096		
8		Landscaping Allowance		SF	\$2.00			
9		Chain Link Fencing 4' (on walls or Ballast Curb)	2,500	LF	\$16.00	\$40,000		
10		Chain Link Fencing 6'	2,500	LF	\$22.00	\$55,000		
11		Ballast Walls (Curb-no drainage)	600	LF	\$22.00	\$13,200		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15		Embedded (Paved) Track at Grade		TF	\$312			
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19		LRT Siding or Pocket Track		TF	\$230			
20		Double Crossover		EA	\$300,000			
21		Single Crossover		EA	\$150,000			
22		Turnout		EA	\$75,000			
23		Impact Attenuators		EA	\$35,000			
24		Minor Street Closures Allowance		EA	\$25,000			
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000			
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28		Major Traffic Signal (4 Lanes)		EA	\$200,000			
29		Complex Major Intersection Rebuild		EA	\$300,000			
30		Roadway Construction		SF	\$9.00			
31		Sidewalk Construction		SF	\$6.00			
32		Off Alignment Signal Modifications		EA	\$75,000.00			
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00			
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638		
41		Signal Communication Building LTK130		EA	\$60,000.00			
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000		
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833		
50		<b>2 - Insurance - Included other in Items</b>						
57		<b>3 - Utilities</b>						\$250,000
59		Utility Allowance - High		RF	\$600.00			
60		Utility Allowance - Medium		RF	\$350.00			
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70		<b>4 - Track Materials - Included in the Rail Items</b>						
74		<b>5 - Structures</b>						\$1,494,000
75		Bridge Structures DEA	841,500	LS	\$1.00	\$841,500		
76		Bridge Location	Park Rd & Sp					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78		MSE Retaining Wall - Typical DEA	21,750	SF	\$30.00	\$652,500		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104		<b>6 - Stations</b>						
105		Stations	1	LS				
106		Station Name						
107		Artwork (*Subject to Board Policy)		LS	\$1.00			
108		Platform Electrical LTK610		LS	\$100,000			
115		<b>7 - Park &amp; Rides</b>						
116		Park & Ride		Space	\$4,300			
117		Park & Ride Location						
119		<b>8 - Operations Facility (All Yard elements Included)</b>						
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 213.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Park Road & Spear Ave Area			300+00	325+00	2,500 FT	0.5 mile
C -213.4	UP Section Alternate 4						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
124		Operations Facility Building LTK		SF	\$171.00		
125		Yard Maintenance Equipment LTK		LS	\$4,160,844		
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460		
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133		<b>9 - Traction Power System</b>					\$388,928
136		Sub-Station Type 3 LTK 910		EA	\$750,000		
138		OCS Single Contact Wire LTK920		RF	\$123.00		
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500	
141		Lighting LTK940	2,500	RF	\$8.11	\$20,265	
142		Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163	
147		<b>10 - Signal System</b>					\$722,190
148		Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190	
151		<b>11 - Communications</b>					\$317,808
152		Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808	
157		<b>12 - Fare Collection</b>					
158		Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321		
160		<b>Subtotal - Infrastructure</b>			Subtotal		\$5,121,136
161							
162		<b>13. Right of Way</b>					
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00		
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00		
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174		<b>14. Vehicles</b>					
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18		
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000		
179		<b>15 - Engineering &amp; Administration</b>				Subtotal	\$1,792,398
180		Infrastructure E & A 35.00%				\$1,792,398	
181		Vehicle E & A 5.00%					
185		<b>16 - Contingencies</b>				Subtotal	\$1,224,227
187		Vehicles Contingency 5.00%					
189		Infrastructure Contingency 20.00%				\$974,227	
191		Utilities Contingency 100.00%				\$250,000	
194		<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$355,340
195		Sales Tax 8.40%				\$355,340.34	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
						Total	\$8,493,101



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 214.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Vista Road Area		325+00	350+00	2,500 FT	0.5 mile	
C -214.4	UP Section Alternate 4						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
		<b>1-Civil Construction</b>					\$2,235,167
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance		LF	\$35.00		
4		Common Excavation	3,431	CY	\$15.00	\$51,465	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)	308	CY	\$4.00	\$1,232	
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)	2,500	LF	\$16.00	\$40,000	
10		Chain Link Fencing 6'	2,500	LF	\$22.00	\$55,000	
11		Ballast Walls (Curb-no drainage)	2,750	LF	\$22.00	\$60,500	
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover	1	EA	\$150,000	\$150,000	
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000	
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction		SF	\$6.00		
32		Off Alignment Signal Modifications	1	EA	\$75,000.00	\$75,000	
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000	
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41		Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000	
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					\$850,000
105		Stations	1	LS	\$750,000	\$750,000	
106		Station Name	Park/Vista Station Center Platform				
107		Artwork (*Subject to Board Policy)		LS	\$1.00		
108		Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location	Vista Station				
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 214.4

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Vista Road Area			325+00	350+00	2,500 FT	0.5 mile		
C -214.4	UP Section Alternate 4								
	Description	Quantity	Unit	Unit Cost	Extension	2001\$			
124	Operations Facility Building LTK		SF	\$171.00					
125	Yard Maintenance Equipment LTK		LS	\$4,160,844					
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460					
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000					
133	<b>9 - Traction Power System</b>								\$1,138,928
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000				
138	OCS Single Contact Wire LTK920		RF	\$123.00					
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500				
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265				
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163				
147	<b>10 - Signal System</b>								\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190				
151	<b>11 - Communications</b>								\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808				
157	<b>12 - Fare Collection</b>								\$202,321
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321				
160	<b>Subtotal - Infrastructure</b>				Subtotal				\$5,716,413
161									
162	<b>13. Right of Way</b>								
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000					
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00					
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00					
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
174	<b>14. Vehicles</b>								
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00					
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18					
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000					
179	<b>15 - Engineering &amp; Administration</b>				Subtotal				\$2,000,745
180	Infrastructure E & A 35.00%							\$2,000,745	
181	Vehicle E & A 5.00%								
185	<b>16 - Contingencies</b>				Subtotal				\$1,343,283
187	Vehicles Contingency 5.00%								
189	Infrastructure Contingency 20.00%							\$1,093,283	
191	Utilities Contingency 100.00%							\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>								\$395,343
195	Sales Tax 8.40%							\$395,342.98	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.								
								Total	\$9,455,784

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 215.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Sargent Road to Argonne Station		350+00	375+00	2,500 FT	0.5 mile	
C -215.4	UP Section Alternate 4						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
		<b>1-Civil Construction</b>					\$2,019,166
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance		LF	\$35.00		
4		Common Excavation	185	CY	\$15.00	\$2,775	
5		Select Backfill (MSE Retaining Walls)	291	CY	\$15.00	\$4,365	
6		Common Backfill (From Project Excavation)	914	CY	\$4.00	\$3,656	
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)	4,000	LF	\$16.00	\$64,000	
10		Chain Link Fencing 6'	1,000	LF	\$22.00	\$22,000	
11		Ballast Walls (Curb-no drainage)	900	LF	\$22.00	\$19,800	
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure	2	EA	\$8,000	\$16,000	
14		Ballasted Track at Grade or Structure	2,200	TF	\$223	\$490,600	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure	2,800	TF	\$280	\$784,000	
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance	1	EA	\$25,000	\$25,000	
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction		SF	\$6.00		
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000	
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41		Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000	
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					\$4,850,000
75		Bridge Structures DEA	4,760,000	LS	\$1.00	\$4,760,000	
76		Bridge Location	Argonne-Dish				
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA	3,000	SF	\$30.00	\$90,000	
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Artwork (*Subject to Board Policy)		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					\$1,075,000
116		Park & Ride	250	Space	\$4,300	\$1,075,000	
117		Park & Ride Location	Argonne Station				
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 215.4

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Sargent Road to Argonne Station			350+00	375+00	2,500 FT	0.5 mile		
C -215.4	UP Section Alternate 4								
	Description	Quantity	Unit	Unit Cost	Extension	2001\$			
124	Operations Facility Building LTK		SF	\$171.00					
125	Yard Maintenance Equipment LTK		LS	\$4,160,844					
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460					
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000					
133	<b>9 - Traction Power System</b>								\$1,138,928
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000				
138	OCS Single Contact Wire LTK920		RF	\$123.00					
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500				
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265				
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163				
147	<b>10 - Signal System</b>								\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190				
151	<b>11 - Communications</b>								\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808				
157	<b>12 - Fare Collection</b>								\$202,321
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321				
160	<b>Subtotal - Infrastructure</b>				Subtotal				\$10,575,412
161									
162	<b>13. Right of Way</b>								
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000					
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00					
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00					
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
174	<b>14. Vehicles</b>								
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00					
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18					
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000					
179	<b>15 - Engineering &amp; Administration</b>				Subtotal				\$3,701,394
180	Infrastructure E & A 35.00%							\$3,701,394	
181	Vehicle E & A 5.00%								
185	<b>16 - Contingencies</b>				Subtotal				\$2,315,082
187	Vehicles Contingency 5.00%								
189	Infrastructure Contingency 20.00%							\$2,065,082	
191	Utilities Contingency 100.00%							\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>								\$721,868
195	Sales Tax 8.40%							\$721,867.72	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.								
								Total	\$17,313,757

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 216.4

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing		Willow Road to Dartmouth Rd Area	375+00	400+00	2,500 FT	0.5 mile
C -216.4		UP Section Alternate 4				
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	\$2,136,361
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance		LF	\$35.00		
4	Common Excavation	7,623	CY	\$15.00	\$114,345	
5	Select Backfill (MSE Retaining Walls)	6,222	CY	\$15.00	\$93,330	
6	Common Backfill (From Project Excavation)	2,529	CY	\$4.00	\$10,116	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	2,900	LF	\$16.00	\$46,400	
10	Chain Link Fencing 6'		LF	\$22.00		
11	Ballast Walls (Curb-no drainage)	4,100	LF	\$22.00	\$90,200	
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000	
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27	Minor Traffic Signal (2 Lanes)	1	EA	\$100,000	\$100,000	
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction		SF	\$6.00		
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41	Signal Communication Building LTK130		EA	\$60,000.00		
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		\$250,000
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		\$315,000
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA	10,500	SF	\$30.00	\$315,000	
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS			
106	Station Name					
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610		LS	\$100,000		
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 216.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Willow Road to Dartmouth Rd Area		375+00	400+00	2,500 FT	0.5 mile	
C -216.4	UP Section Alternate 4						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$4,130,286	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & 4)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$1,445,600	
180	Infrastructure E & A 35.00%					\$1,445,600	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal	\$1,026,057	
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$776,057	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$288,755	
195	Sales Tax 8.40%					\$288,755.22	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$6,890,699	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 217.4

