

Honolulu High-Capacity Transit Corridor Project Alternatives Analysis

LPA Cost Estimate

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City and County of Honolulu

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1.0 Introduction

On December 22, 2006 the Honolulu City Council selected a fixed-guideway alternative from Kapolei to the University of Hawai‘i at Mānoa and Waikīkī as the Locally Preferred Alternative (LPA) for the Honolulu High-Capacity Transit Corridor Project. The LPA selection was made with recognition of the fact that currently identified revenue sources, including revenues from the 0.5 percent General Excise Tax surcharge in place from January 1, 2007 through December 31, 2022, and a reasonable expectation of funds available from Section 5309 New Starts, would not be sufficient to fund the capital cost of the project. Thus a financially feasible first project, or Minimum Operable Segment, needed to be chosen. The City Council, on February 27, 2007, selected East Kapolei to Ala Moana Center, via Salt Lake Boulevard as the first project to be implemented.

This first project, East Kapolei to Ala Moana Center, via Salt Lake Boulevard, is the City’s proposed “New Start” project; the project seeking entry into preliminary engineering.

As part of the process of seeking FTA approval to begin preliminary engineering on the East Kapolei to Ala Moana Center fixed guideway project, capital and operating and maintenance (O&M) cost estimates have been prepared. These costs are generally consistent with the capital and O&M cost estimates presented in the *Honolulu High-Capacity Transit Corridor Project Alternatives Analysis Report*, November 1, 2006, but they have been modified to reflect the specific fixed guideway alignment and systemwide transit service plan of the New Start project. Also, consistent with FTA guidance, the cost estimates are presented in 2007 dollars, updated from the 2006 dollar cost estimates presented in the *Alternatives Analysis Report*.

2.0 Capital Cost Estimate

Transit capital costs include those associated with the implementation of the East Kapolei to Ala Moana Center New Start fixed guideway project as well as bus facility and vehicle costs which support the remainder of the islandwide transit system.

2.1 Fixed Guideway Project

Table 1 shows the estimated capital cost for implementation of the East Kapolei to Ala Moana Center fixed guideway project. These costs also include intermodal costs at various transit stations along the line, including bus interface costs such as bus bays and shelters, and auto interface costs such as Park-and-Ride lots and Kiss-and-Ride spaces.

Table 1. Estimated Project Capital Cost

Cost Category	Cost without Contingency	Allocated Contingency	TOTAL
Guideway and Track Elements	977.1	247.0	1,224.1
Stations, Stops, Terminals	193.4	48.3	241.7
Support Facilities: Yards, Shops, Admin. Bldgs	92.7	23.2	115.9
Sitework and Special Conditions	489.1	153.5	642.6
Systems	178.3	44.5	222.8
Construction Subtotal	1,930.6	516.5	2,447.1
ROW and Relocation	60.3	24.1	84.4
Vehicles	227.3	22.7	250.0
Professional Services	579.2	154.9	734.1
Subtotal	2,797.4	718.2	3,515.6
Unallocated Contingency (Project Reserve)			210.9
Total Project Cost			3,726.5

Appendix A includes detailed capital cost breakdown sheets by alignment section and cost category.

2.2 Bus Costs

Bus costs include construction and upgrades of maintenance and operations bases, transit centers and park-and-ride lots and the expansion and replacement of the bus fleet.

For the transit system assuming implementation of the fixed guideway project expected costs for maintenance and operations bases and transit centers through the year 2030 total approximately \$104.4 million. These costs are the same as would be expended under the conditions of the No-Build alternative. The majority of these costs are for projects included in the FY 2008–2011 Transportation Improvement Program, including the Alapa'i Transit and Joint Traffic Management Center, the Middle Street Intermodal Center, the West O'ahu Bus and Handi-Van Maintenance Facility, and the Windward Transit Center.

For the Baseline (TSM) alternative, costs for maintenance and operations bases and transit centers would total approximately \$155.2 million

For the Build alternative, the majority of costs associated with the construction of park-and-ride lots are included in the project capital costs for the East Kapolei to Ala Moana Center fixed guideway project, as they are for facilities connected with fixed guideway stations. One additional park-and-ride lot is included, away from the fixed guideway alignment, located adjacent to the H-2 Ka Uka Interchange. This 1,000-vehicle lot, with an estimated cost of \$8.85 million in 2007 dollars, is also included in the Baseline (TSM) alternative. The Baseline alternative would include an additional \$39 million for park-and-ride lots, a 1,350-vehicle lot in Kapolei, a 1,450-vehicle lot in East Kapolei and a 1,650-vehicle lot at Aloha Stadium.

The projected 2030 bus fleet associated with the East Kapolei to Ala Moana Center fixed guideway project includes 64 30-foot diesel buses, 224 40-foot hybrid electric buses, and 307 60-foot hybrid electric buses. Costs for these vehicle types, in 2007 dollars, are estimated as:

- | | |
|-------------------------------|-----------|
| ○ 30-foot diesel bus | \$365,000 |
| ○ 40-foot hybrid electric bus | \$626,000 |
| ○ 60-foot hybrid electric bus | \$876,000 |

The capital cost to purchase the year 2030 bus fleet is \$432,516,000. Bus replacement costs prior to 2030 would total \$366,407,000.

For the No-Build alternative the projected 2030 bus fleet includes 42 30-foot diesel buses, 258 40-foot hybrid electric buses, and 345 60-foot hybrid electric buses. The

capital cost to purchase the year 2030 bus fleet is \$479,058,000. Bus replacement costs prior to 2030 would total \$440,040,000.

For the Baseline (TSM) alternative the projected 2030 bus fleet includes 63 30-foot diesel buses, 344 40-foot hybrid electric buses, and 394 60-foot hybrid electric buses. The capital cost to purchase the year 2030 bus fleet is \$583,483,000. Bus replacement costs prior to 2030 would total \$531,437,000.

Table 2 summarizes the bus capital cost estimates for each alternative.

Table 2: Bus Capital Cost Estimates

Alternative	2030 Bus Fleet ¹	Bus Replacements Prior to 2030	Handi-Van Vehicle Replacements	Bus Facilities	Total Bus Capital Costs
No-Build	479	440	73	104	1,096
Baseline (TSM)	584	531	73	203	1,391
Build (New Start Project)	433	366	73	113	985

¹ The expenditure needed to purchase the forecast year 2030 fleet for each alternative.

3.0 Operating and Maintenance Cost Estimates

O&M cost estimates have been prepared for the bus and fixed guideway components of the transit system for two years: the year of opening of the entire 20-mile East Kapolei to Ala Moana Center fixed guideway project, anticipated to be Fiscal Year 2018-2019; and for the horizon planning year, 2030. The cost estimates have been prepared consistent with the methodology described in the *Honolulu High-Capacity Transit Corridor Project O&M Costing Memorandum*, November 15, 2006, except that costs have been adjusted to 2007 dollars.

Table 3 and Table 4 show the revised formulae.

Table 3: Bus Transit O&M Cost Formula

O&M Cost in 2007 Dollars =	(\$ 84,786	x Number of Peak Vehicles, Standard Bus) +
	(\$100,895	x Number of Peak Vehicles, Artic. Diesel Bus) +
	(\$109,370	x Number of Peak Vehicles, Artic. Hybrid Bus) +
	(\$ 1.59	x Annual Revenue Vehicle Miles, Standard Bus) +
	(\$ 2.21	x Annual Revenue Vehicle Miles, Artic Diesel Bus)
	+	
	(\$ 2.40	x Annual Rev. Vehicle Miles, Artic Hybrid Bus) +
	(\$ 54.48	x Annual Revenue Vehicle Hours) +
	(\$836,971	x Number of Maintenance Facilities & Terminals) +
	(\$523,107	x Number of Service Centers) +
	(\$.059	x Annual Unlinked Passenger Trips)

Table 4: Fixed Guideway Transit O&M Cost Formula

O&M Cost in 2007 Dollars =	(\$ 7.20 x Annual Revenue Vehicle Miles) +
	(\$ 248.83 x Annual Revenue Train Hours) +
	(\$167,079 x Directional Route Miles) +
	(\$169,867 x Number of Stations)

Table 5 presents estimated annual O&M costs, by year, for the No-Build alternative, the Baseline (TSM) alternative and for the transit system including the East Kapolei to Ala Moana Center fixed guideway project.

Table 5: Annual O&M Costs

Alternative	2019			2030		
	Bus O&M Cost	Fixed Guideway O&M Cost	Total O&M Cost ¹	Bus O&M Cost	Fixed Guideway O&M Cost	Total O&M Cost ¹
	(millions of 2007 dollars)			(millions of 2007 dollars)		
No-Build	193.0	–	193.0	207.5	–	207.5
Baseline (TSM)	238.4	–	238.4	255.6	–	255.6
Build (New Start Project)	193.6	59.7	253.3	205.2	65.9	271.1

¹ Handi-Van O&M costs are not included.

