

**CONCEPT DESIGN - CAPITAL COST ESTIMATE**

**I-5 Trade Corridor - Concept 7**

**Corridor Section: Columbia River Crossing -THREE LANE STR. Date: 27-Mar-02**

**Arterial included**

**Date of Cost Index: August 2001**

		Unit	Quantity	Cost	Total	
<b>I. RIGHT OF WAY/REAL ESTATE</b>						<b>\$65,171,329</b>
1	1.1	Commercial	SF	1,069,661	\$25	\$26,741,525
	1.2	Residential	SF	11,396	\$15	\$170,940
	1.3	Buildings	LS	1	\$12,000,000	\$12,000,000
	1.3.1	Business Relocation	LS	1	\$20,000,000	\$20,000,000
	1.4	Open Lands	SF	66,172	\$5.00	\$330,860
	1.5	Railroad R/W	SF	2,225	\$1.50	\$3,338
2		Subtotal	SG			\$59,246,663
3		Engineering & Admin	LS	10%	\$5,924,666	\$5,924,666
<b>II. CIVIL CONSTRUCTION</b>						
1	Utility Relocations					<b>\$21,495,160</b>
	1.1	Urban Corridor	M	14.2	\$1,500,000.00	\$21,267,159
	1.2	Open Lands	M	1	\$200,000.00	\$228,000
	1.3	Lane Addition	M	0	\$125,000.00	\$0
2	General Excavation/Fill					<b>\$3,036,298</b>
	2.1	General Excavation	CY	12,000	\$14.00	\$168,000.00
	2.2	Fill	CY	204,878	\$14.00	\$2,868,297.70
3	Surfacing / Paving					<b>\$18,516,707</b>
	3.1	New Surfacing - ACP (includes wearing course, base course, agg base, excav to 30" section depth)	SY	150,345	\$65.00	\$9,772,396.11
	3.2	New Surfacing - PCC (includes concrete, agg base, excav to section depth)	SY	86,738	\$92.00	\$7,979,896.00
	3.3	Overlay Surfacing - ACP (includes surface prep, ACP waring course, and leveling course)	SY	117,602	\$6.50	\$764,414.44
	3.4	Sidewalk - PCC (includes concrete, excav, agg base)	SY	5,733		
4	Roadside Development					<b>\$15,792,748</b>
	4.1	Drainage System	M	15.3	\$1,000,000.00	\$15,318,106.06
	4.2	Restoration of Wetlands	AC	2.8	\$170,000.00	\$474,641.87
5	Traffic Services & Safety					<b>\$7,901,918</b>
	5.1	Illumination	M	15.3	\$250,000.00	\$3,829,526.52
	5.2	Signage (includes signage, supports, sign bridges, and pavement markings)	M	15.3	\$100,000.00	\$1,531,810.61
	5.3	Signalized Intersection	EA	8	\$300,000.00	\$2,400,000.00
	5.4	Striping	LM	53.0	\$2,650.00	\$140,580.39
6	Structures					<b>\$418,409,133</b>
	6.01	Highway overpass	SF	389,040	\$100.00	\$38,904,000.00
	6.02	Overland Bridge	SF	457,362	\$150.00	\$68,604,300.00
	6.03	Low/Mid level over water	SF	731,193	\$275.00	\$201,078,075.00
	6.04	High level over water	SF	0	\$325.00	\$0.00
	6.05	Movable lift span	SF	45,000	\$1,670.00	\$75,150,000.00
	6.06	Double Deck over water	SF		\$438.00	\$0.00
	6.07	Pedestrian Bridge	SF	0	\$140.00	\$0.00
	6.08	Bridge Widening	SF	59,449	\$154.00	\$9,155,146.00
	6.09	Bridge Demolition	SF	173,472	\$25.73	\$4,463,434.56
	6.1	Cut and Cover Box	LF	1,163	4299	\$4,999,737.00
	6.11	Tunnel	LF	0	\$3,750	\$0.00
	6.12	Tie-back Retaining Wall	SF	0	\$90.00	\$0.00
	6.13	MSE Retaining Wall	SF	10,132	\$29.00	\$293,828.00
	6.14	CIP wall <10' hgt	SF	110,606	\$35.00	\$3,871,210.00
	6.15	CIP wall 10'-15' hgt	SF	86,543	\$40.00	\$3,461,720.00
	6.16	CIP wall 15'-20' hgt	SF	26,295	\$47.00	\$1,235,865.00
	6.17	CIP wall 20'-25' hgt	SF	75,495	\$55.00	\$4,152,225.00
	6.18	Soundwalls	SF	34,854	\$23.00	\$801,642.00
	6.19	Soundwall Relocation	SF	0	\$16.00	\$0.00
	6.2	Soundwall Demolation	SF	0	\$10.00	\$0.00
	6.21	Concrete Barrier	LF	40,690	\$55.00	\$2,237,950.00
7	Park and Ride					<b>\$0</b>
	7.1	Surface Lot	Space		\$2,500.00	\$0.00
	7.2	Garage - 0-3 levels	Space		\$9,000.00	\$0.00
	7.3	Garage - 4+ levels	Space		\$11,000.00	\$0.00
8	Civil Construction Subtotal (Lines 1 through 7)					\$485,151,964
9	Mobilization -				8% of Line 8	\$ 38,812,157
10	Subtotal (Lines 8 & 9)					\$ 523,964,121
11	Construction Contingency				32% of Line 10	\$ 167,668,519
12	Construction Total (Lines 10 & 11)					\$ 691,632,640