Spokane Regional						
Light Rail Project		Estimate Basics				
Order of Magnitude		Start Sta	End Sta	Length		
Drawing	Dartmouth Road Area to University Rd	400+00	425+00	2,500 FT	0.5 mile	
C -217.4	East Valley Section Alternate 4					
Description		Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance	300	LF	\$35.00	\$10,500	
4	Common Excavation	3,180	CY	\$15.00	\$47,700	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)	4,183	CY	\$4.00	\$16,732	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	375	LF	\$16.00	\$6,000	
10	Chain Link Fencing 6'	4,325	LF	\$22.00	\$95,150	
11	Ballast Walls (Curb-no drainage)	375	LF	\$22.00	\$8,250	
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover	1	EA	\$300,000	\$300,000	
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000	
26	Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000	
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)	1	EA	\$200,000	\$200,000	
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction	1,920	SF	\$6.00	\$11,520	
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000	
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41	Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000	
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		\$250,000
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA	1,200,000	LS	\$1.00	\$1,200,000	\$1,200,000
76	Bridge Location	Pedestrian Br				
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS	\$750,000	\$750,000	
106	Station Name	University Station				
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location	University Station				
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 217.4

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Dartmouth Road Area to University Rd			400+00	425+00	2,500 FT	0.5 mile		
C -217.4	East Valley Section Alternate 4								
	Description	Quantity	Unit	Unit Cost	Extension	2001\$			
124	Operations Facility Building LTK		SF	\$171.00					
125	Yard Maintenance Equipment LTK		LS	\$4,160,844					
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460					
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000					
133	<b>9 - Traction Power System</b>								\$1,138,928
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000				
138	OCS Single Contact Wire LTK920		RF	\$123.00					
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500				
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265				
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163				
147	<b>10 - Signal System</b>								\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190				
151	<b>11 - Communications</b>								\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808				
157	<b>12 - Fare Collection</b>								\$202,321
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321				
160	<b>Subtotal - Infrastructure</b>				Subtotal				\$7,379,068
161									
162	<b>13. Right of Way</b>								
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000					
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00					
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00					
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
174	<b>14. Vehicles</b>								
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00					
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & 4)		EA	\$681,818.18					
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000					
179	<b>15 - Engineering &amp; Administration</b>				Subtotal				\$2,582,674
180	Infrastructure	E & A 35.00%						\$2,582,674	
181	Vehicle	E & A 5.00%							
185	<b>16 - Contingencies</b>				Subtotal				\$1,675,814
187	Vehicles	Contingency 5.00%							
189	Infrastructure	Contingency 20.00%						\$1,425,814	
191	Utilities	Contingency 100.00%						\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>								\$507,073
195	Sales Tax	8.40%						\$507,073.40	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.								
								Total	\$12,144,629



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 218.4

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing		University Road to Bodish Road Area	425+00	450+00	2,500 FT	0.5 mile
C -218.4		East Valley Section Alternate 4				
		Description	Quantity	Unit	Unit Cost	Extension
		2001\$				
<b>1-Civil Construction</b>						
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500
3		Curb & Gutter Allowance	400	LF	\$35.00	\$14,000
4		Common Excavation	1,919	CY	\$15.00	\$28,785
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00	
6		Common Backfill (From Project Excavation)	7,715	CY	\$4.00	\$30,860
8		Landscaping Allowance		SF	\$2.00	
9		Chain Link Fencing 4' (on walls or Ballast Curb)	730	LF	\$16.00	\$11,680
10		Chain Link Fencing 6'	4,270	LF	\$22.00	\$93,940
11		Ballast Walls (Curb-no drainage)	730	LF	\$22.00	\$16,060
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000	
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000
15		Embedded (Paved) Track at Grade		TF	\$312	
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280	
19		LRT Siding or Pocket Track		TF	\$230	
20		Double Crossover		EA	\$300,000	
21		Single Crossover		EA	\$150,000	
22		Turnout		EA	\$75,000	
23		Impact Attenuators		EA	\$35,000	
24		Minor Street Closures Allowance		EA	\$25,000	
25		Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000	
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000	
28		Major Traffic Signal (4 Lanes)		EA	\$200,000	
29		Complex Major Intersection Rebuild		EA	\$300,000	
30		Roadway Construction		SF	\$9.00	
31		Sidewalk Construction	2,520	SF	\$6.00	\$15,120
32		Off Alignment Signal Modifications		EA	\$75,000.00	
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00	
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00	
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00	
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00	
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00	
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00	
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00	
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638
41		Signal Communication Building LTK130		EA	\$60,000.00	
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00	
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833
50		<b>2 - Insurance - Included other in Items</b>				
57		<b>3 - Utilities</b>				\$250,000
59		Utility Allowance - High		RF	\$600.00	
60		Utility Allowance - Medium		RF	\$350.00	
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000
70		<b>4 - Track Materials - Included in the Rail Items</b>				
74		<b>5 - Structures</b>				
75		Bridge Structures DEA		LS	\$1.00	
76		Bridge Location				
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00	
78		MSE Retaining Wall - Typical DEA		SF	\$30.00	
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00	
104		<b>6 - Stations</b>				
105		Stations	1	LS		
106		Station Name				
107		Artwork (*Subject to Board Policy)		LS	\$1.00	
108		Platform Electrical LTK610		LS	\$100,000	
115		<b>7 - Park &amp; Rides</b>				
116		Park & Ride		Space	\$4,300	
117		Park & Ride Location				
119		<b>8 - Operations Facility (All Yard elements Included)</b>				
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 218.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	University Road to Bodish Road Area		425+00	450+00	2,500 FT	0.5 mile	
C -218.4	East Valley Section Alternate 4						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$3,571,340	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$1,249,969	
180	Infrastructure E & A 35.00%					\$1,249,969	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal	\$914,268	
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$664,268	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$251,194	
195	Sales Tax 8.40%					\$251,194.05	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$5,986,771	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 219.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Bodish Road to Pines Road (At Grade) Area		450+00	475+00	2,500 FT	0.5 mile	
C -219.4	East Valley Section Alternate 4						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
<b>1-Civil Construction</b>						\$2,065,213	
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3	Curb & Gutter Allowance	400	LF	\$35.00	\$14,000		
4	Common Excavation	2,253	CY	\$15.00	\$33,795		
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6	Common Backfill (From Project Excavation)	10,982	CY	\$4.00	\$43,928		
8	Landscaping Allowance		SF	\$2.00			
9	Chain Link Fencing 4' (on walls or Ballast Curb)	1,200	LF	\$16.00	\$19,200		
10	Chain Link Fencing 6'	3,640	LF	\$22.00	\$80,080		
11	Ballast Walls (Curb-no drainage)	1,200	LF	\$22.00	\$26,400		
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15	Embedded (Paved) Track at Grade		TF	\$312			
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19	LRT Siding or Pocket Track		TF	\$230			
20	Double Crossover		EA	\$300,000			
21	Single Crossover		EA	\$150,000			
22	Turnout		EA	\$75,000			
23	Impact Attenuators		EA	\$35,000			
24	Minor Street Closures Allowance	2	EA	\$25,000	\$50,000		
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000			
26	Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000		
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28	Major Traffic Signal (4 Lanes)		EA	\$200,000			
29	Complex Major Intersection Rebuild		EA	\$300,000			
30	Roadway Construction		SF	\$9.00			
31	Sidewalk Construction	2,640	SF	\$6.00	\$15,840		
32	Off Alignment Signal Modifications		EA	\$75,000.00			
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00			
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638		
41	Signal Communication Building LTK130		EA	\$60,000.00			
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000		
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833		
50	<b>2 - Insurance - Included other in Items</b>						
57	<b>3 - Utilities</b>						
59	Utility Allowance - High		RF	\$600.00			
60	Utility Allowance - Medium		RF	\$350.00			
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70	<b>4 - Track Materials - Included in the Rail Items</b>						
74	<b>5 - Structures</b>						
75	Bridge Structures DEA		LS	\$1.00			
76	Bridge Location						
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78	MSE Retaining Wall - Typical DEA		SF	\$30.00			
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104	<b>6 - Stations</b>						
105	Stations	1	LS				
106	Station Name						
107	Artwork (*Subject to Board Policy)		LS	\$1.00			
108	Platform Electrical LTK610		LS	\$100,000			
115	<b>7 - Park &amp; Rides</b>						
116	Park & Ride		Space	\$4,300			
117	Park & Ride Location						
119	<b>8 - Operations Facility (All Yard elements Included)</b>						
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 219.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Bodish Road to Pines Road (At Grade) Area		450+00	475+00	2,500 FT	0.5 mile	
C -219.4	East Valley Section Alternate 4						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$3,744,138	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$1,310,448	
180	Infrastructure E & A 35.00%					\$1,310,448	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal	\$948,828	
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$698,828	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$262,806	
195	Sales Tax 8.40%					\$262,806.07	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$6,266,220	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 220.4