Appendix A Fixed Guideway Capital Cost Details

Honolulu High-Capacity Transit Corridor Project Fixed Guideway Alternatives Summary Cost Comparison of Alternative Analysis New Start Project (East Kapolei to Ala Moana Center)				East Kapolei to Ala Moana Center			
				Preliminary - Not Final (2007\$ with Contingency)		Preliminary - Not Final (2007\$ with Contingency)	
				Sections & Alignments		Sections & Alignments	
				Section 1		Section 2	
Description				Saratoga Ave/North-South Rd from UHWO- Makai Station Alt 5		Fort Weaver Rd to Aloha Stadium	
				5		1	
				At-grade/elevated		At-grade/elevated	
10.00	GUIDEWAY & TRACK ELEMENTS						
10.01	Guideway: At-grade Exclusive Right-of-way			\$2,345,832			
10.04	Guideway: Aerial structure			\$100,350,471		\$270,085,058	
10.06	Guideway: Underground cut & cover			\$0		\$25,540,500	
10.08	Guideway: Retained cut or fill			\$9,196,200		\$12,261,600	
10.09	Track: Direct fixation			\$10,837,068		\$28,485,864	
10.11	Track: Ballasted			\$3,354,792		\$798,000	
10.12	Track: Special (switches, turnouts)			\$3,147,939		\$4,911,913	
	SUBTOTAL GUIDEWAY & TRACK			\$129,232,302		\$342,082,935	
20.00	STATIONS, STOPS, TERMINALS, INTERMODAL						
20.01	At-grade station, stop, shelter, mall, terminal, platform			\$3,575,347		\$3,575,347	
20.02	Aerial station, stop, shelter, mall, terminal, platform			\$13,689,526		\$27,379,052	
20.07	Elevators, escalators			\$7,132,972		\$14,265,944	
	SUBTOTAL COST STATIONS, STOPS, TERMINALS, INTERMODAL			\$24,397,845		\$45,220,343	
30.00	YARDS, SHOPS, ADMIN/SUPPORT FACILITIES						
30.01	Administration Building: Office, sales, storage, revenue counting			\$0		\$0	
30.03	Heavy Maintenance Facility			\$0		\$0	
30.04	Storage Building & Yard			"IN 30.03"		"IN 30.03"	
	SUBTOTAL COST YARDS, SHOPS, ADMIN/SUPPORT FACILITIES			\$0		\$0	
40.00	SITWORK & SPECIAL CONDITIONS						
40.01	Demolition, Clearing, Earthwork ¹			\$2,562,736		\$7,821,958	
40.02	Site Utilities, Utility Relocation			\$13,198,759		\$18,991,640	
40.03	Haz. mat'l, contam'd soil removal/mitigation, ground water treatments			\$351,542		\$4,814,454	
40.04	Environmental mitigation, e.g. wetlands, historic/archeologic, parks			\$750,000		\$2,500,000	
40.06	Site Development: Roads, walks, plazas, parking lots, landscape work			\$33,993,392		\$102,462,039	
	SUBTOTAL COST SITWORK & SPECIAL CONDITIONS			\$50,856,429		\$136,590,091	
50.00	SYSTEMS						
50.01	Train control and signals			\$7,230,778		\$9,462,684	
50.02	Traffic signals and crossing protection			\$0		\$9,024,439	
50.03	Traction power supply: substations			\$7,338,140		\$12,841,745	
50.04	Traction power distribution: catenary and third rail			\$5,332,980		\$9,184,508	
50.05	Communications			\$6,435,846		\$11,881,716	
50.06	Fare collection system and equipment			\$1,056,084		\$1,760,140	
50.07	Central Control			\$0		\$0	
	SUBTOTAL COST SYSTEMS			\$27,393,828		\$54,155,232	
	SUBTOTAL CONSTRUCTION COSTS			\$231,880,404		\$578,048,601	
	CONTINGENCY (WEIGHTED AVERAGE)			\$59,656,405		\$150,479,005	
	SUBTOTAL CONSTRUCTION COSTS WITH CONTINGENCY			\$291,536,809		\$728,527,606	
	FEE/RISK				in items above	in items above	
	ADJUSTMENT FOR CASUAL OVERTIME (2.5% OF DIRECT LABOR)			\$1,913,210		\$4,780,962	
	SUBTOTAL CONSTRUCTION COSTS			\$293,450,020		\$733,308,569	
	HAWAII STATE EXCISE 4.712%			\$13,827,365		\$34,553,500	
	TOTAL CONSTRUCTION COSTS (2 nd qtr 2007\$)			\$307,277,385		\$767,862,069	

Honolulu High-Capacity Transit Corridor Project Fixed Guideway Alternatives Summary Cost Comparison of Alternative Analysis New Start Project (East Kapolei to Ala Moana Center)				East Kapolei to Ala Moana Center			
				Preliminary - Not Final (2007\$ with Contingency)		Preliminary - Not Final (2007\$ with Contingency)	
				Sections & Alignments Section 1		Sections & Alignments Section 2	
Description		Saratoga Ave/North-South Rd from UHWO- Makai Station		Fort Weaver Rd to Aloha Stadium			
60.00	ROW, LAND, EXISTING IMPROVEMENTS						
60.01	Purchase or lease of real property		\$0	\$3,640,000			
60.02	Relocation of existing households and businesses		\$0	\$400,000			
	SUBTOTAL COST ROW, LAND, EXISTING IMPROVEMENTS		\$0	\$4,040,000			
	CONTINGENCY & ENGINEERING (40%+10%)	50%	\$0	\$2,020,000			
	TOTAL ROW COSTS		\$0	\$6,060,000			
70.00	VEHICLES						
70.01	Light Rail		IN SECTION 6	IN SECTION 6			
70.06	Non-revenue vehicles		IN SECTION 6	IN SECTION 6			
70.07	Spare parts (10% of LRV's)		IN SECTION 6	IN SECTION 6			
	SUBTOTAL VEHICLE COST		\$0	\$0			
	CONTINGENCY & ENGINEERING STAFF(10%+14%)	24%	\$0	\$0			
	TOTAL VEHICLE COSTS		\$0	\$0			
80.00	SOFT COSTS						
80.01	Preliminary Engineering	3.0%	\$9,218,322	\$23,035,862			
80.02	Final Design	4.5%	\$13,827,482	\$34,553,793			
80.03	Project Management for Design and Construction	5.5%	\$16,900,256	\$42,232,414			
80.04	Construction Administration & Management	10.0%	\$30,727,738	\$76,786,207			
80.05	Insurance-Professional liability	1.50%	\$4,609,161	\$11,517,931			
80.06	Legal, Permits, Review Fees by other agencies, cities, etc	1.50%	\$4,609,161	\$11,517,931			
80.07	Survey, Testing, Investigation, Inspection	0.50%	\$1,536,387	\$3,839,310			
80.08	Agency: Force Account Work (2% ^{3,4})	3.5%	\$10,754,708	\$26,875,172			
	SUBTOTAL SOFT COSTS		30%	\$92,183,215	\$230,358,621		
90.00	CONTINGENCY (Project Reserve) (10 thru 80)		6.0%	\$23,967,636	\$60,256,841		
100.00	FINANCE CHARGES			\$0	\$0		
110.00	Total Construction (10+20+30+40+50) (2 nd qtr 2007\$)			\$307,277,385	\$767,862,069		
	OTHER PROJECT COST (60+70+80+90+100) (2 nd qtr 2007\$)			\$116,150,851	\$296,675,462		
	TOTAL PROJECT COST (10+20+30+40+50+60+70+80+90+100) (2 nd qtr 2007\$)			\$423,428,236	\$1,064,537,531		
	Route foot length			19,269'	35,574'		
	Construction Cost per Route Foot (2 nd qtr 2007\$)			\$15,900	\$21,600		
	Construction Cost per Route Mile (2 nd qtr 2007\$)			\$83,952,000	\$114,048,000		