III DESIGN ENGINEERING & ADMINISTRATION (25% of Line 12)

\$ 172,908,160

IV TOTAL HIGHWAY CAPITAL COST Lines I, 12 and III

\$ 929,712,129

V. LRT SYSTEM (EXPO TO 5TH ST., VACOUPER)

\$81,690,159

1	Civil Construction	\$16,300,304.00
2	Transit Vehicles (4 LRVs)	\$12,057,834.00
3	Operations Facilities	\$2,007,656.00
4	Traction Electrification System	\$3,104,967.00
5	Signals	\$2,991,811.00
6	Communications	\$844,353.00
7	Fare Collection	\$496,002.00
8	Right of way	\$14,779,182.00
9	Engineering & Admin	\$10,931,325.00
10	Contingency	\$18,176,725.00

VI TOTAL CAPITAL COST (2001 \$) Lines IV AND V

\$ 1,011,402,288

CONCEPT DESIGN - CAPITAL COST ESTIMATE						
<b>I-5 Trade Corridor - Concept 7</b>						
<b>Corridor Section: Columbia River Crossing-THREE LANE STR.</b>				<b>Date:</b>	27-Mar-02	
<b>Arterial not included</b>				<b>Date of Cost Index:</b>	August 2001	
			Unit	Quantity	Cost	Total
<b>I.</b>	<b>RIGHT OF WAY/REAL ESTATE</b>					<b>\$65,171,329</b>
1	1.1	Commercial	SF	1,069,661	\$25	\$26,741,525
	1.2	Residential	SF	11,396	\$15	\$170,940
	1.3	Buildings	LS	1	\$12,000,000	\$12,000,000
	1.3.1	Business Relocation	LS	1	\$20,000,000	\$20,000,000
	1.4	Open Lands	SF	66,172	\$5.00	\$330,860
	1.5	Railroad R/W	SF	2,225	\$1.50	\$3,338
2		Subtotal	SG			\$59,246,663
3		Engineering & Admin	LS	10%	\$5,924,666	\$5,924,666
<b>II.</b>	<b>CIVIL CONSTRUCTION</b>					
1	Utility Relocations					<b>\$19,698,000</b>
	1.1	Urban Corridor	M	13.0	\$1,500,000.00	\$19,470,000
	1.2	Open Lands	M	1	\$200,000.00	\$228,000
	1.3	Lane Addition	M	0	\$125,000.00	\$0
2	General Excavation/Fill					<b>\$3,014,831</b>
	2.1	General Excavation	CY	12,000	\$14.00	\$168,000.00
	2.2	Fill	CY	203,345	\$14.00	\$2,846,831.04
3	Surfacing / Paving					<b>\$17,867,125</b>
	3.1	New Surfacing - ACP	SY	140,351	\$65.00	\$9,122,815.00
		(includes wearing course, base course, agg base, excav to 30" section depth)				
	3.2	New Surfacing - PCC	SY	86,738	\$92.00	\$7,979,896.00
		(includes concrete, agg base, excav to section depth)				
	3.3	Overlay Surfacing - ACP	SY	117,602	\$6.50	\$764,414.44
		(includes surface prep, ACP wearing course, and leveling course)				
	3.4	Sidewalk - PCC	SY	4,280		
		(includes concrete, excav, agg base)				
4	Roadside Development					<b>\$14,594,642</b>
	4.1	Drainage System	M	14.1	\$1,000,000.00	\$14,120,000.00
	4.2	Restoration of Wetlands	AC	2.8	\$170,000.00	\$474,641.87
5	Traffic Services & Safety					<b>\$6,599,185</b>
	5.1	Illumination	M	14.2	\$250,000.00	\$3,546,382.58
	5.2	Signage	M	14.2	\$100,000.00	\$1,418,553.03