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing		Pines Road (At Grade) to McDonald Road Area	475+00	500+00	2,500 FT	0.5 mile
C -220.4		East Valley Section Alternate 4				
		Description	Quantity	Unit	Unit Cost	Extension
						2001\$
<b>1-Civil Construction</b>						\$1,868,389
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500
3		Curb & Gutter Allowance		LF	\$35.00	
4		Common Excavation	1,481	CY	\$15.00	\$22,215
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00	
6		Common Backfill (From Project Excavation)	5,151	CY	\$4.00	\$20,604
8		Landscaping Allowance		SF	\$2.00	
9		Chain Link Fencing 4' (on walls or Ballast Curb)	850	LF	\$16.00	\$13,600
10		Chain Link Fencing 6'	4,150	LF	\$22.00	\$91,300
11		Ballast Walls (Curb-no drainage)	850	LF	\$22.00	\$18,700
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000	
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000
15		Embedded (Paved) Track at Grade		TF	\$312	
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280	
19		LRT Siding or Pocket Track		TF	\$230	
20		Double Crossover		EA	\$300,000	
21		Single Crossover		EA	\$150,000	
22		Turnout		EA	\$75,000	
23		Impact Attenuators		EA	\$35,000	
24		Minor Street Closures Allowance		EA	\$25,000	
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000	
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000	
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000	
28		Major Traffic Signal (4 Lanes)		EA	\$200,000	
29		Complex Major Intersection Rebuild		EA	\$300,000	
30		Roadway Construction		SF	\$9.00	
31		Sidewalk Construction		SF	\$6.00	
32		Off Alignment Signal Modifications		EA	\$75,000.00	
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00	
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00	
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00	
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00	
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00	
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00	
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638
41		Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00	
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833
50		<b>2 - Insurance - Included other in Items</b>				
57		<b>3 - Utilities</b>				\$250,000
59		Utility Allowance - High		RF	\$600.00	
60		Utility Allowance - Medium		RF	\$350.00	
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000
70		<b>4 - Track Materials - Included in the Rail Items</b>				
74		<b>5 - Structures</b>				
75		Bridge Structures DEA		LS	\$1.00	
76		Bridge Location				
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00	
78		MSE Retaining Wall - Typical DEA		SF	\$30.00	
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00	
104		<b>6 - Stations</b>				\$850,000
105		Stations	1	LS	\$750,000	\$750,000
106		Station Name	Pines Station Center Platform			
107		Artwork (*Subject to Board Policy)		LS	\$1.00	
108		Platform Electrical LTK610	1	LS	\$100,000	\$100,000
115		<b>7 - Park &amp; Rides</b>				\$1,720,000
116		Park & Ride	400	Space	\$4,300	\$1,720,000
117		Park & Ride Location	Pines Station			
119		<b>8 - Operations Facility (All Yard elements Included)</b>				

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 220.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Pines Road (At Grade) to McDonald Road Area		475+00	500+00	2,500 FT	0.5 mile	
C -220.4	East Valley Section Alternate 4						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$1,138,928	
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000		
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>					\$202,321	
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321		
160	<b>Subtotal - Infrastructure</b>				Subtotal	\$7,069,635	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$2,474,372	
180	Infrastructure	E & A 35.00%				\$2,474,372	
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>				Subtotal	\$1,613,927	
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$1,363,927	
191	Utilities	Contingency 100.00%				\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$486,280	
195	Sales Tax	8.40%				\$486,279.50	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$11,644,214	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 221.4

Spokane Regional								
		Light Rail Project	Estimate Basics					
		Order of Magnitude	Start Sta	End Sta	Length			
Drawing	McDonald Road to Evergreen Road Area		500+00	525+00	2,500 FT	0.5 mile		
C -221.4	East Valley Section Alternate 4							
		Description	Quantity	Unit	Unit Cost	Extension	2001\$	
		<b>1-Civil Construction</b>						\$2,134,921
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3		Curb & Gutter Allowance	800	LF	\$35.00	\$28,000		
4		Common Excavation	4,029	CY	\$15.00	\$60,435		
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6		Common Backfill (From Project Excavation)	3,204	CY	\$4.00	\$12,816		
8		Landscaping Allowance		SF	\$2.00			
9		Chain Link Fencing 4' (on walls or Ballast Curb)	730	LF	\$16.00	\$11,680		
10		Chain Link Fencing 6'	4,260	LF	\$22.00	\$93,720		
11		Ballast Walls (Curb-no drainage)	730	LF	\$22.00	\$16,060		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15		Embedded (Paved) Track at Grade		TF	\$312			
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19		LRT Siding or Pocket Track		TF	\$230			
20		Double Crossover		EA	\$300,000			
21		Single Crossover		EA	\$150,000			
22		Turnout		EA	\$75,000			
23		Impact Attenuators		EA	\$35,000			
24		Minor Street Closures Allowance		EA	\$25,000			
25		Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000		
26		Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28		Major Traffic Signal (4 Lanes)		EA	\$200,000			
29		Complex Major Intersection Rebuild		EA	\$300,000			
30		Roadway Construction		SF	\$9.00			
31		Sidewalk Construction	5,040	SF	\$6.00	\$30,240		
32		Off Alignment Signal Modifications		EA	\$75,000.00			
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00			
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638		
41		Signal Communication Building LTK130		EA	\$60,000.00			
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000		
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833		
50		<b>2 - Insurance - Included other in Items</b>						
57		<b>3 - Utilities</b>						\$250,000
59		Utility Allowance - High		RF	\$600.00			
60		Utility Allowance - Medium		RF	\$350.00			
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70		<b>4 - Track Materials - Included in the Rail Items</b>						
74		<b>5 - Structures</b>						
75		Bridge Structures DEA		LS	\$1.00			
76		Bridge Location						
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78		MSE Retaining Wall - Typical DEA		SF	\$30.00			
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104		<b>6 - Stations</b>						
105		Stations	1	LS				
106		Station Name						
107		Artwork (*Subject to Board Policy)		LS	\$1.00			
108		Platform Electrical LTK610		LS	\$100,000			
115		<b>7 - Park &amp; Rides</b>						
116		Park & Ride		Space	\$4,300			
117		Park & Ride Location						
119		<b>8 - Operations Facility (All Yard elements Included)</b>						
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 221.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	McDonald Road to Evergreen Road Area		500+00	525+00	2,500 FT	0.5 mile	
C -221.4	East Valley Section Alternate 4						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$3,813,846	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$1,334,846	
180	Infrastructure E & A 35.00%					\$1,334,846	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal	\$962,769	
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$712,769	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$267,490	
195	Sales Tax 8.40%					\$267,490.45	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$6,378,952	



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 222.4

Spokane Regional						
Light Rail Project		Estimate Basics				
Order of Magnitude		Start Sta	End Sta	Length		
Drawing	Evergreen Road Area to Adams Road Area	525+00	550+00	2,500 FT	0.5 mile	
C -222.4	East Valley Section Alternate 4					
Description		Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance	400	LF	\$35.00	\$14,000	
4	Common Excavation	6,787	CY	\$15.00	\$101,805	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)	4,483	CY	\$4.00	\$17,932	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	1,665	LF	\$16.00	\$26,640	
10	Chain Link Fencing 6'	3,175	LF	\$22.00	\$69,850	
11	Ballast Walls (Curb-no drainage)	1,665	LF	\$22.00	\$36,630	
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover	1	EA	\$150,000	\$150,000	
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000	
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction	2,520	SF	\$6.00	\$15,120	
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000	
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41	Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000	
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS	\$750,000	\$750,000	
106	Station Name	Evergreen Station Center Platform				
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location	Evergreen Station				
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 222.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Evergreen Road Area to Adams Road Area		525+00	550+00	2,500 FT	0.5 mile	
C -222.4	East Valley Section Alternate 4						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$1,138,928	
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000		
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>					\$202,321	
158	Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321		
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$5,715,193	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$2,000,318	
180	Infrastructure E & A 35.00%					\$2,000,318	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal	\$1,343,039	
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$1,093,039	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$395,261	
195	Sales Tax 8.40%					\$395,261.00	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$9,453,811	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 223.4

Spokane Regional								
		Light Rail Project	Estimate Basics					
		Order of Magnitude	Start Sta	End Sta	Length			
Drawing	Adams Road Area to Sullivan Road Area		550+00	575+00	2,500 FT	0.5 mile		
C -223.4	East Valley Section Alternate 4	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
		<b>1-Civil Construction</b>						\$1,992,243
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3		Curb & Gutter Allowance	800	LF	\$35.00	\$28,000		
4		Common Excavation	947	CY	\$15.00	\$14,205		
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6		Common Backfill (From Project Excavation)	4,597	CY	\$4.00	\$18,388		
8		Landscaping Allowance		SF	\$2.00			
9		Chain Link Fencing 4' (on walls or Ballast Curb)	810	LF	\$16.00	\$12,960		
10		Chain Link Fencing 6'	4,030	LF	\$22.00	\$88,660		
11		Ballast Walls (Curb-no drainage)	810	LF	\$22.00	\$17,820		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15		Embedded (Paved) Track at Grade		TF	\$312			
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19		LRT Siding or Pocket Track		TF	\$230			
20		Double Crossover		EA	\$300,000			
21		Single Crossover		EA	\$150,000			
22		Turnout		EA	\$75,000			
23		Impact Attenuators		EA	\$35,000			
24		Minor Street Closures Allowance		EA	\$25,000			
25		Minor Intersection Rebuild (2 Lanes)	2	EA	\$100,000	\$200,000		
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28		Major Traffic Signal (4 Lanes)		EA	\$200,000			
29		Complex Major Intersection Rebuild		EA	\$300,000			
30		Roadway Construction		SF	\$9.00			
31		Sidewalk Construction	5,040	SF	\$6.00	\$30,240		
32		Off Alignment Signal Modifications		EA	\$75,000.00			
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00			
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638		
41		Signal Communication Building LTK130		EA	\$60,000.00			
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000		
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833		
50		<b>2 - Insurance - Included other in Items</b>						
57		<b>3 - Utilities</b>						\$250,000
59		Utility Allowance - High		RF	\$600.00			
60		Utility Allowance - Medium		RF	\$350.00			
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70		<b>4 - Track Materials - Included in the Rail Items</b>						
74		<b>5 - Structures</b>						\$105,000
75		Bridge Structures DEA		LS	\$1.00			
76		Bridge Location						
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78		MSE Retaining Wall - Typical DEA	3,500	SF	\$30.00	\$105,000		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104		<b>6 - Stations</b>						
105		Stations	1	LS				
106		Station Name						
107		Artwork (*Subject to Board Policy)		LS	\$1.00			
108		Platform Electrical LTK610		LS	\$100,000			
115		<b>7 - Park &amp; Rides</b>						
116		Park & Ride		Space	\$4,300			
117		Park & Ride Location						
119		<b>8 - Operations Facility (All Yard elements Included)</b>						
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 223.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Adams Road Area to Sullivan Road Area		550+00	575+00	2,500 FT	0.5 mile	
C -223.4	East Valley Section Alternate 4						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$3,776,168	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$1,321,659	
180	Infrastructure E & A 35.00%					\$1,321,659	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal	\$955,234	
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$705,234	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$264,958	
195	Sales Tax 8.40%					\$264,958.49	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$6,318,019	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 224.4