Honolulu High-Capacity Transit Corridor Project Fixed Guideway Alternatives Summary Cost Comparison of Alternative Analysis New Start Project (East Kapolei to Ala Moana Center)				East Kapolei to Ala Moana Center			
				Preliminary - Not Final (2007\$ with Contingency)		Preliminary - Not Final (2007\$ with Contingency)	
				Sections & Alignments Section 3		Sections & Alignments Section 4	
Description				Salt Lake Blvd/Dillingham Blvd			
				section 3 alt 2	Dillingham Blvd		
				15	18		
				Elevated	Elevated		
10.00	GUIDEWAY & TRACK ELEMENTS						
10.01	Guideway: At-grade Exclusive Right-of-way						
10.04	Guideway: Aerial structure			\$207,092,796	\$72,920,349		
10.06	Guideway: Underground cut & cover			\$0	\$0		
10.08	Guideway: Retained cut or fill			\$0	\$0		
10.09	Track: Direct fixation			\$20,876,592	\$7,350,948		
10.11	Track: Ballasted			\$0	\$0		
10.12	Track: Special (switches, turnouts)			\$2,029,832	\$3,044,748		
SUBTOTAL GUIDEWAY & TRACK				\$229,999,220	\$83,316,045		
20.00	STATIONS, STOPS, TERMINALS, INTERMODAL						
20.01	At-grade station, stop, shelter, mall, terminal, platform			\$0	\$0		
20.02	Aerial station, stop, shelter, mall, terminal, platform			\$13,518,880	\$20,534,289		
20.07	Elevators, escalators			\$7,132,972	\$10,699,458		
SUBTOTAL COST STATIONS, STOPS, TERMINALS, INTERMODAL				\$20,651,852	\$31,233,747		
30.00	YARDS, SHOPS, ADMIN/SUPPORT FACILITIES						
30.01	Administration Building: Office, sales, storage, revenue counting			\$0	\$0		
30.03	Heavy Maintenance Facility			\$0	\$0		
30.04	Storage Building & Yard			"IN 30.03"	"IN 30.03"		
SUBTOTAL COST YARDS, SHOPS, ADMIN/SUPPORT FACILITIES				\$0	\$0		
40.00	SITWORK & SPECIAL CONDITIONS						
40.01	Demolition, Clearing, Earthwork ¹			\$5,418,924	\$1,908,081		
40.02	Site Utilities, Utility Relocation			\$19,825,068	\$74,445,278		
40.03	Haz. mat'l, contam'd soil removal/mitigation, ground water treatments			\$228,516	\$3,426,096		
40.04	Environmental mitigation, e.g. wetlands, historic/archeologic, parks			\$2,500,000	\$2,500,000		
40.06	Site Development: Roads, walks, plazas, parking lots, landscape work			\$18,653,226	\$6,835,549		
SUBTOTAL COST SITWORK & SPECIAL CONDITIONS				\$46,625,734	\$89,115,004		
50.00	SYSTEMS						
50.01	Train control and signals			\$6,642,552	\$2,338,938		
50.02	Traffic signals and crossing protection			\$5,758,386	\$3,169,338		
50.03	Traction power supply: substations			\$9,172,675	\$3,669,070		
50.04	Traction power distribution: catenary and third rail			\$6,043,224	\$2,127,906		
50.05	Communications			\$8,340,648	\$2,936,862		
50.06	Fare collection system and equipment			\$704,056	\$1,056,084		
50.07	Central Control			\$0	\$0		
SUBTOTAL COST SYSTEMS				\$36,661,541	\$15,298,198		
SUBTOTAL CONSTRUCTION COSTS				\$333,938,347	\$218,962,994		
CONTINGENCY (WEIGHTED AVERAGE)				\$86,281,837	\$62,968,694		
SUBTOTAL CONSTRUCTION COSTS WITH CONTINGENCY				\$420,220,184	\$281,931,688		
FEE/RISK				in items above	in items above		
ADJUSTMENT FOR CASUAL OVERTIME (2.5% OF DIRECT LABOR)				\$2,757,695	\$1,850,177		
SUBTOTAL CONSTRUCTION COSTS				\$422,977,879	\$283,781,864		
HAWAII STATE EXCISE 4.712%				\$19,930,718	\$13,371,801		
TOTAL CONSTRUCTION COSTS (2 nd qtr 2007\$)				\$442,908,597	\$297,153,666		

Honolulu High-Capacity Transit Corridor Project Fixed Guideway Alternatives Summary Cost Comparison of Alternative Analysis New Start Project (East Kapolei to Ala Moana Center)				East Kapolei to Ala Moana Center			
				Preliminary - Not Final (2007\$ with Contingency)		Preliminary - Not Final (2007\$ with Contingency)	
				Sections & Alignments Section 3		Sections & Alignments Section 4	
date: 05/04/07							
Description				Salt Lake Blvd/Dillingham Blvd			
				Dillingham Blvd			
60.00	ROW, LAND, EXISTING IMPROVEMENTS						
60.01	Purchase or lease of real property			\$5,000,000	\$6,540,000		
60.02	Relocation of existing households and businesses			\$0	\$0		
	SUBTOTAL COST ROW, LAND, EXISTING IMPROVEMENTS			\$5,000,000	\$6,540,000		
	CONTINGENCY & ENGINEERING (40%+10%)						
		50%		\$2,500,000	\$3,270,000		
	TOTAL ROW COSTS			\$7,500,000	\$9,810,000		
70.00	VEHICLES						
70.01	Light Rail			IN SECTION 6	IN SECTION 6		
70.06	Non-revenue vehicles			IN SECTION 6	IN SECTION 6		
70.07	Spare parts (10% of LRV's)			IN SECTION 6	IN SECTION 6		
	SUBTOTAL VEHICLE COST			\$0	\$0		
	CONTINGENCY & ENGINEERING STAFF(10%+14%)						
		24%		\$0	\$0		
	TOTAL VEHICLE COSTS			\$0	\$0		
80.00	SOFT COSTS						
80.01	Preliminary Engineering	3.0%		\$13,287,258	\$8,914,610		
80.02	Final Design	4.5%		\$19,930,887	\$13,371,915		
80.03	Project Management for Design and Construction	5.5%		\$24,359,973	\$16,343,452		
80.04	Construction Administration & Management	10.0%		\$44,290,860	\$29,715,367		
80.05	Insurance-Professional liability	1.50%		\$6,643,629	\$4,457,305		
80.06	Legal, Permits, Review Fees by other agencies, cities, etc	1.50%		\$6,643,629	\$4,457,305		
80.07	Survey, Testing, Investigation, Inspection	0.50%		\$2,214,543	\$1,485,768		
80.08	Agency: Force Account Work (2% ^{3,4})	3.5%		\$15,501,801	\$10,400,378		
	SUBTOTAL SOFT COSTS			\$132,872,579	\$89,146,100		
90.00	CONTINGENCY (Project Reserve) (10 thru 80)						
		6.0%		\$34,996,871	\$23,766,586		
100.00	FINANCE CHARGES			\$0	\$0		
110.00	Total Construction (10+20+30+40+50) (2 nd qtr 2007\$)			\$442,908,597	\$297,153,666		
	OTHER PROJECT COST (60+70+80+90+100) (2 nd qtr 2007\$)			\$175,369,450	\$122,722,686		
	TOTAL PROJECT COST (10+20+30+40+50+60+70+80+90+100) (2 nd qtr 2007\$)			\$618,278,046	\$419,876,352		
	Route foot length			24,972'	8,793'		
	Construction Cost per Route Foot (2 nd qtr 2007\$)			\$17,700	\$33,800		
	Construction Cost per Route Mile (2 nd qtr 2007\$)			\$93,456,000	\$178,464,000		

Honolulu High-Capacity Transit Corridor Project Fixed Guideway Alternatives Summary Cost Comparison of Alternative Analysis New Start Project (East Kapolei to Ala Moana Center)				East Kapolei to Ala Moana Center	
				Preliminary - Not Final (2007\$ with Contingency)	Preliminary - Not Final (2007\$ with Contingency)
				Sections & Alignments Section 5	Sections & Alignments Section 6
Description				Dillingham/Nimitz Hwy/Halekauwila St/Kapiolani Blvd to Ala Moana Sta	Systemwide
				25	26
				Elevated	Elevated
10.00	GUIDEWAY & TRACK ELEMENTS				
	10.01	Guideway: At-grade Exclusive Right-of-way			
	10.04	Guideway: Aerial structure		\$124,182,587	\$0
	10.06	Guideway: Underground cut & cover		\$0	\$0
	10.08	Guideway: Retained cut or fill		\$0	\$0
	10.09	Track: Direct fixation		\$12,142,064	\$0
	10.11	Track: Ballasted		\$0	\$0
	10.12	Track: Special (switches, turnouts)		\$6,141,454	\$0
	SUBTOTAL GUIDEWAY & TRACK			\$142,466,105	\$0
20.00	STATIONS, STOPS, TERMINALS, INTERMODAL				
	20.01	At-grade station, stop, shelter, mall, terminal, platform		\$0	\$0
	20.02	Aerial station, stop, shelter, mall, terminal, platform		\$42,267,831	\$0
	20.07	Elevators, escalators		\$19,679,831	\$0
	SUBTOTAL COST STATIONS, STOPS, TERMINALS, INTERMODAL			\$61,947,662	\$0
30.00	YARDS, SHOPS, ADMIN/SUPPORT FACILITIES				
	30.01	Administration Building: Office, sales, storage, revenue counting		\$0	\$16,243,157
	30.03	Heavy Maintenance Facility		\$0	\$71,689,859
	30.04	Storage Building & Yard		"IN 30.03"	"IN 30.03"
	SUBTOTAL COST YARDS, SHOPS, ADMIN/SUPPORT FACILITIES			\$0	\$87,933,016
40.00	SITWORK & SPECIAL CONDITIONS				
	40.01	Demolition, Clearing, Earthwork ¹		\$3,151,708	\$0
	40.02	Site Utilities, Utility Relocation		\$130,822,353	\$0
	40.03	Haz. mat'l, contam'd soil removal/mitigation, ground water treatments		\$0	\$0
	40.04	Environmental mitigation, e.g. wetlands, historic/archeologic, parks		\$750,000	\$0
	40.06	Site Development: Roads, walks, plazas, parking lots, landscape work		\$6,131,073	\$0
	SUBTOTAL COST SITWORK & SPECIAL CONDITIONS			\$140,855,134	\$0
50.00	SYSTEMS				
	50.01	Train control and signals		\$3,863,384	\$0
	50.02	Traffic signals and crossing protection		\$7,082,653	\$0
	50.03	Traction power supply: substations		\$5,503,605	\$0
	50.04	Traction power distribution: catenary and third rail		\$3,514,808	\$0
	50.05	Communications		\$4,851,016	\$0
	50.06	Fare collection system and equipment		\$2,112,168	\$0
	50.07	Central Control		\$0	\$8,693,757
	SUBTOTAL COST SYSTEMS			\$26,927,634	\$8,693,757
	SUBTOTAL CONSTRUCTION COSTS			\$372,196,535	\$96,626,773
	CONTINGENCY (WEIGHTED AVERAGE)			\$106,521,540	\$24,156,693
	SUBTOTAL CONSTRUCTION COSTS WITH CONTINGENCY			\$478,718,075	\$120,783,466
	FEE/RISK				
	ADJUSTMENT FOR CASUAL OVERTIME (2.5% OF DIRECT LABOR)			\$3,141,587	\$792,641
	SUBTOTAL CONSTRUCTION COSTS			\$481,859,662	\$121,576,108
	HAWAII STATE EXCISE 4.712%			\$22,705,227	\$5,728,666
	TOTAL CONSTRUCTION COSTS (2 nd qtr 2007\$)			\$504,564,889	\$127,304,774

