LIFE CYCLE COST

(PRESENT WORTH METHOD)

Project KCCF Skybridge Removal Study
Location Seattle, WA
adjusted DR for real? no
PROJECT LIFE CYCLE (YEARS) 20
DISCOUNT RATE (% in decimals) 7%
nominal discount rate 7%

					ALT. 1 Surface Transporation			ALT. 2 Use existing tunnel system			ALT. 3 New Tunnel System			ALT. 4 Pedestrian Skybridge		
Construction Costs			Unit	Unit Cost	Quantity	Est. Cost	PW	Quantity	Est. Cost	PW	Quantity	Est. Cost	PW	Quantity	Est. Cost	PW
A)	Demolition of Existing Skybridge		LF	300	500	150,000	150,000	500	150,000	150,000	500	150,000	150,000	500	150,000	150,000
B)	Rerouting of Utilities		LF	150	2,000	300,000	300,000	2,000	300,000	300,000	1,000	150,000	150,000	1,000	150,000	150,000
C)	Tunneling (12 ft diameter, incl all services)		LF	47,000		0	0	508	23,876,000	23,876,000	600	28,200,000	28,200,000	425	19,975,000	19,975,000
D)	New Pedestrian Skybridge		SF	450		0	0		0	0		0	0	945	425,250	425,250
E)	Tenant Improvements in Courthouse		SF	200		0	0	1,000	200,000	200,000	1,750	350,000	350,000	4,000	800,000	800,000
F)	New Sally Port in Courthouse		SF	200	4,000	800,000	800,000		0	0		0	0		0	0
Other Initial Costs			Unit	Unit Cost												
A)	Elevator		EA	100,000			0	4	400,000	400,000	2	200,000	200,000	2	200,000	200,000
B)	Vans		EA	125,000	4	500,000	500,000			0		0	0		0	0
Total Initial Cost Impact (IC)							1,750,000			24,926,000			29,050,000			21,700,250
Replacement/Salvage Costs		Year	Factor	Unit	Unit Cost	Quantity	Est. Cost	PW	Quantity	Est. Cost	PW	Quantity	Est. Cost	PW	Quantity	Est. Cost	PW
A)	Re-Condition Vans	5	0.7130	EA	10,000	4	40,000	28,519			0			0			0
B)		10	0.5083	EA	10,000	4	40,000	20,333			0			0			0
C)		15	0.3624	EA	10,000	4	40,000	14,497			0			0			0
D)			1.0000					0			0			0			0
E)			1.0000					0			0			0			0
F)			1.0000					0			0			0			0
G)			1.0000					0			0			0			0
H)			1.0000					0			0			0			0
Total Replacement/Salvage PW Costs							63,349			0			0			0
Annual Operating Cost		Escl. %	PWA	Unit	Cost/Yr	Quantity	Est. Cost	PW	Quantity	Est. Cost	PW	Quantity	Est. Cost	PW	Quantity	Est. Cost	PW
A)	Additional Staff	3.0%	13.732	Per Staff	77,600	10	776,000	10,655,732	1	77,600	1,065,573			0			0
B)	Vehicle O & M	3.0%	13.732	Per Van	2,000	4	8,000	109,853			0			0			0
C)	Off-Site Parking ($15/day)	3.0%	13.732	Per Van	5,475	4	21,900	300,722			0			0			0
D)	Gas (7 miles/day=1/2 gal/day)	3.0%	13.732	Per Van	396	4	1,584	21,751			0			0			0
E)	1/2 gal x $3.30/gal=$1.65/day		10.594				0	0			0			0			0
F)	240 work days x $1.65= $396/yr		10.594				0	0			0			0			0
G)			10.594				0	0			0			0			0
Total Operation/Maintenance (PW) Costs								11,088,058			1,065,573			0			0
Total Present Worth Life Cycle Costs								**12,901,407**			**25,991,573**			**29,050,000**			**21,700,250**

PW - Present Worth PWA - Present Worth of Annuity

Annual Cost to County compared to keeping existing Skybridge **$1,217,802** **$2,453,421** **$2,742,114** **$2,048,350**

ATTACHMENT 1