Spokane Regional								
		Light Rail Project	Estimate Basics					
		Order of Magnitude	Start Sta	End Sta	Length			
Drawing	Sullivan Road Area to Cannery Street Area		575+00	600+00	2,500 FT	0.5 mile		
C -224.4	East Valley Section Alternate 4							
		Description	Quantity	Unit	Unit Cost	Extension	2001\$	
		<b>1-Civil Construction</b>						\$1,966,162
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3		Curb & Gutter Allowance	400	LF	\$35.00	\$14,000		
4		Common Excavation	2,196	CY	\$15.00	\$32,940		
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6		Common Backfill (From Project Excavation)	1,223	CY	\$4.00	\$4,892		
8		Landscaping Allowance		SF	\$2.00			
9		Chain Link Fencing 4' (on walls or Ballast Curb)	700	LF	\$16.00	\$11,200		
10		Chain Link Fencing 6'	4,120	LF	\$22.00	\$90,640		
11		Ballast Walls (Curb-no drainage)	700	LF	\$22.00	\$15,400		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15		Embedded (Paved) Track at Grade		TF	\$312			
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19		LRT Siding or Pocket Track		TF	\$230			
20		Double Crossover		EA	\$300,000			
21		Single Crossover		EA	\$150,000			
22		Turnout		EA	\$75,000			
23		Impact Attenuators		EA	\$35,000			
24		Minor Street Closures Allowance		EA	\$25,000			
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000			
26		Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28		Major Traffic Signal (4 Lanes)		EA	\$200,000			
29		Complex Major Intersection Rebuild		EA	\$300,000			
30		Roadway Construction		SF	\$9.00			
31		Sidewalk Construction	2,520	SF	\$6.00	\$15,120		
32		Off Alignment Signal Modifications		EA	\$75,000.00			
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00			
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638		
41		Signal Communication Building LTK130		EA	\$60,000.00			
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000		
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833		
50		<b>2 - Insurance - Included other in Items</b>						
57		<b>3 - Utilities</b>						\$250,000
59		Utility Allowance - High		RF	\$600.00			
60		Utility Allowance - Medium		RF	\$350.00			
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70		<b>4 - Track Materials - Included in the Rail Items</b>						
74		<b>5 - Structures</b>						
75		Bridge Structures DEA		LS	\$1.00			
76		Bridge Location						
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78		MSE Retaining Wall - Typical DEA		SF	\$30.00			
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104		<b>6 - Stations</b>						
105		Stations	1	LS				
106		Station Name						
107		Artwork (*Subject to Board Policy)		LS	\$1.00			
108		Platform Electrical LTK610		LS	\$100,000			
115		<b>7 - Park &amp; Rides</b>						
116		Park & Ride		Space	\$4,300			
117		Park & Ride Location						
119		<b>8 - Operations Facility (All Yard elements Included)</b>						
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 224.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Sullivan Road Area to Cannery Street Area		575+00	600+00	2,500 FT	0.5 mile	
C -224.4	East Valley Section Alternate 4						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
124		Operations Facility Building LTK		SF	\$171.00		
125		Yard Maintenance Equipment LTK		LS	\$4,160,844		
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460		
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133		<b>9 - Traction Power System</b>					\$388,928
136		Sub-Station Type 3 LTK 910		EA	\$750,000		
138		OCS Single Contact Wire LTK920		RF	\$123.00		
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500	
141		Lighting LTK940	2,500	RF	\$8.11	\$20,265	
142		Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163	
147		<b>10 - Signal System</b>					\$722,190
148		Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190	
151		<b>11 - Communications</b>					\$317,808
152		Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808	
157		<b>12 - Fare Collection</b>					
158		Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321		
160		<b>Subtotal - Infrastructure</b>			Subtotal		\$3,645,087
161							
162		<b>13. Right of Way</b>					
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00		
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00		
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174		<b>14. Vehicles</b>					
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18		
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000		
179		<b>15 - Engineering &amp; Administration</b>			Subtotal		\$1,275,780
180		Infrastructure E & A 35.00%				\$1,275,780	
181		Vehicle E & A 5.00%					
185		<b>16 - Contingencies</b>			Subtotal		\$929,017
187		Vehicles Contingency 5.00%					
189		Infrastructure Contingency 20.00%				\$679,017	
191		Utilities Contingency 100.00%				\$250,000	
194		<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$256,150
195		Sales Tax 8.40%				\$256,149.85	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
						Total	\$6,106,035

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 225.4

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing	Cannery Street Area to Steen Road Area		600+00	625+00	2,500 FT	0.5 mile
C -225.4	East Valley Section Alternate 4					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3	Curb & Gutter Allowance	400	LF	\$35.00	\$14,000	
4	Common Excavation	815	CY	\$15.00	\$12,225	
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)	2,272	CY	\$4.00	\$9,088	
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)	250	LF	\$16.00	\$4,000	
10	Chain Link Fencing 6'	4,630	LF	\$22.00	\$101,860	
11	Ballast Walls (Curb-no drainage)	250	LF	\$22.00	\$5,500	
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000	
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction	2,640	SF	\$6.00	\$15,840	
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000	
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41	Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000	
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS	\$750,000	\$750,000	
106	Station Name	Sullivan/Bogue Station Center Platform				
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride	400	Space	\$4,300	\$1,720,000	
117	Park & Ride Location	Bogue Station				
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 225.4

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing		Cannery Street Area to Steen Road Area		600+00	625+00	2,500 FT	0.5 mile		
C -225.4		East Valley Section Alternate 4							
		Description	Quantity	Unit	Unit Cost	Extension	2001\$		
124		Operations Facility Building LTK		SF	\$171.00				
125		Yard Maintenance Equipment LTK		LS	\$4,160,844				
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460				
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000				
133		<b>9 - Traction Power System</b>							\$1,138,928
136		Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000			
138		OCS Single Contact Wire LTK920		RF	\$123.00				
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500			
141		Lighting LTK940	2,500	RF	\$8.11	\$20,265			
142		Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163			
147		<b>10 - Signal System</b>							\$722,190
148		Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190			
151		<b>11 - Communications</b>							\$317,808
152		Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808			
157		<b>12 - Fare Collection</b>							\$202,321
158		Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321			
160		<b>Subtotal - Infrastructure</b>				Subtotal			\$7,265,729
161									
162		<b>13. Right of Way</b>							
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000				
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00				
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00				
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00				
174		<b>14. Vehicles</b>							
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00				
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18				
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000				
179		<b>15 - Engineering &amp; Administration</b>				Subtotal			\$2,543,005
180		Infrastructure E & A 35.00%						\$2,543,005	
181		Vehicle E & A 5.00%							
185		<b>16 - Contingencies</b>				Subtotal			\$1,653,146
187		Vehicles Contingency 5.00%							
189		Infrastructure Contingency 20.00%						\$1,403,146	
191		Utilities Contingency 100.00%						\$250,000	
194		<b>17 - Washington State Sales Tax and Real Estate Tax</b>							\$499,457
195		Sales Tax 8.40%						\$499,457.02	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.							
								Total	\$11,961,338