Honolulu High-Capacity Transit Corridor Project Fixed Guideway Alternatives Summary Cost Comparison of Alternative Analysis New Start Project (East Kapolei to Ala Moana Center)				East Kapolei to Ala Moana Center			
				Preliminary - Not Final (2007\$ with Contingency)		Preliminary - Not Final (2007\$ with Contingency)	
				Sections & Alignments Section 5		Sections & Alignments Section 6	
Description				Dillingham/Nimitz Hwy/Halekauwila St/Kapiolani Blvd to Ala Moana Sta	Systemwide		
60.00	ROW, LAND, EXISTING IMPROVEMENTS						
60.01	Purchase or lease of real property			\$39,960,000	\$0		
60.02	Relocation of existing households and businesses			\$700,000	\$0		
	SUBTOTAL COST ROW, LAND, EXISTING IMPROVEMENTS			\$40,660,000	\$0		
	CONTINGENCY & ENGINEERING (40%+10%)		50%	\$20,330,000	\$0		
	TOTAL ROW COSTS			\$60,990,000	\$0		
70.00	VEHICLES						
70.01	Light Rail			IN SECTION 6	\$179,491,752		
70.06	Non-revenue vehicles			IN SECTION 6	\$4,203,149		
70.07	Spare parts (10% of LRV's)			IN SECTION 6	\$17,949,162		
	SUBTOTAL VEHICLE COST			\$0	\$201,644,063		
	CONTINGENCY & ENGINEERING STAFF(10%+14%)		24%	\$0	\$48,394,575		
	TOTAL VEHICLE COSTS			\$0	\$250,038,638		
80.00	SOFT COSTS						
80.01	Preliminary Engineering	3.0%		\$15,136,947	\$3,819,143		
80.02	Final Design	4.5%		\$22,705,420	\$5,728,715		
80.03	Project Management for Design and Construction	5.5%		\$27,751,069	\$7,001,763		
80.04	Construction Administration & Management	10.0%		\$50,456,489	\$12,730,477		
80.05	Insurance-Professional liability	1.50%		\$7,568,473	\$1,909,572		
80.06	Legal, Permits, Review Fees by other agencies, cities, etc	1.50%		\$7,568,473	\$1,909,572		
80.07	Survey, Testing, Investigation, Inspection	0.50%		\$2,522,824	\$636,524		
80.08	Agency: Force Account Work (2% ^{3,4})	3.5%		\$17,659,771	\$4,455,667		
	SUBTOTAL SOFT COSTS		30%	\$151,369,467	\$38,191,432		
90.00	CONTINGENCY (Project Reserve) (10 thru 80)		6.0%	\$43,015,461	\$24,932,091		
100.00	FINANCE CHARGES			\$0	\$0		
110.00	Total Construction (10+20+30+40+50) (2 nd qtr 2007\$)			\$504,564,889	\$127,304,774		
	OTHER PROJECT COST (60+70+80+90+100) (2 nd qtr 2007\$)			\$255,374,928	\$313,162,161		
	TOTAL PROJECT COST (10+20+30+40+50+60+70+80+90+100) (2 nd qtr 2007\$)			\$759,939,817	\$440,466,935		
	Route foot length			14,524'			
	Construction Cost per Route Foot (2 nd qtr 2007\$)			\$34,700			
	Construction Cost per Route Mile (2 nd qtr 2007\$)			\$183,216,000			

Honolulu High-Capacity Transit Corridor Project								
Fixed Guideway Alternatives								
Summary Cost Comparison of Alternative Analysis								
Pricing Sheet								
Guideway & Trackwork								
New Start Project (East Kapolei to Ala Moana Center)								
					Saratoga Ave/North-South Rd from UHWO-Makai Station		Fort Weaver Rd to Aloha Stadium	
					Section 1 Alt 5a		Section 2 Alt 1	
1	2	3	4	5	64	65	22	23
DESCRIPTION		COST	QTY	UNIT				
10.00 GUIDEWAY & TRACK ELEMENTS (route miles)								
Guideway: At-grade Exclusive								
csc10.01-1	Single At-Grade Ballasted Trackbed - Open		1	RF	\$300	-	\$0	\$0
csc10.01-2	Double At-Grade Ballasted Trackbed - Open		1	RF	\$372	6,306	\$2,345,832	\$0
csc10.01-5	Single At-Grade Guideway for Paved Track		1	RF	**NOT USED	-	-	-
csc10.01-6	Double At-Grade Guideway for Paved Track		1	RF	**NOT USED	-	-	-
10.01	Guideway: At-grade Exclusive			RF		\$2,345,832		\$0
10.02	Guideway: At-grade semi-exclusive (allows cross-traffic) NOT USED*****					**NOT USED**		**NOT USED**
Guideway: At-grade in mixed traffic								
csc10.01-4	Double At-Grade Guideway for Paved Track		1	RF	\$365	0	\$0	\$0
10.03	Guideway: At-grade in mixed traffic			RF		\$0		\$0
Guideway: Aerial structure								
csc10.04-1	Segmental Aerial Structure (T/R +25 Ft.) Column (6 ft Dia)		1	RF	\$8,117	12,363	\$100,350,471	33,274
csc10.04-2a	Standard Aerial Dual Structure (T/R +30 Ft.) CIP		1	RF	\$6,300	-	\$0	\$0
csc10.04-2	Segmental Aerial Structure (T/R +30 Ft.) Column (6 ft Dia)		1	RF	\$8,218	-	\$0	\$0
csc10.04-3	Segmental Aerial Structure (T/R +40 Ft.) Column (6 ft Dia)		1	RF	\$8,293	-	\$0	\$0
csc10.04-4	Segmental Aerial Structure (T/R +50 Ft.) Column (8 ft Dia)		1	RF	\$8,601	-	\$0	\$0
csc10.04-5	Segmental Aerial Structure (T/R +60 Ft.) Column (8 ft dia)		1	RF	\$8,864	-	\$0	\$0
csc10.04-6	Standard Aerial Dual Structure (T/R +30 Ft.) Cast - in Place		1	RF	\$6,086	-	\$0	\$0
csc10.04-6X	FACTOR FOR DOWNTOWN AERIAL STRUCTURE		1	%	30%	-	\$0	\$0
10.04	Guideway: Aerial structure			RF		12,363	\$100,350,471	\$33,274
10.05	Guideway: Built-up fill not used*****							\$270,085,058
Guideway: Underground cut & cover								
csc10.06-1	Cut & Cover, Tunnel (TBM) , Portal, U Wall (Hotel St / Kawaiano / K		1	RF	\$35,886	-	\$0	\$0
csc10.06-2	U-Wall Retained Cut Dual Track Portal (Avg. Depth 25 ft)		1	RF	\$17,027	-	\$0	1,500
10.06	Guideway: Underground cut & cover			RF				\$25,540,500
Guideway: Underground tunnel								
csc10.07-1	Tunnel, Portal and U-Wall (Hotel Waimanu / Kapiolani Blvd)		1	RF	\$33,024	-	\$0	\$0
csc10.07-2	Tunnel, Portal and U-Wall (North King \ Bertania St \ S King St)		1	RF	\$26,520	-	\$0	\$0
csc10.07-3	Tunnel, Portal and U-Wall (Dillingham \ Bertania St \ S King St)		1	RF	\$26,520	-	\$0	\$0
csc10.07-4	Tunnel, Portal and U-Wall (King St Option 1 sta 1315+55 to 1408+91)		1	RF	\$27,483	-	\$0	\$0
csc10.07-5	Tunnel, Portal and U-Wall (King St Option 2 sta 1348+50 to 1408+91)		1	RF	\$29,417	-	\$0	\$0
10.07	Guideway: Underground tunnel							\$0
Guideway: Retained cut or fill								
csc10.08-1	Abutment Double At-Grade (Avg. D. T/R +10 Ft.) 100 ft length		1	RF	\$15,327	600	\$9,196,200	800
csc10.08-2	Abutment Single At-Grade (Avg. D. T/R +10 Ft.)		1	RF	\$7,744	-	\$0	\$0
10.08	Guideway: Retained cut or fill			RF			\$9,196,200	\$12,261,600
Track: Direct fixation								
csc10.09-1	Direct Fixation Track - Single		1	RF	\$520	-	\$0	\$0
csc10.09-2	Direct Fixation Dual Track		1	RF	\$836	12,963	\$10,837,068	34,074
10.09	Track: Direct fixation			RF			\$10,837,068	\$28,485,864
Track: Embedded/Paved								
csc10.10-1	Paved Track (In Street) - Single		1	RF	\$876	-	\$0	\$0
csc10.10-2	Paved Track (In Street) - DUAL		1	RF	\$1,640	-	\$0	\$0
10.10	Track: Embedded/Paved			RF				\$0
Track: Ballasted								
csc10.11-1	Ballasted Track (Open) - Single		1	RF	\$262	-	\$0	\$0
csc10.11-2	Ballasted Track (Open) - Double		1	RF	\$532	6,306	\$3,354,792	1,500
10.11	Track: Ballasted			RF			\$3,354,792	\$798,000
Track: Special (switches, turnouts)								
csc10.12-1	Double Crossover DF (No. 10)		1	EA	\$1,014,916	2	\$2,029,832	4
csc10.12-2	Double Crossover Ballasted (No. 10)		1	EA	\$852,249	1	\$852,249	1
csc10.12-3	No. 6 Turnout - DF		1	EA	\$299,299	-	\$0	\$0
csc10.12-4	No. 5 Turnout - DF		1	EA	\$143,481	-	\$0	\$0
csc10.12-5	Permanent Terminal, Direct Fixation		1	EA	\$25,979	2	\$51,958	\$0
csc10.12-6	Grade Crossing Panels (Dual Track)		1	EA	\$690	310	\$213,900	0
10.12	Track: Special (switches, turnouts)			LS			\$3,147,939	\$4,911,913
Track: Vibration and noise dampening								
csc10.13-1	Track Vibration and Noise Dampening		1	RF	\$1,138	-	\$0	\$0
10.13	Vibration and noise dampening			RF				\$0
Total Guideways						\$129,232,302		\$342,082,935