		(includes signage, supports, sign bridges, and pavement markings)				
	5.3	Signalized Intersection	EA	5	\$300,000.00	\$1,500,000.00
	5.4	Stripping	LM	50.7	\$2,650.00	\$134,249.00
6	Structures					<b>\$346,582,466</b>
	6.01	Highway overpass	SF	389,040	\$100.00	\$38,904,000.00
	6.02	Overland Bridge	SF	441,228	\$150.00	\$66,184,200.00
	6.03	Low/Mid level over water	SF	563,410	\$275.00	\$154,937,750.00
	6.04	High level over water	SF	0	\$325.00	\$0.00
	6.05	Movable lift span	SF	31,200	\$1,670.00	\$52,104,000.00
	6.06	Double Deck over water	SF	0	\$438.00	\$0.00
	6.07	Pedestrian Bridge	SF	0	\$140.00	\$0.00
	6.08	Bridge Widening	SF	59,449	\$154.00	\$9,155,146.00
	6.09	Bridge Demolition	SF	173,472	\$25.73	\$4,463,434.56
	6.1	Cut and Cover Box	LF	1,163	4299	\$4,999,737.00
	6.11	Tunnel	LF	0	\$3,750	\$0.00
	6.12	Tie-back Retaining Wall	SF	0	\$90.00	\$0.00
	6.13	MSE Retaining Wall	SF	9,232	\$29.00	\$267,728.00
	6.14	CIP wall <10' hgt	SF	110,606	\$35.00	\$3,871,210.00
	6.15	CIP wall 10'-15' hgt	SF	86,543	\$40.00	\$3,461,720.00
	6.16	CIP wall 15'-20' hgt	SF	26,295	\$47.00	\$1,235,865.00
	6.17	CIP wall 20'-25' hgt	SF	75,495	\$55.00	\$4,152,225.00
	6.18	Soundwalls	SF	19,920	\$23.00	\$458,160.00
	6.19	Soundwall Relocation	SF	0	\$16.00	\$0.00
	6.2	Soundwall Demolation	SF	14,934	\$10.00	\$149,340.00
	6.21	Concrete Barrier	LF	40,690	\$55.00	\$2,237,950.00
7	Park and Ride					<b>\$0</b>
	7.1	Surface Lot	Space		\$2,500.00	\$0.00
	7.2	Garage - 0-3 levels	Space		\$9,000.00	\$0.00
	7.3	Garage - 4+ levels	Space		\$11,000.00	\$0.00
8	Civil Construction Subtotal (Lines 1 through 7)					<b>\$408,356,249</b>
9	Mobilization -				8% of Line 8	\$ 32,668,500
10	Subtotal (Lines 8 & 9)					\$ 441,024,749
11	Construction Contingency				32% of Line 10	\$ 141,127,920
12	Construction Total (Lines 10 & 11)					\$ 582,152,669
<b>III.</b>	<b>DESIGN ENGINEERING &amp; ADMINISTRATION (25% of Line 12)</b>					<b>\$ 145,538,167</b>
<b>IV.</b>	<b>TOTAL CAPITAL COST (2001 \$) Lines I, 12 and III</b>					<b>\$ 792,862,164</b>
<b>V.</b>	<b>LRT SYSTEM (EXPO TO 5TH ST., VACOUVER)</b>					<b>\$81,690,159</b>
1	Civil Construction				\$16,300,304.00	
2	Transit Vehicles (4 LRVs)				\$12,057,834.00	
3	Operations Facilities				\$2,007,656.00	
4	Traction Electrification System				\$3,104,967.00	
5	Signals				\$2,991,811.00	
6	Communications				\$844,353.00	
7	Fare Collection				\$496,002.00	
8	Right of way				\$14,779,182.00	
9	Engineering & Admin				\$10,931,325.00	
10	Contingency				\$18,176,725.00	
<b>VI.</b>	<b>TOTAL CAPITAL COST (2001 \$) Lines IV AND V</b>					<b>\$ 874,552,323</b>