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 226.4

Spokane Regional							
		Light Rail Project		Estimate Basics			
		Order of Magnitude		Start Sta	End Sta	Length	
Drawing	Steen Road Area to Sprague Ave Crossing		625+00	650+00	2,500 FT	0.5 mile	
C -226.4	East Valley Section Alternate 4						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
<b>1-Civil Construction</b>							
1	Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2	Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3	Curb & Gutter Allowance	800	LF	\$35.00	\$28,000		
4	Common Excavation	3,963	CY	\$15.00	\$59,445		
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6	Common Backfill (From Project Excavation)	257	CY	\$4.00	\$1,028		
8	Landscaping Allowance		SF	\$2.00			
9	Chain Link Fencing 4' (on walls or Ballast Curb)	305	LF	\$16.00	\$4,880		
10	Chain Link Fencing 6'	4,295	LF	\$22.00	\$94,490		
11	Ballast Walls (Curb-no drainage)	305	LF	\$22.00	\$6,710		
12	Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14	Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15	Embedded (Paved) Track at Grade		TF	\$312			
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19	LRT Siding or Pocket Track		TF	\$230			
20	Double Crossover		EA	\$300,000			
21	Single Crossover		EA	\$150,000			
22	Turnout		EA	\$75,000			
23	Impact Attenuators		EA	\$35,000			
24	Minor Street Closures Allowance	1	EA	\$25,000	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)	2	EA	\$100,000	\$200,000		
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28	Major Traffic Signal (4 Lanes)		EA	\$200,000			
29	Complex Major Intersection Rebuild		EA	\$300,000			
30	Roadway Construction		SF	\$9.00			
31	Sidewalk Construction	5,040	SF	\$6.00	\$30,240		
32	Off Alignment Signal Modifications		EA	\$75,000.00			
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00			
40	OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638		
41	Signal Communication Building LTK130		EA	\$60,000.00			
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43	Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000		
45	Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833		
50	<b>2 - Insurance - Included other in Items</b>						
57	<b>3 - Utilities</b>						
59	Utility Allowance - High		RF	\$600.00			
60	Utility Allowance - Medium		RF	\$350.00			
61	Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		\$250,000
70	<b>4 - Track Materials - Included in the Rail Items</b>						
74	<b>5 - Structures</b>						
75	Bridge Structures DEA		LS	\$1.00			
76	Bridge Location						
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00			
78	MSE Retaining Wall - Typical DEA		SF	\$30.00			
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104	<b>6 - Stations</b>						
105	Stations	1	LS				
106	Station Name						
107	Artwork (*Subject to Board Policy)		LS	\$1.00			
108	Platform Electrical LTK610		LS	\$100,000			
115	<b>7 - Park &amp; Rides</b>						
116	Park & Ride		Space	\$4,300			
117	Park & Ride Location						
119	<b>8 - Operations Facility (All Yard elements Included)</b>						
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 226.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Steen Road Area to Sprague Ave Crossing			625+00	650+00	2,500 FT	0.5 mile
C -226.4	East Valley Section Alternate 4						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
124		Operations Facility Building LTK		SF	\$171.00		
125		Yard Maintenance Equipment LTK		LS	\$4,160,844		
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460		
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133		<b>9 - Traction Power System</b>					\$388,928
136		Sub-Station Type 3 LTK 910		EA	\$750,000		
138		OCS Single Contact Wire LTK920		RF	\$123.00		
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500	
141		Lighting LTK940	2,500	RF	\$8.11	\$20,265	
142		Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163	
147		<b>10 - Signal System</b>					\$722,190
148		Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190	
151		<b>11 - Communications</b>					\$317,808
152		Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808	
157		<b>12 - Fare Collection</b>					
158		Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321		
160		<b>Subtotal - Infrastructure</b>			Subtotal		\$3,710,688
161							
162		<b>13. Right of Way</b>					
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00		
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00		
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174		<b>14. Vehicles</b>					
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18		
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000		
179		<b>15 - Engineering &amp; Administration</b>			Subtotal		\$1,298,741
180		Infrastructure E & A 35.00%				\$1,298,741	
181		Vehicle E & A 5.00%					
185		<b>16 - Contingencies</b>			Subtotal		\$942,138
187		Vehicles Contingency 5.00%					
189		Infrastructure Contingency 20.00%				\$692,138	
191		Utilities Contingency 100.00%				\$250,000	
194		<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$260,558
195		Sales Tax 8.40%				\$260,558.23	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
						Total	\$6,212,125

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 227.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Sprague Ave Crossing to Greenacres Road		650+00	675+00	2,500 FT	0.5 mile	
C -227.4	East Valley Section Alternate 4						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
		<b>1-Civil Construction</b>					\$2,233,702
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance	280	LF	\$35.00	\$9,800	
4		Common Excavation	924	CY	\$15.00	\$13,860	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)	2,318	CY	\$4.00	\$9,272	
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10		Chain Link Fencing 6'	1,500	LF	\$22.00	\$33,000	
11		Ballast Walls (Curb-no drainage)		LF	\$22.00		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000	
26		Major Intersection Rebuild (4 Lanes)	1	EA	\$200,000	\$200,000	
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)	1	EA	\$200,000	\$200,000	
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction	1,800	SF	\$6.00	\$10,800	
32		Off Alignment Signal Modifications	1	EA	\$75,000.00	\$75,000	
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41		Signal Communication Building LTK130		EA	\$60,000.00		
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Artwork (*Subject to Board Policy)		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 227.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Sprague Ave Crossing to Greenacres Road		650+00	675+00	2,500 FT	0.5 mile	
C -227.4	East Valley Section Alternate 4						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$388,928	
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500		
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265		
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163		
147	<b>10 - Signal System</b>					\$722,190	
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190		
151	<b>11 - Communications</b>					\$317,808	
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808		
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal		\$3,912,627	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$1,369,419	
180	Infrastructure E & A 35.00%					\$1,369,419	
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal	\$982,525	
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%					\$732,525	
191	Utilities Contingency 100.00%					\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$274,129	
195	Sales Tax 8.40%					\$274,128.53	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$6,538,700	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 228.4

Spokane Regional								
		Light Rail Project	Estimate Basics					
		Order of Magnitude	Start Sta	End Sta	Length			
Drawing	Greenacres Road to Barker Road Area		675+00	700+00	2,500 FT	0.5 mile		
C -228.4	East Valley Section Alternate 4							
		Description	Quantity	Unit	Unit Cost	Extension	2001\$	
		<b>1-Civil Construction</b>						\$2,209,436
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000		
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500		
3		Curb & Gutter Allowance	320	LF	\$35.00	\$11,200		
4		Common Excavation	1,028	CY	\$15.00	\$15,420		
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00			
6		Common Backfill (From Project Excavation)	10,619	CY	\$4.00	\$42,476		
8		Landscaping Allowance		SF	\$2.00			
9		Chain Link Fencing 4' (on walls or Ballast Curb)	2,415	LF	\$16.00	\$38,640		
10		Chain Link Fencing 6'	100	LF	\$22.00	\$2,200		
11		Ballast Walls (Curb-no drainage)	2,415	LF	\$22.00	\$53,130		
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000		
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000			
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000		
15		Embedded (Paved) Track at Grade		TF	\$312			
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280			
19		LRT Siding or Pocket Track		TF	\$230			
20		Double Crossover		EA	\$300,000			
21		Single Crossover	1	EA	\$150,000	\$150,000		
22		Turnout		EA	\$75,000			
23		Impact Attenuators		EA	\$35,000			
24		Minor Street Closures Allowance		EA	\$25,000			
25		Minor Intersection Rebuild (2 Lanes)	1	EA	\$100,000	\$100,000		
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000			
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000			
28		Major Traffic Signal (4 Lanes)	1	EA	\$200,000	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000			
30		Roadway Construction		SF	\$9.00			
31		Sidewalk Construction	2,400	SF	\$6.00	\$14,400		
32		Off Alignment Signal Modifications		EA	\$75,000.00			
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00			
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00			
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00			
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00			
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00			
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00			
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00			
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638		
41		Signal Communication Building LTK130		EA	\$60,000.00			
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00			
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000		
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833		
50		<b>2 - Insurance - Included other in Items</b>						
57		<b>3 - Utilities</b>						\$250,000
59		Utility Allowance - High		RF	\$600.00			
60		Utility Allowance - Medium		RF	\$350.00			
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000		
70		<b>4 - Track Materials - Included in the Rail Items</b>						
74		<b>5 - Structures</b>						\$102,400
75		Bridge Structures DEA		LS	\$1.00			
76		Bridge Location						
77		Retaining Wall 4' Max (Low Gravity Wall)	3,200	SF	\$32.00	\$102,400		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00			
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00			
104		<b>6 - Stations</b>						
105		Stations	1	LS				
106		Station Name						
107		Artwork (*Subject to Board Policy)		LS	\$1.00			
108		Platform Electrical LTK610		LS	\$100,000			
115		<b>7 - Park &amp; Rides</b>						
116		Park & Ride		Space	\$4,300			
117		Park & Ride Location						
119		<b>8 - Operations Facility (All Yard elements Included)</b>						
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 228.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Greenacres Road to Barker Road Area		675+00	700+00	2,500 FT	0.5 mile	
C -228.4	East Valley Section Alternate 4						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
124		Operations Facility Building LTK		SF	\$171.00		
125		Yard Maintenance Equipment LTK		LS	\$4,160,844		
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460		
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133		<b>9 - Traction Power System</b>					\$388,928
136		Sub-Station Type 3 LTK 910		EA	\$750,000		
138		OCS Single Contact Wire LTK920		RF	\$123.00		
139		OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500	
141		Lighting LTK940	2,500	RF	\$8.11	\$20,265	
142		Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163	
147		<b>10 - Signal System</b>					\$722,190
148		Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190	
151		<b>11 - Communications</b>					\$317,808
152		Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808	
157		<b>12 - Fare Collection</b>					
158		Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321		
160		<b>Subtotal - Infrastructure</b>			Subtotal		\$3,990,761
161							
162		<b>13. Right of Way</b>					
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00		
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00		
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174		<b>14. Vehicles</b>					
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & 4)		EA	\$681,818.18		
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000		
179		<b>15 - Engineering &amp; Administration</b>			Subtotal		\$1,396,766
180		Infrastructure E & A 35.00%				\$1,396,766	
181		Vehicle E & A 5.00%					
185		<b>16 - Contingencies</b>			Subtotal		\$998,152
187		Vehicles Contingency 5.00%					
189		Infrastructure Contingency 20.00%				\$748,152	
191		Utilities Contingency 100.00%				\$250,000	
194		<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$279,379
195		Sales Tax 8.40%				\$279,379.14	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
						Total	\$6,665,059

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 229.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Barker Road Area to Appleway Station Area		700+00	725+00	2,500 FT	0.5 mile	
C -229.4	Liberty Lake Section Alternate 4						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
		<b>1-Civil Construction</b>					\$1,722,242
1		Site Preparation - Clearing & Grubbing	2,500	LF	\$10.00	\$25,000	
2		Grade Preparation to Top of subballast.	2,500	LF	\$35.00	\$87,500	
3		Curb & Gutter Allowance		LF	\$35.00		
4		Common Excavation		CY	\$15.00		
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)	22,493	CY	\$4.00	\$89,972	
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)	1,700	LF	\$16.00	\$27,200	
10		Chain Link Fencing 6'	650	LF	\$22.00	\$14,300	
11		Ballast Walls (Curb-no drainage)	400	LF	\$22.00	\$8,800	
12		Site Cleanup and Final Grading Allowance	2,500	LF	\$6.00	\$15,000	
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure	5,000	TF	\$223	\$1,115,000	
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction		SF	\$6.00		
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40		OCS Pole Foundations LTK120	2,500	RF	\$15.06	\$37,638	
41		Signal Communication Building LTK130		EA	\$60,000.00		
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43		Ductbank/ Conduit -OPEN TRACK- LTK140	2,500	RF	\$110.00	\$275,000	
45		Corrosion Mitigation LTK150	2,500	RF	\$10.73	\$26,833	
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					\$250,000
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low	2,500	RF	\$100.00	\$250,000	
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					\$166,400
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)	5,200	SF	\$32.00	\$166,400	
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Artwork (*Subject to Board Policy)		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 229.4