Honolulu High-Capacity Transit Corridor Project								
Fixed Guideway Alternatives								
Summary Cost Comparison of Alternative Analysis								
Pricing Sheet								
Guideway & Trackwork								
New Start Project (East Kapolei to Ala Moana Center)								
					Salt Lake Blvd/Dillingham Blvd		Dillingham Blvd	
					Section 3 Alt 2		Section 4 Alt 3	
1	2	3	4	5	26	27	40	41
DESCRIPTION		COST	QTY	UNIT				
10.00 GUIDEWAY & TRACK ELEMENTS (route miles)								
Guideway: At-grade Exclusive								
csc10.01-1	Single At-Grade Ballasted Trackbed - Open		1	RF	\$300	-	\$0	\$0
csc10.01-2	Double At-Grade Ballasted Trackbed - Open		1	RF	\$372	-	\$0	\$0
csc10.01-5	Single At-Grade Guideway for Paved Track		1	RF	**NOT USED	-	-	-
csc10.01-6	Double At-Grade Guideway for Paved Track		1	RF	**NOT USED	-	-	-
10.01	Guideway: At-grade Exclusive			RF			\$0	\$0
10.02	Guideway: At-grade semi-exclusive (allows cross-traffic) NOT USED*****					**NOT USED**		**NOT USED**
Guideway: At-grade in mixed traffic								
csc10.01-4	Double At-Grade Guideway for Paved Track		1	RF	\$365	-	\$0	\$0
10.03	Guideway: At-grade in mixed traffic			RF			\$0	\$0
Guideway: Aerial structure								
csc10.04-1	Segmental Aerial Structure (T/R +25 Ft.) Column (6 ft Dia)		1	RF	\$8,117	-	\$0	\$0
csc10.04-2a	Standard Aerial Dual Structure (T/R +30 Ft.) CIP		1	RF	\$6,300	-	\$0	\$0
csc10.04-2	Segmental Aerial Structure (T/R +30 Ft.) Column (6 ft Dia)		1	RF	\$8,218	-	\$0	\$0
csc10.04-3	Segmental Aerial Structure (T/R +40 Ft.) Column (6 ft Dia)		1	RF	\$8,293	24,972	\$207,092,796	\$8,793
csc10.04-4	Segmental Aerial Structure (T/R +50 Ft.) Column (8 ft Dia)		1	RF	\$8,601	-	\$0	\$0
csc10.04-5	Segmental Aerial Structure (T/R +60 Ft.) Column (8 ft dia)		1	RF	\$8,864	-	\$0	\$0
csc10.04-6	Standard Aerial Dual Structure (T/R +30 Ft.) Cast - in Place		1	RF	\$6,086	-	\$0	\$0
csc10.04-6X	FACTOR FOR DOWNTOWN AERIAL STRUCTURE		1	%	30%	-	\$0	\$0
10.04	Guideway: Aerial structure			RF		\$24,972	\$207,092,796	\$8,793
10.05	Guideway: Built-up fill not used*****							
Guideway: Underground cut & cover								
csc10.06-1	Cut & Cover, Tunnel (TBM) , Portal, U Wall (Hotel St / Kawaiano / K		1	RF	\$35,886	-	\$0	\$0
csc10.06-2	U-Wall Retained Cut Dual Track Portal (Avg. Depth 25 ft)		1	RF	\$17,027	-	\$0	\$0
10.06	Guideway: Underground cut & cover			RF			\$0	\$0
Guideway: Underground tunnel								
csc10.07-1	Tunnel, Portal and U-Wall (Hotel Waimanu / Kapiolani Blvd)		1	RF	\$33,024	-	\$0	\$0
csc10.07-2	Tunnel, Portal and U-Wall (North King \ Bertania St \ S King St)		1	RF	\$26,520	-	\$0	\$0
csc10.07-3	Tunnel, Portal and U-Wall (Dillingham \ Bertania St \ S King St)		1	RF	\$26,520	-	\$0	\$0
csc10.07-4	Tunnel, Portal and U-Wall (King St Option 1 sta 1315+55 to 1408+91)		1	RF	\$27,483	-	\$0	\$0
csc10.07-5	Tunnel, Portal and U-Wall (King St Option 2 sta 1348+50 to 1408+91)		1	RF	\$29,417	-	\$0	\$0
10.07	Guideway: Underground tunnel						\$0	\$0
Guideway: Retained cut or fill								
csc10.08-1	Abutment Double At-Grade (Avg. D. T/R +10 Ft.) 100 ft length		1	RF	\$15,327	-	\$0	\$0
csc10.08-2	Abutment Single At-Grade (Avg. D. T/R +10 Ft.)		1	RF	\$7,744	-	\$0	\$0
10.08	Guideway: Retained cut or fill			RF			\$0	\$0
Track: Direct fixation								
csc10.09-1	Direct Fixation Track - Single		1	RF	\$520	-	\$0	\$0
csc10.09-2	Direct Fixation Dual Track		1	RF	\$836	24,972	\$20,876,592	\$8,793
10.09	Track: Direct fixation			RF			\$20,876,592	\$7,350,948
Track: Embedded/Paved								
csc10.10-1	Paved Track (In Street) - Single		1	RF	\$876	-	\$0	\$0
csc10.10-2	Paved Track (In Street) - DUAL		1	RF	\$1,640	-	\$0	\$0
10.10	Track: Embedded/Paved			RF			\$0	\$0
Track: Ballasted								
csc10.11-1	Ballasted Track (Open) - Single		1	RF	\$262	-	\$0	\$0
csc10.11-2	Ballasted Track (Open) - Double		1	RF	\$532	-	\$0	\$0
10.11	Track: Ballasted			RF			\$0	\$0
Track: Special (switches, turnouts)								
csc10.12-1	Double Crossover DF (No. 10)		1	EA	\$1,014,916	2	\$2,029,832	3
csc10.12-2	Double Crossover Ballasted (No. 10)		1	EA	\$852,249	-	\$0	\$0
csc10.12-3	No. 6 Turnout - DF		1	EA	\$299,299	-	\$0	\$0
csc10.12-4	No. 5 Turnout - DF		1	EA	\$143,481	-	\$0	\$0
csc10.12-5	Permanent Terminal, Direct Fixation		1	EA	\$25,979	-	\$0	\$0
csc10.12-6	Grade Crossing Panels (Dual Track)		1	EA	\$690	0	\$0	0
10.12	Track: Special (switches, turnouts)			LS			\$2,029,832	\$3,044,748
Track: Vibration and noise dampening								
csc10.13-1	Track Vibration and Noise Dampening		1	RF	\$1,138	-	\$0	\$0
10.13	Vibration and noise dampening			RF			\$0	\$0
Total Guideways							\$229,999,220	\$83,316,045