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Barker Road Area to Appleway Station Area		700+00	725+00	2,500 FT	0.5 mile			
C -229.4	Liberty Lake Section Alternate 4								
	Description	Quantity	Unit	Unit Cost	Extension	2001\$			
124	Operations Facility Building LTK		SF	\$171.00					
125	Yard Maintenance Equipment LTK		LS	\$4,160,844					
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460					
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000					
133	<b>9 - Traction Power System</b>								\$388,928
136	Sub-Station Type 3 LTK 910		EA	\$750,000					
138	OCS Single Contact Wire LTK920		RF	\$123.00					
139	OCS Simple Catenary LTK930	2,500	RF	\$109.00	\$272,500				
141	Lighting LTK940	2,500	RF	\$8.11	\$20,265				
142	Spare Parts/ System support LTK950	2,500	LS	\$38.47	\$96,163				
147	<b>10 - Signal System</b>								\$722,190
148	Signal (Alt 2 & Alt 3)	2,500	RF	\$288.88	\$722,190				
151	<b>11 - Communications</b>								\$317,808
152	Communications (Alt 2 & Alt 3)	2,500	RF	\$127.12	\$317,808				
157	<b>12 - Fare Collection</b>								
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321					
160	<b>Subtotal - Infrastructure</b>			Subtotal					\$3,567,567
161									
162	<b>13. Right of Way</b>								
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000					
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00					
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00					
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
174	<b>14. Vehicles</b>								
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00					
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18					
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000					
179	<b>15 - Engineering &amp; Administration</b>				Subtotal				\$1,248,648
180	Infrastructure	E & A 35.00%						\$1,248,648	
181	Vehicle	E & A 5.00%							
185	<b>16 - Contingencies</b>				Subtotal				\$913,513
187	Vehicles	Contingency 5.00%							
189	Infrastructure	Contingency 20.00%						\$663,513	
191	Utilities	Contingency 100.00%						\$250,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>								\$250,941
195		Sales Tax 8.40%						\$250,940.50	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.								
					Total				
							\$5,980,669		



# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 230.4

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing		Appleway Station Area to Country Vista Road Area	725+00	730+00	500 FT	0.1 mile
C -230.4		Liberty Lake Section Alternate 4				
		Description	Quantity	Unit	Unit Cost	Extension
						2001\$
<b>1-Civil Construction</b>						
						\$558,394
1		Site Preparation - Clearing & Grubbing	500	LF	\$10.00	\$5,000
2		Grade Preparation to Top of subballast.	500	LF	\$35.00	\$17,500
3		Curb & Gutter Allowance		LF	\$35.00	
4		Common Excavation		CY	\$15.00	
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00	
6		Common Backfill (From Project Excavation)		CY	\$4.00	
8		Landscaping Allowance		SF	\$2.00	
9		Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00	
10		Chain Link Fencing 6'	1,000	LF	\$22.00	\$22,000
11		Ballast Walls (Curb-no drainage)		LF	\$22.00	
12		Site Cleanup and Final Grading Allowance	500	LF	\$6.00	\$3,000
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000	
14		Ballasted Track at Grade or Structure	1,000	TF	\$223	\$223,000
15		Embedded (Paved) Track at Grade		TF	\$312	
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280	
19		LRT Siding or Pocket Track		TF	\$230	
20		Double Crossover		EA	\$300,000	
21		Single Crossover		EA	\$150,000	
22		Turnout		EA	\$75,000	
23		Impact Attenuators		EA	\$35,000	
24		Minor Street Closures Allowance		EA	\$25,000	
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000	
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000	
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000	
28		Major Traffic Signal (4 Lanes)		EA	\$200,000	
29		Complex Major Intersection Rebuild		EA	\$300,000	
30		Roadway Construction		SF	\$9.00	
31		Sidewalk Construction		SF	\$6.00	
32		Off Alignment Signal Modifications		EA	\$75,000.00	
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00	
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00	
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00	
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00	
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00	
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00	
39		TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000
40		OCS Pole Foundations LTK120	500	RF	\$15.06	\$7,528
41		Signal Communication Building LTK130	1	EA	\$60,000.00	\$60,000
42		Ductbank/ Conduit -PAVED TRACK- LTK140	500	RF	\$200.00	\$100,000
43		Ductbank/ Conduit -OPEN TRACK- LTK140	500	RF	\$110.00	\$55,000
45		Corrosion Mitigation LTK150	500	RF	\$10.73	\$5,367
50		<b>2 - Insurance - Included other in Items</b>				
57		<b>3 - Utilities</b>				\$50,000
59		Utility Allowance - High		RF	\$600.00	
60		Utility Allowance - Medium		RF	\$350.00	
61		Utility Allowance - Low	500	RF	\$100.00	\$50,000
70		<b>4 - Track Materials - Included in the Rail Items</b>				
74		<b>5 - Structures</b>				
75		Bridge Structures DEA		LS	\$1.00	
76		Bridge Location				
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00	
78		MSE Retaining Wall - Typical DEA		SF	\$30.00	
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00	
104		<b>6 - Stations</b>				\$850,000
105		Stations	1	LS	\$750,000	\$750,000
106		Station Name	Appleway Station Center Platform			
107		Artwork (*Subject to Board Policy)		LS	\$1.00	
108		Platform Electrical LTK610	1	LS	\$100,000	\$100,000
115		<b>7 - Park &amp; Rides</b>				\$4,300,000
116		Park & Ride	1,000	Space	\$4,300	\$4,300,000
117		Park & Ride Location	Appleway Station			
119		<b>8 - Operations Facility (All Yard elements Included)</b>				

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 230.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Area	Appleyway Station Area to Country Vista Road	725+00	730+00	500 FT	0.1 mile	
C -230.4	Liberty Lake Section Alternate 4						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		
124		Operations Facility Building LTK		SF	\$171.00		
125		Yard Maintenance Equipment LTK		LS	\$4,160,844		
126		Maintenance of Way Vehicles LTK		LS	\$1,847,460		
127		Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000		
133	<b>9 - Traction Power System</b>						\$827,786
136		Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000	
138		OCS Single Contact Wire LTK920		RF	\$123.00		
139		OCS Simple Catenary LTK930	500	RF	\$109.00	\$54,500	
141		Lighting LTK940	500	RF	\$8.11	\$4,053	
142		Spare Parts/ System support LTK950	500	LS	\$38.47	\$19,233	
147	<b>10 - Signal System</b>						\$144,438
148		Signal (Alt 2 & Alt 3)	500	RF	\$288.88	\$144,438	
151	<b>11 - Communications</b>						\$63,562
152		Communications (Alt 2 & Alt 3)	500	RF	\$127.12	\$63,562	
157	<b>12 - Fare Collection</b>						\$202,321
158		Fare Collection Vending/ Validator & Spares LTK1200	1	LS	\$202,321	\$202,321	
160	<b>Subtotal - Infrastructure</b>				Subtotal		\$6,996,500
161							
162	<b>13. Right of Way</b>						
163		Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000		
164		Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
165		Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00		
166		Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
167		Alternate 4 DEA Right of Way Acquisition Budget Estimate		LS	\$26,771,815.00		
168		Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00		
174	<b>14. Vehicles</b>						
175		Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00		
176		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & 3)		EA	\$681,818.18		
177		Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000		
179	<b>15 - Engineering &amp; Administration</b>				Subtotal		\$2,448,775
180	Infrastructure	E & A 35.00%				\$2,448,775	
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>				Subtotal		\$1,439,300
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$1,389,300	
191	Utilities	Contingency 100.00%				\$50,000	
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>						\$472,405
195		Sales Tax 8.40%				\$472,404.83	
196		Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.					
						<b>Total</b>	<b>\$11,356,980</b>

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 231.4

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing	Liberty Lake Area along side Interstate 90					
C -231.4	Liberty Lake Section Alternate 4					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing		LF	\$10.00		
2	Grade Preparation to Top of subballast.		LF	\$35.00		
3	Curb & Gutter Allowance		LF	\$35.00		
4	Common Excavation		CY	\$15.00		
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)		CY	\$4.00		
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10	Chain Link Fencing 6'		LF	\$22.00		
11	Ballast Walls (Curb-no drainage)		LF	\$22.00		
12	Site Cleanup and Final Grading Allowance		LF	\$6.00		
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure		TF	\$223		
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction		SF	\$6.00		
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40	OCS Pole Foundations LTK120		RF	\$15.06		
41	Signal Communication Building LTK130		EA	\$60,000.00		
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140		RF	\$110.00		
45	Corrosion Mitigation LTK150		RF	\$10.73		
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low		RF	\$100.00		
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS			
106	Station Name					
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610		LS	\$100,000		
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 231.4

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Liberty Lake Area along side Interstate 90								
C -231.4	Liberty Lake Section Alternate 4								
	Description	Quantity	Unit	Unit Cost	Extension	2001\$			
124	Operations Facility Building LTK		SF	\$171.00					
125	Yard Maintenance Equipment LTK		LS	\$4,160,844					
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460					
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000					
133	<b>9 - Traction Power System</b>								\$750,000
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000				
138	OCS Single Contact Wire LTK920		RF	\$123.00					
139	OCS Simple Catenary LTK930		RF	\$109.00					
141	Lighting LTK940		RF	\$8.11					
142	Spare Parts/ System support LTK950		LS	\$38.47					
147	<b>10 - Signal System</b>								
148	Signal (Alt 2 & Alt 3)		RF	\$288.88					
151	<b>11 - Communications</b>								
152	Communications (Alt 2 & Alt 3)		RF	\$127.12					
157	<b>12 - Fare Collection</b>								
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321					
160	<b>Subtotal - Infrastructure</b>				Subtotal				\$750,000
161									
162	<b>13. Right of Way</b>								
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000					
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00					
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00					
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
174	<b>14. Vehicles</b>								
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00					
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18					
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000					
179	<b>15 - Engineering &amp; Administration</b>				Subtotal				\$262,500
180	Infrastructure	E & A 35.00%				\$262,500			
181	Vehicle	E & A 5.00%							
185	<b>16 - Contingencies</b>				Subtotal				\$150,000
187	Vehicles	Contingency 5.00%							
189	Infrastructure	Contingency 20.00%				\$150,000			
191	Utilities	Contingency 100.00%							
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>								\$50,400
195	Sales Tax	8.40%				\$50,400.00			
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.								
						Total			\$1,212,900