Honolulu High-Capacity Transit Corridor Project
Fixed Guideway Alternatives
Summary Cost Comparison of Alternative Analysis
Pricing Sheet
Guideway & Trackwork
New Start Project (East Kapolei to Ala Moana Center)

					Dillingham/Nimitz Hwy/Halekauwila St/Kapiolani Blvd to Ala Moana Sta	
					Section 1 Alt 5a	
		COST				
1	2	3	4	5	78	79
DESCRIPTION	ID	QTY	UNIT	UNIT	78	79
10.00 GUIDEWAY & TRACK ELEMENTS (route miles)						
Guideway: At-grade Exclusive						
csc10.01-1	Single At-Grade Ballasted Trackbed - Open	1	RF	\$300	-	\$0
csc10.01-2	Double At-Grade Ballasted Trackbed - Open	1	RF	\$372	-	\$0
csc10.01-5	Single At-Grade Guideway for Paved Track	1	RF	**NOT USED	-	-
csc10.01-6	Double At-Grade Guideway for Paved Track	1	RF	**NOT USED	-	-
10.01	Guideway: At-grade Exclusive		RF			\$0
10.02	Guideway: At-grade semi-exclusive (allows cross-traffic) NOT USED*****					**NOT USED**
Guideway: At-grade in mixed traffic						
csc10.01-4	Double At-Grade Guideway for Paved Track	1	RF	\$365	-	\$0
10.03	Guideway: At-grade in mixed traffic		RF			\$0
Guideway: Aerial structure						
csc10.04-1	Segmental Aerial Structure (T/R +25 Ft.) Column (6 ft Dia)	1	RF	\$8,117	-	\$0
csc10.04-2a	Standard Aerial Dual Structure (T/R +30 Ft.) CIP	1	RF	\$6,300	12,505	\$78,781,500
csc10.04-2	Segmental Aerial Structure (T/R +30 Ft.) Column (6 ft Dia)	1	RF	\$8,218	-	\$0
csc10.04-3	Segmental Aerial Structure (T/R +40 Ft.) Column (6 ft Dia)	1	RF	\$8,293	2,019	\$16,743,567
csc10.04-4	Segmental Aerial Structure (T/R +50 Ft.) Column (8 ft Dia)	1	RF	\$8,601	-	\$0
csc10.04-5	Segmental Aerial Structure (T/R +60 Ft.) Column (8 ft dia)	1	RF	\$8,864	-	\$0
csc10.04-6	Standard Aerial Dual Structure (T/R +30 Ft.) Cast - in Place	1	RF	\$6,086	-	\$0
csc10.04-6X	FACTOR FOR DOWNTOWN AERIAL STRUCTURE	1	%	30%	1	\$28,657,520
10.04	Guideway: Aerial structure		RF		14,524	\$124,182,587
10.05	Guideway: Built-up fill not used*****					
Guideway: Underground cut & cover						
csc10.06-1	Cut & Cover, Tunnel (TBM) , Portal, U Wall (Hotel St / Kawaiano / K	1	RF	\$35,886	-	\$0
csc10.06-2	U-Wall Retained Cut Dual Track Portal (Avg. Depth 25 ft)	1	RF	\$17,027	-	\$0
10.06	Guideway: Underground cut & cover		RF			\$0
Guideway: Underground tunnel						
csc10.07-1	Tunnel, Portal and U-Wall (Hotel Waimanu / Kapiolani Blvd)	1	RF	\$33,024	-	\$0
csc10.07-2	Tunnel, Portal and U-Wall (North King \ Bertania St \ S King St)	1	RF	\$26,520	-	\$0
csc10.07-3	Tunnel, Portal and U-Wall (Dillingham \ Bertania St \ S King St)	1	RF	\$26,520	-	\$0
csc10.07-4	Tunnel, Portal and U-Wall (King St Option 1 sta 1315+55 to 1408+91)	1	RF	\$27,483	-	\$0
csc10.07-5	Tunnel, Portal and U-Wall (King St Option 2 sta 1348+50 to 1408+91)	1	RF	\$29,417	-	\$0
10.07	Guideway: Underground tunnel					\$0
Guideway: Retained cut or fill						
csc10.08-1	Abutment Double At-Grade (Avg. D. T/R +10 Ft.) 100 ft length	1	RF	\$15,327	-	\$0
csc10.08-2	Abutment Single At-Grade (Avg. D. T/R +10 Ft.)	1	RF	\$7,744	-	\$0
10.08	Guideway: Retained cut or fill		RF			\$0
Track: Direct fixation						
csc10.09-1	Direct Fixation Track - Single	1	RF	\$520	-	\$0
csc10.09-2	Direct Fixation Dual Track	1	RF	\$836	14,524	\$12,142,064
10.09	Track: Direct fixation		RF			\$12,142,064
Track: Embedded/Paved						
csc10.10-1	Paved Track (In Street) - Single	1	RF	\$876	-	\$0
csc10.10-2	Paved Track (In Street) - DUAL	1	RF	\$1,640	-	\$0
10.10	Track: Embedded/Paved		RF			\$0
Track: Ballasted						
csc10.11-1	Ballasted Track (Open) - Single	1	RF	\$262	-	\$0
csc10.11-2	Ballasted Track (Open) - Double	1	RF	\$532	-	\$0
10.11	Track: Ballasted		RF			\$0
Track: Special (switches, turnouts)						
csc10.12-1	Double Crossover DF (No. 10)	1	EA	\$1,014,916	6	\$6,089,496
csc10.12-2	Double Crossover Ballasted (No. 10)	1	EA	\$852,249	-	\$0
csc10.12-3	No. 6 Turnout - DF	1	EA	\$299,299	-	\$0
csc10.12-4	No. 5 Turnout - DF	1	EA	\$143,481	-	\$0
csc10.12-5	Permanent Terminal, Direct Fixation	1	EA	\$25,979	2	\$51,958
csc10.12-6	Grade Crossing Panels (Dual Track)	1	EA	\$690	0	\$0
10.12	Track: Special (switches, turnouts)		LS			\$6,141,454
Track: Vibration and noise dampening						
csc10.13-1	Track Vibration and Noise Dampening	1	RF	\$1,138	-	\$0
10.13	Vibration and noise dampening		RF			\$0
Total Guideways						\$142,466,105