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 232.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Liberty Lake Area along side Interstate 90						
C -232.4	Liberty Lake Section Alternate 4						
		Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>							
1		Site Preparation - Clearing & Grubbing		LF	\$10.00		
2		Grade Preparation to Top of subballast.		LF	\$35.00		
3		Curb & Gutter Allowance		LF	\$35.00		
4		Common Excavation		CY	\$15.00		
5		Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6		Common Backfill (From Project Excavation)		CY	\$4.00		
8		Landscaping Allowance		SF	\$2.00		
9		Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10		Chain Link Fencing 6'		LF	\$22.00		
11		Ballast Walls (Curb-no drainage)		LF	\$22.00		
12		Site Cleanup and Final Grading Allowance		LF	\$6.00		
13		Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14		Ballasted Track at Grade or Structure		TF	\$223		
15		Embedded (Paved) Track at Grade		TF	\$312		
16		Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19		LRT Siding or Pocket Track		TF	\$230		
20		Double Crossover		EA	\$300,000		
21		Single Crossover		EA	\$150,000		
22		Turnout		EA	\$75,000		
23		Impact Attenuators		EA	\$35,000		
24		Minor Street Closures Allowance		EA	\$25,000		
25		Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26		Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27		Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28		Major Traffic Signal (4 Lanes)		EA	\$200,000		
29		Complex Major Intersection Rebuild		EA	\$300,000		
30		Roadway Construction		SF	\$9.00		
31		Sidewalk Construction		SF	\$6.00		
32		Off Alignment Signal Modifications		EA	\$75,000.00		
33		Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34		Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35		Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36		Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37		Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38		Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39		TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40		OCS Pole Foundations LTK120		RF	\$15.06		
41		Signal Communication Building LTK130		EA	\$60,000.00		
42		Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43		Ductbank/ Conduit -OPEN TRACK- LTK140		RF	\$110.00		
45		Corrosion Mitigation LTK150		RF	\$10.73		
50		<b>2 - Insurance - Included other in Items</b>					
57		<b>3 - Utilities</b>					
59		Utility Allowance - High		RF	\$600.00		
60		Utility Allowance - Medium		RF	\$350.00		
61		Utility Allowance - Low		RF	\$100.00		
70		<b>4 - Track Materials - Included in the Rail Items</b>					
74		<b>5 - Structures</b>					
75		Bridge Structures DEA		LS	\$1.00		
76		Bridge Location					
77		Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78		MSE Retaining Wall - Typical DEA		SF	\$30.00		
79		Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104		<b>6 - Stations</b>					
105		Stations	1	LS			
106		Station Name					
107		Artwork (*Subject to Board Policy)		LS	\$1.00		
108		Platform Electrical LTK610		LS	\$100,000		
115		<b>7 - Park &amp; Rides</b>					
116		Park & Ride		Space	\$4,300		
117		Park & Ride Location					
119		<b>8 - Operations Facility (All Yard elements Included)</b>					
123		Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 232.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Liberty Lake Area along side Interstate 90						
C -232.4	Liberty Lake Section Alternate 4						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930		RF	\$109.00			
141	Lighting LTK940		RF	\$8.11			
142	Spare Parts/ System support LTK950		LS	\$38.47			
147	<b>10 - Signal System</b>						
148	Signal (Alt 2 & Alt 3)		RF	\$288.88			
151	<b>11 - Communications</b>						
152	Communications (Alt 2 & Alt 3)		RF	\$127.12			
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal		
180	Infrastructure	E & A 35.00%					
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>				Subtotal		
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%					
191	Utilities	Contingency 100.00%					
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>						
195		Sales Tax 8.40%					
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 233.4

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing	Liberty Lake Road Area to Signal Road					
C -233.4	Liberty Lake Section Alternate 4					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing		LF	\$10.00		
2	Grade Preparation to Top of subballast.		LF	\$35.00		
3	Curb & Gutter Allowance		LF	\$35.00		
4	Common Excavation		CY	\$15.00		
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)		CY	\$4.00		
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10	Chain Link Fencing 6'		LF	\$22.00		
11	Ballast Walls (Curb-no drainage)		LF	\$22.00		
12	Site Cleanup and Final Grading Allowance		LF	\$6.00		
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure		TF	\$223		
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction		SF	\$6.00		
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40	OCS Pole Foundations LTK120		RF	\$15.06		
41	Signal Communication Building LTK130		EA	\$60,000.00		
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140		RF	\$110.00		
45	Corrosion Mitigation LTK150		RF	\$10.73		
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low		RF	\$100.00		
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS			
106	Station Name					
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610		LS	\$100,000		
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 233.4

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing	Liberty Lake Road Area to Signal Road								
C -233.4	Liberty Lake Section Alternate 4								
	Description	Quantity	Unit	Unit Cost	Extension	2001\$			
124	Operations Facility Building LTK		SF	\$171.00					
125	Yard Maintenance Equipment LTK		LS	\$4,160,844					
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460					
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000					
133	<b>9 - Traction Power System</b>								\$750,000
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000				
138	OCS Single Contact Wire LTK920		RF	\$123.00					
139	OCS Simple Catenary LTK930		RF	\$109.00					
141	Lighting LTK940		RF	\$8.11					
142	Spare Parts/ System support LTK950		LS	\$38.47					
147	<b>10 - Signal System</b>								
148	Signal (Alt 2 & Alt 3)		RF	\$288.88					
151	<b>11 - Communications</b>								
152	Communications (Alt 2 & Alt 3)		RF	\$127.12					
157	<b>12 - Fare Collection</b>								
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321					
160	<b>Subtotal - Infrastructure</b>			Subtotal					\$750,000
161									
162	<b>13. Right of Way</b>								
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000					
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00					
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00					
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
174	<b>14. Vehicles</b>								
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00					
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18					
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000					
179	<b>15 - Engineering &amp; Administration</b>				Subtotal				\$262,500
180	Infrastructure	E & A 35.00%						\$262,500	
181	Vehicle	E & A 5.00%							
185	<b>16 - Contingencies</b>				Subtotal				\$150,000
187	Vehicles	Contingency 5.00%							
189	Infrastructure	Contingency 20.00%						\$150,000	
191	Utilities	Contingency 100.00%							
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>								\$50,400
195		Sales Tax 8.40%						\$50,400.00	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.								
								Total	\$1,212,900



## INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 234.4

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing	Signal Road to Madson Road Area					
C -234.4	Liberty Lake Section Alternate 4					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing		LF	\$10.00		
2	Grade Preparation to Top of subballast.		LF	\$35.00		
3	Curb & Gutter Allowance		LF	\$35.00		
4	Common Excavation		CY	\$15.00		
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)		CY	\$4.00		
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10	Chain Link Fencing 6'		LF	\$22.00		
11	Ballast Walls (Curb-no drainage)		LF	\$22.00		
12	Site Cleanup and Final Grading Allowance		LF	\$6.00		
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure		TF	\$223		
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction		SF	\$6.00		
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40	OCS Pole Foundations LTK120		RF	\$15.06		
41	Signal Communication Building LTK130		EA	\$60,000.00		
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140		RF	\$110.00		
45	Corrosion Mitigation LTK150		RF	\$10.73		
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low		RF	\$100.00		
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS			
106	Station Name					
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610		LS	\$100,000		
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516		

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 234.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Signal Road to Madson Road Area						
C -234.4	Liberty Lake Section Alternate 4						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>						
136	Sub-Station Type 3 LTK 910		EA	\$750,000			
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930		RF	\$109.00			
141	Lighting LTK940		RF	\$8.11			
142	Spare Parts/ System support LTK950		LS	\$38.47			
147	<b>10 - Signal System</b>						
148	Signal (Alt 2 & Alt 3)		RF	\$288.88			
151	<b>11 - Communications</b>						
152	Communications (Alt 2 & Alt 3)		RF	\$127.12			
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>			Subtotal			
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal		
180	Infrastructure E & A 35.00%						
181	Vehicle E & A 5.00%						
185	<b>16 - Contingencies</b>				Subtotal		
187	Vehicles Contingency 5.00%						
189	Infrastructure Contingency 20.00%						
191	Utilities Contingency 100.00%						
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>						
195	Sales Tax 8.40%						
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
						Total	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 235.4

Spokane Regional						
		Light Rail Project	Estimate Basics			
		Order of Magnitude	Start Sta	End Sta	Length	
Drawing		Liberty Lake Station (Molter Rd) and Line Terminus Area				
C -235.4		Liberty Lake Section Alternate 4				
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
	<b>1-Civil Construction</b>					\$130,000
1	Site Preparation - Clearing & Grubbing		LF	\$10.00		
2	Grade Preparation to Top of subballast.		LF	\$35.00		
3	Curb & Gutter Allowance		LF	\$35.00		
4	Common Excavation		CY	\$15.00		
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)		CY	\$4.00		
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10	Chain Link Fencing 6'		LF	\$22.00		
11	Ballast Walls (Curb-no drainage)		LF	\$22.00		
12	Site Cleanup and Final Grading Allowance		LF	\$6.00		
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure		TF	\$223		
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators	2	EA	\$35,000	\$70,000	
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction		SF	\$6.00		
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110	1	EA	\$60,000.00	\$60,000	
40	OCS Pole Foundations LTK120		RF	\$15.06		
41	Signal Communication Building LTK130		EA	\$60,000.00		
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140		RF	\$110.00		
45	Corrosion Mitigation LTK150		RF	\$10.73		
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low		RF	\$100.00		
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					\$100,000
105	Stations	1	LS			
106	Station Name					
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610	1	LS	\$100,000	\$100,000	
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 235.4