Honolulu High-Capacity Transit Corridor Project

Fixed Guideway Alternatives

Summary Cost Comparison of Alternative Analysis

Pricing Sheet
Station & Stops

				SECTION 1	SECTION 2	SECTION 3	SECTION 4	SECTION 5						
				Saratoga Ave/North-South Rd from UHWO-Makai Station	Fort Weaver Rd to Aloha Stadium	Salt Lake Blvd/Dillingham Blvd	Dillingham Blvd	Dillingham/Nimitz Hwy/Halekauwila St/Kapiolani Blvd to Ala Moana Sta						
DESCRIPTION	COST ID	QTY	UNIT	Section 1 Alt 5	Section 2 Alt 1			Section 1 Alt 5						
20.00 STATIONS & STOPS														
AT GRADE STATIONS														
csc20.01-1	At-Grade Station - Split Side Platform (270 Ft. L.)	1	LS	\$3,575,347	1	\$3,575,347	-	\$0	-	\$0	-	\$0		
20.01	AT GRADE STATIONS		RF		\$3,575,347	\$3,575,347	\$0	\$0				\$0		
AERIAL STATIONS														
csc20.02-1	Aerial Station - SidePlatforms. Major (270 Ft. L.) Mezzanine	1	LS	\$6,844,763	2	\$13,689,526	4	\$27,379,052	1	\$6,844,763	3	\$20,534,289	2	\$13,689,526
csc20.02-2	Aerial Station - SidePlatforms. Major (270 Ft. L.) No Mezzanine	1	LS	\$6,674,117	-	\$0	-	\$0	1	\$6,674,117	-	\$0	3	\$20,022,351
csc20.02-3	Aerial Station - Stacked SidePlatforms. Major (270 Ft. L.) No Mezzanine	1	LS	\$7,178,617	-	\$0	-	\$0	-	\$0	-	\$0	-	\$0
csc20.02-4	Aerial Station - Stacked SidePlatforms. Major (270 Ft. L.) Mezzanine	1	LS	\$7,349,264	-	\$0	-	\$0	-	\$0	-	\$0	-	\$0
csc20.02-5	Aerial Station - Center Platforms. Major (270 Ft. L.) Mezzanine	1	LS	\$8,555,954	-	\$0	-	\$0	-	\$0	-	\$0	1	\$8,555,954
20.02	AERIAL STATIONS		RF		\$13,689,526	\$27,379,052	\$13,518,880	\$20,534,289				\$42,267,831		
UNDERGROUND STATIONS														
csc20.03-1	Underground Station with Center Platform and Mezzanine	1	LS	\$93,129,489	-	\$0	-	\$0	-	\$0	-	\$0	-	\$0
csc20.03-2	Underground Station with Center Platform without Mezzanine	1	LS	\$81,800,836	-	\$0	-	\$0	-	\$0	-	\$0	-	\$0
20.03	UNDERGROUND STATIONS		RF		\$0	\$0	\$0	\$0				\$0		\$0
20.04	OTHER STATIONS & PEDESTRIAN TUNNELS				**NOT USED**	**NOT USED**	**NOT USED**	**NOT USED**				**NOT USED**		**NOT USED**
20.05	JOINT DEVELOPMENT				**NOT USED**	**NOT USED**	**NOT USED**	**NOT USED**				**NOT USED**		**NOT USED**
20.06	AUTOMOBILE PARKING MULTISTORY STRUCTURE				**NOT USED**	**NOT USED**	**NOT USED**	**NOT USED**				**NOT USED**		**NOT USED**
ELEVATORS & ESCALATORS														
csc20.07-1	ELEVATORS (40 ft Rise)	1	EA	\$497,481	4	\$1,989,924	8	\$3,979,848	4	\$1,989,924	6	\$2,984,886	10	\$4,974,810
csc20.07-2	ELEVATORS (50 ft Rise)	1	EA	\$561,639	-	\$0	-	\$0	-	\$0	-	\$0	1	\$561,639
csc20.07-3	ELEVATORS-RAPID RISE (70 ft Rise)	1	EA	\$704,377	-	\$0	-	\$0	-	\$0	-	\$0	-	\$0
csc20.07-4	ESCALATORS (15 ft Rise)	1	EA	\$575,598	-	\$0	-	\$0	-	\$0	-	\$0	-	\$0
csc20.07-5	ESCALATORS (30 ft Rise)	1	EA	\$642,881	8	\$5,143,048	16	\$10,286,096	8	\$5,143,048	12	\$7,714,572	22	\$14,143,382
csc20.07-6	ESCALATORS (60 ft Rise)	1	EA	\$868,990										
20.07	ELEVATORS & ESCALATORS		RF		\$7,132,972	\$14,265,944	\$7,132,972	\$10,699,458				\$19,679,831		
Total STATIONS & STOPS					\$24,397,845	\$45,220,343	\$20,651,852	\$31,233,747				\$61,947,662		

Honolulu High-Capacity Transit Corridor Project

Fixed Guideway Alternatives

Summary Cost Comparison of Alternative Analysis

Pricing Sheet

YARDS, SHOPS, ADMIN/SUPPORT FACILITIES

DESCRIPTION		COST	QTY	UNIT	Systemwide	
1	2	3	4	5	80	81
30.00 YARDS, SHOPS, ADMIN/SUPPORT FACILITIES (20 ACRES)						
ADMINISTRATION BUILDING: OFFICE, SALES, STORAGE, REVENUE COUNTING						
csc30.01-1	Administration Building & Site Facilities	1	LS	\$16,243,157	1	\$16,243,157
30.01	ADMINISTRATION BUILDING: OFFICE, SALES, STORAGE, REVENUE COUNTING		RF			\$16,243,157
HEAVY MAINTENANCE FACILITY						
csc30.02-1	Storage Track & Running Repair Maintenance Bldg	1	LS	\$0		
csc30.02-2	Heavy Maintenance Facility and Yard	1	LS	\$71,689,859	1	\$71,689,859
30.03	HEAVY MAINTENANCE FACILITY		RF			\$71,689,859
30.02	LIGHT MAINTENANCE FACILITY NOT USED*****					**NOT USED**
30.04	STORAGE BUILDING & YARD					"IN 30.02"
30.05	MAINTENANCE OF WAY BUILDING & YARD NOT USED*****					**NOT USED**
Total YARDS, SHOPS ADMINISTRATION SUPPORT FACILITIES						\$87,933,016

Honolulu High-Capacity Transit Corridor Project
Fixed Guideway Alternatives
Summary Cost Comparison of Alternative Analysis