Spokane Regional							
		Light Rail Project	Estimate Basics				
		Order of Magnitude	Start Sta	End Sta	Length		
Drawing	Liberty Lake Station (Molter Rd) and Line Terminus Area						
C -235.4	Liberty Lake Section Alternate 4						
	Description	Quantity	Unit	Unit Cost	Extension	2001\$	
123	Bldg & Yard Site Prep, Grading & Utilities LTK811		LS	\$18,551,516			
124	Operations Facility Building LTK		SF	\$171.00			
125	Yard Maintenance Equipment LTK		LS	\$4,160,844			
126	Maintenance of Way Vehicles LTK		LS	\$1,847,460			
127	Communications Control Center/ Hardware/ Software LTK		LS	\$1,900,000			
133	<b>9 - Traction Power System</b>					\$750,000	
136	Sub-Station Type 3 LTK 910	1	EA	\$750,000	\$750,000		
138	OCS Single Contact Wire LTK920		RF	\$123.00			
139	OCS Simple Catenary LTK930		RF	\$109.00			
141	Lighting LTK940		RF	\$8.11			
142	Spare Parts/ System support LTK950		LS	\$38.47			
147	<b>10 - Signal System</b>						
148	Signal (Alt 2 & Alt 3)		RF	\$288.88			
151	<b>11 - Communications</b>						
152	Communications (Alt 2 & Alt 3)		RF	\$127.12			
157	<b>12 - Fare Collection</b>						
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321			
160	<b>Subtotal - Infrastructure</b>				Subtotal	\$980,000	
161							
162	<b>13. Right of Way</b>						
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000			
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00			
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00			
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00			
174	<b>14. Vehicles</b>						
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00			
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 4)		EA	\$681,818.18			
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000			
179	<b>15 - Engineering &amp; Administration</b>				Subtotal	\$343,000	
180	Infrastructure	E & A 35.00%				\$343,000	
181	Vehicle	E & A 5.00%					
185	<b>16 - Contingencies</b>				Subtotal	\$196,000	
187	Vehicles	Contingency 5.00%					
189	Infrastructure	Contingency 20.00%				\$196,000	
191	Utilities	Contingency 100.00%					
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>					\$65,856	
195	Sales Tax 8.40%					\$65,856.00	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.						
					Total	\$1,584,856	

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE

## SPOKANE LIGHT RAIL TRANSIT

### Drawing #C 300.4

Spokane Regional						
Light Rail Project		Estimate Basics				
Order of Magnitude		Start Sta	End Sta	Length		
Drawing						
C -300.4	<b>Maintenance Facility Alternate 4</b>					
	Description	Quantity	Unit	Unit Cost	Extension	2001\$
<b>1-Civil Construction</b>						
1	Site Preparation - Clearing & Grubbing		LF	\$10.00		
2	Grade Preparation to Top of subballast.		LF	\$35.00		
3	Curb & Gutter Allowance		LF	\$35.00		
4	Common Excavation		CY	\$15.00		
5	Select Backfill (MSE Retaining Walls)		CY	\$15.00		
6	Common Backfill (From Project Excavation)		CY	\$4.00		
8	Landscaping Allowance		SF	\$2.00		
9	Chain Link Fencing 4' (on walls or Ballast Curb)		LF	\$16.00		
10	Chain Link Fencing 6'		LF	\$22.00		
11	Ballast Walls (Curb-no drainage)		LF	\$22.00		
12	Site Cleanup and Final Grading Allowance		LF	\$6.00		
13	Transition Slab Ballasted to Embedded /Bridge /Structure		EA	\$8,000		
14	Ballasted Track at Grade or Structure		TF	\$223		
15	Embedded (Paved) Track at Grade		TF	\$312		
16	Direct Fixation (DF) Track, Elevated Structure		TF	\$280		
19	LRT Siding or Pocket Track		TF	\$230		
20	Double Crossover		EA	\$300,000		
21	Single Crossover		EA	\$150,000		
22	Turnout		EA	\$75,000		
23	Impact Attenuators		EA	\$35,000		
24	Minor Street Closures Allowance		EA	\$25,000		
25	Minor Intersection Rebuild (2 Lanes)		EA	\$100,000		
26	Major Intersection Rebuild (4 Lanes)		EA	\$200,000		
27	Minor Traffic Signal (2 Lanes)		EA	\$100,000		
28	Major Traffic Signal (4 Lanes)		EA	\$200,000		
29	Complex Major Intersection Rebuild		EA	\$300,000		
30	Roadway Construction		SF	\$9.00		
31	Sidewalk Construction		SF	\$6.00		
32	Off Alignment Signal Modifications		EA	\$75,000.00		
33	Construct Maintenance Road Assume All Weather Gravel - 12 FT Wide		LF	\$35.00		
34	Industrial Railroad Turnouts East Side Syndicate Spur - HDR		EA	\$65,000.00		
35	Relocate UPRR Yard Lead or Branch Line		TF	\$100.00		
36	Remove & Relocate Industrial Spur HDR		TF	\$130.00		
37	Provide Team Track and Loading Dock (HDR)		LS	\$208,000.00		
38	Lake Rd Industrial Spur Modifications (HDR)		LS	\$476,000.00		
39	TPS Building, Foundation & Ground Mat. LTK110		EA	\$60,000.00		
40	OCS Pole Foundations LTK120		RF	\$15.06		
41	Signal Communication Building LTK130		EA	\$60,000.00		
42	Ductbank/ Conduit -PAVED TRACK- LTK140		RF	\$200.00		
43	Ductbank/ Conduit -OPEN TRACK- LTK140		RF	\$110.00		
45	Corrosion Mitigation LTK150		RF	\$10.73		
50	<b>2 - Insurance - Included other in Items</b>					
57	<b>3 - Utilities</b>					
59	Utility Allowance - High		RF	\$600.00		
60	Utility Allowance - Medium		RF	\$350.00		
61	Utility Allowance - Low		RF	\$100.00		
70	<b>4 - Track Materials - Included in the Rail Items</b>					
74	<b>5 - Structures</b>					
75	Bridge Structures DEA		LS	\$1.00		
76	Bridge Location					
77	Retaining Wall 4' Max (Low Gravity Wall)		SF	\$32.00		
78	MSE Retaining Wall - Typical DEA		SF	\$30.00		
79	Cut & Cover Box/ Tunnel to Pine Road Aerial Station		LF	\$3,500.00		
104	<b>6 - Stations</b>					
105	Stations	1	LS			
106	Station Name					
107	Artwork (*Subject to Board Policy)		LS	\$1.00		
108	Platform Electrical LTK610		LS	\$100,000		
115	<b>7 - Park &amp; Rides</b>					
116	Park & Ride		Space	\$4,300		
117	Park & Ride Location					
119	<b>8 - Operations Facility (All Yard elements Included)</b>					
123	Bldg & Yard Site Prep, Grading & Utilities LTK811	1.0	LS	\$18,551,516	\$18,551,516	\$39,284,820

# INTERIM PRELIMINARY ENGINEERING COST ESTIMATE SPOKANE LIGHT RAIL TRANSIT Drawing #C 300.4

Spokane Regional									
		Light Rail Project		Estimate Basics					
		Order of Magnitude		Start Sta	End Sta	Length			
Drawing									
C -300.4	Maintenance Facility Alternate 4								
	Description	Quantity	Unit	Unit Cost	Extension	2001\$			
124	Operations Facility Building LTK	75,000	SF	\$171.00	\$12,825,000				
125	Yard Maintenance Equipment LTK	1	LS	\$4,160,844	\$4,160,844				
126	Maintenance of Way Vehicles LTK	1	LS	\$1,847,460	\$1,847,460				
127	Communications Control Center/ Hardware/ Software LTK	1	LS	\$1,900,000	\$1,900,000				
133	<b>9 - Traction Power System</b>								
136	Sub-Station Type 3 LTK 910		EA	\$750,000					
138	OCS Single Contact Wire LTK920		RF	\$123.00					
139	OCS Simple Catenary LTK930		RF	\$109.00					
141	Lighting LTK940		RF	\$8.11					
142	Spare Parts/ System support LTK950		LS	\$38.47					
147	<b>10 - Signal System</b>								
148	Signal (Alt 2 & Alt 3)		RF	\$288.88					
151	<b>11 - Communications</b>								
152	Communications (Alt 2 & Alt 3)		RF	\$127.12					
157	<b>12 - Fare Collection</b>								
158	Fare Collection Vending/ Validator & Spares LTK1200		LS	\$202,321					
160	<b>Subtotal - Infrastructure</b>				Subtotal				\$39,284,820
161									
162	<b>13. Right of Way</b>								
163	Alternate 2 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$30,000,000					
164	Alternate 2 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
165	Alternate 3 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$27,914,712.00					
166	Alternate 3 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
167	Alternate 4 DEA Right of Way Acquisition Budget Estimate (Including Railroads & Operation Facility)		LS	\$26,771,815.00					
168	Alternate 4 HazMat Demo & Disposal (Tanks,Waste Mitigation etc.) - Allowance		LS	\$5,000,000.00					
174	<b>14. Vehicles</b>								
175	Low Floor Light Rail Vehicles - Base Cost LTK 1600		EA	\$2,500,000.00					
176	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 2 & Alt 3)		EA	\$681,818.18					
177	Low Floor Light Rail Vehicles - Spare Parts LTK 1600 (Alt 4)		EA	\$700,000					
179					Subtotal				\$13,749,687
180	Infrastructure	E & A 35.00%						\$13,749,687	
181	Vehicle	E & A 5.00%							
185					Subtotal				\$7,856,964
187	Vehicles	Contingency 5.00%							
189	Infrastructure	Contingency 20.00%						\$7,856,964	
191	Utilities	Contingency 100.00%							
194	<b>17 - Washington State Sales Tax and Real Estate Tax</b>								
195								\$2,639,939.90	
196	Sales Tax has been applied to 2/3 of Infrastructure & Contingency (Reduced to eliminate tax on Labor) and 100% of the vehicle's estimated total.								
						Total			\$63,531,411