Pricing Sheet
 Sitework & Special Conditions

COST ID	FTA Code	DESCRIPTION	QTY	UNIT	UNIT COST	Saratoga Ave/North-South Rd from UHWO-Makai Station		Fort Weaver Rd to Aloha Stadium	
						Section 1 Alt 5		Section 2 Alt 1	
40.00		Sitework & Special Conditions	40.A 40.AG		AERIAL ALIGNMENT AT GRADE ALIGNMENT	12,363 6,906		33,274 2,300	
CSC40.01-1		Demolition: Urban	1	RF	\$217		\$0	35,574	\$7,719,558
CSC40.01-2		Demolition: Rural	1	RF	\$23		\$0		\$0
CSC40.01-3		Demolition: Residential	1	RF	\$56	6,906	\$386,736		\$0
CSC40.01-8		Clear and Grubbing	1	RF	\$64	34,000	\$2,176,000	1,600	\$102,400
CSC40.01-5		Earthwork	1	RF					
CSC40.01-6		Building Mitigation (Underpinning, etc)	1	RF	\$4,672,938		\$0		\$0
CSC40.01-7		Building Mitigation (Parking Structure Demolition & Reconstruction)	1	SF	\$532		\$0		\$0
	40.01	Demo Clearing & Sitework					\$2,562,736	\$35,574	\$7,821,958
CSC40.02-1		UTILITIES BASED ON 1992 INFORMATION	1	RF	\$96	19,269	\$1,849,824	35,574	\$3,415,104
CSC40.02-7		Utility: REMOVALS	1	RF	\$59	19,269	\$1,136,871	35,574	\$2,098,866
CSC40.02-8		SECTION 1: ELECTRICAL & COMMUNICATION- KAMOKILA BLVD	1	LS	\$12,011,139	-	\$0	-	\$0
CSC40.02-9		SECTION 1: ELECTRICAL & COMMUNICATION- KAPOLEI BLVD	1	LS	\$10,445,060	-	\$0	-	\$0
CSC40.02-10		SECTION 1: ELECTRICAL & COMMUNICATION- SARATOGA BLVD	1	LS	\$15,366,773	-	\$0	-	\$0
CSC40.02-10a		SECTION 1: ELECTRICAL & COMMUNICATION- MOS 1 SARATOGA BLVD	1	LS	\$10,212,064	1	\$10,212,064	-	\$0
CSC40.02-11		SECTION 1: ELECTRICAL & COMMUNICATION- GEIGER/FT WEAVER BLVD	1	LS	\$8,843,392	-	\$0	-	\$0
CSC40.02-12		SECTION 2: ELECTRICAL & COMMUNICATION- FARRINGTON BLVD	1	LS	\$13,477,670	-	\$0	1	\$13,477,670
CSC40.02-13		SECTION 3: ELECTRICAL & COMMUNICATION- SALT LAKE/NORTH KING BLVD	1	LS	\$16,551,905	-	\$0	-	\$0
CSC40.02-14		SECTION 3: ELECTRICAL & COMMUNICATION- SALT LAKE/DILLINGHAM BLVD	1	LS	\$15,954,408	-	\$0	-	\$0
CSC40.02-15		SECTION 3: ELECTRICAL & COMMUNICATION- MAUKA SIDE OF AIRPORT VIADUCT	1	LS	\$113,953,266	-	\$0	-	\$0
CSC40.02-16		SECTION 3: ELECTRICAL & COMMUNICATION- MAKAI SIDE OF AIRPORT VIADUCT ELEVATED	1	LS	\$93,675,141	-	\$0	-	\$0
CSC40.02-17		SECTION 3: ELECTRICAL & COMMUNICATION- MAUKA SIDE OF AIRPORT VIADUCT	1	LS	\$23,060,302	-	\$0	-	\$0
CSC40.02-18		SECTION 3: ELECTRICAL & COMMUNICATION- AOLELE ST	1	LS	\$22,254,236	-	\$0	-	\$0
CSC40.02-19		SECTION 4: ELECTRICAL & COMMUNICATION- DILLINGHAM BLVD	1	LS	\$73,082,363	-	\$0	-	\$0
CSC40.02-20		SECTION 4: ELECTRICAL & COMMUNICATION- KING ST	1	LS	\$50,289,750	-	\$0	-	\$0
CSC40.02-21		SECTION 4: ELECTRICAL & COMMUNICATION- MIDDLE ST	1	LS	\$308,228	-	\$0	-	\$0
CSC40.02-22		SECTION 5: ELECTRICAL & COMMUNICATION- NORTH KING ST/HOTEL ST/KAWAIAHAO ST/KAPIOLANI BLVD	1	LS	\$137,618,480	-	\$0	-	\$0
CSC40.02-23		SECTION 5: ELECTRICAL & COMMUNICATION- DILLINGHAM BLVD/HOTEL ST/KAWAIAHAO ST/KAPIOLANI	1	LS	\$139,331,993	-	\$0	-	\$0
CSC40.02-24		SECTION 5: ELECTRICAL & COMMUNICATION- NORTH KING ST/WAIMANU ST/KAPIOLANI BLVD	1	LS	\$123,194,157	-	\$0	-	\$0
CSC40.02-24a		SECTION 5: ELECTRICAL & COMMUNICATION- MOS 1 NORTH KING ST/WAIMANU ST/KAPIOLANI BLVD	1	LS	\$9,782,903	-	\$0	-	\$0
CSC40.02-25		SECTION 5: ELECTRICAL & COMMUNICATION- DILLINGHAM BLVD/HOTEL ST/WAIMANU ST/KAPIOLANI	1	LS	\$124,907,669	-	\$0	-	\$0
CSC40.02-26		SECTION 5: ELECTRICAL & COMMUNICATION- NORTH KING ST/NIMITZ HWY/QUEEN ST/KAPIOLANI BLVD	1	LS	\$123,933,900	-	\$0	-	\$0
CSC40.02-62		SECTION 5: ELECTRICAL & COMMUNICATION- DILLINGHAM/NIMITZ/QUEENST/KAPIOLANI BLVD	1	LS	\$124,679,816	-	\$0	-	\$0
CSC40.02-63		SECTION 5: ELECTRICAL & COMMUNICATION- NORTH KING / NIMITZ / HALEKAUWILA ST / KAPIOLANI	1	LS	\$156,727,361	-	\$0	-	\$0
CSC40.02-63a		SECTION 5:MOS 2a: NORTH KING / NIMITZ / HALEKAUWILA ST / KAPIOLANI	1	LS	\$34,558,581	-	\$0	-	\$0
CSC40.02-63a1		SECTION 5:MOS 2a: DILLINGHAM / NIMITZ / HALEKAUWILA ST / KAPIOLANI	1	LS	\$35,319,415	-	\$0	-	\$0
CSC40.02-63b		SECTION 5: MOS 2b NORTH KING / NIMITZ / HALEKAUWILA ST / KAPIOLANI	1	LS	\$54,079,323	-	\$0	-	\$0
CSC40.02-63b1		SECTION 5: MOS 2b Dillingham / NIMITZ / HALEKAUWILA ST / KAPIOLANI	1	LS	\$54,840,156	-	\$0	-	\$0
CSC40.02-64		SECTION 5: ELECTRICAL & COMMUNICATION- DILLINGHAM / NIMITZ / HALEKAUWILA ST / KAPIOLANI	1	LS	\$157,572,731	-	\$0	-	\$0
CSC40.02-64a		SECTION 5: MOS 3 DILLINGHAM / NIMITZ / HALEKAUWILA ST / KAPIOLANI	1	LS	\$128,571,133	-	\$0	-	\$0
CSC40.02-65		SECTION 5: ELECTRICAL & COMMUNICATION- NORTH KING / BERETANIA ST / S KING ST	1	LS	\$63,034,942	-	\$0	-	\$0
CSC40.02-66		SECTION 5: ELECTRICAL & COMMUNICATION- DILLINGHAM / BERETANIA ST / S KING ST	1	LS	\$64,698,334	-	\$0	-	\$0
CSC40.02-68		SECTION 5: ELECTRICAL & COMMUNICATION- NORTH KING ST/WAIMANU ST/KAPIOLANI BLVD (short Tunnel King st)	1	LS	\$169,135,055	-	\$0	-	\$0
CSC40.02-69		SECTION 5: ELECTRICAL & COMMUNICATION- DILLINGHAM BLVD/HOTEL ST/WAIMANU ST/KAPIOLANI BLVD (long Tunnel King st	1	LS	\$170,848,566	-	\$0	-	\$0
CSC40.02-67		SECTION 5: ELECTRICAL & COMMUNICATION- WAIKIKI SPUR	1	LS	\$62,444,501	\$0	\$0	\$0	\$0
	40.02	UTILITIES BASED ON 1992 INFORMATION	1	RF			\$13,198,759		\$18,991,640
CSC40.03-1		Hazardous Material Mitigation: Petrochemical Contaminated Excavation	1	TON	\$274.00	1,283	\$351,542	17,571	\$4,814,454
CSC40.03-2		Hazardous Material Mitigation: Groundwater treatment	1	GAL	\$1	\$0	\$0	\$0	\$0
	40.03	Hazardous Material Mitigation: Petrochemical Contaminated Excavation					\$351,542		\$4,814,454
CSC40.04-1		Environmental Mitigation: Allowance for Biological and Archeological/Historical Monitoring	1	ALLOW			\$750,000		\$2,500,000
	40.04	Environmental mitigation, e.g. wetlands, historic/archeologic, parks					\$750,000		\$2,500,000
		Site Development: Roads, Walkways, Landscaping							
CSC40.06-1		Street Construction Adj. to LRT - One Lane	1	RF	\$349	0	\$0	33,974	\$11,856,926
CSC40.06-1a		Turn Pocket (100 ft)	1	RF	\$241	0	\$0	6,440	\$1,552,040
CSC40.06-17		Intersection Modification Type 1	1	LS	\$172,517	0	\$0	4	\$690,068
CSC40.06-18		Intersection Modification Type 2	1	LS	\$128,651	0	\$0	3	\$385,953
CSC40.06-19		Intersection Modification Type 3	1	LS	\$95,388	0	\$0	4	\$381,552
CSC40.06-21		Intersection Modification Type 4	1	LS	\$38,709	0	\$0	0	\$0
CSC40.06-10		Landscaping & Urban Design: Urban	1	RF	\$195		\$0		\$0
CSC40.06-11		Landscaping & Urban Design: Rural	1	RF	\$98		\$0		\$0
CSC40.06-12		Landscaping & Urban Design Based on 1992 Study	1	RF	\$137	19,269	\$2,639,853	35,574	\$4,873,638
CSC40.06-13		Hotel Street Mall Reconstruction	1	SF	\$160	0	\$0	0	\$0
CSC40.06-14		PARK & RIDE AT GRADE	1	STALL	\$4,770	2,800	\$13,356,000	0	\$0
CSC40.06-15		PARK & RIDE STRUCTURED	1	STALL	\$25,682	0	\$0	1,600	\$41,091,200
CSC40.06-15A		ACCESS RAMP TO P&R STRUCTURE	1	SOFT	\$440	40,000	\$17,600,000	92,377	\$40,645,880
CSC40.06-16		BUS BAYS	1	STALL	\$26,121	2	\$52,242	14	\$365,694
		Public Art (2% of Section 20.00 Stations)	1	%	2%	\$17,264,873	\$345,297	\$30,954,399	\$619,088
	40.06	Site Development: Roads, Walkways, Landscaping					\$33,993,392		\$102,462,039
		Temporary Facilities							
	40.08	Temporary Facilities	1		\$0				
Total Sitework & Special Conditions			1	LS			50,856,429		136,590,091

Honolulu High-Capacity Transit Corridor Project
Fixed Guideway Alternatives
Summary Cost Comparison of Alternative Analysis

Pricing Sheet
 Sitework & Special Conditions

COST ID	FTA Code	DESCRIPTION	QTY	UNIT	UNIT COST	Salt Lake Blvd/Dillingham Blvd		Dillingham Blvd	
						Section 3 Alt 2		Section 4 Alt 3	
40.00		Sitework & Special Conditions	40.A 40.AG		AERIAL ALIGNMENT AT GRADE ALIGNMENT	24,972 0		8,793 0	
CSC40.01-1		Demolition: Urban	1	RF	\$217	24,972	\$5,418,924	8,793	\$1,908,081
CSC40.01-2		Demolition: Rural	1	RF	\$23		\$0		\$0
CSC40.01-3		Demolition: Residential	1	RF	\$56		\$0		\$0
CSC40.01-8		Clear and Grubbing	1	RF	\$64	0	\$0	0	\$0
CSC40.01-5		Earthwork	1	RF	in guideway				
CSC40.01-6		Building Mitigation (Underpinning, etc)	1	RF	\$4,672,938		\$0		\$0
CSC40.01-7		Building Mitigation (Parking Structure Demolition & Reconstruction)	1	SF	\$532		\$0		\$0
40.01 Demo Clearing & Sitework							\$5,418,924		\$1,908,081
CSC40.02-1		UTILITIES BASED ON 1992 INFORMATION	1	RF	\$96	24,972	\$2,397,312	8,793	\$844,128
CSC40.02-7		Utility: REMOVALS	1	RF	\$59	24,972	\$1,473,348	8,793	\$518,787
CSC40.02-8		SECTION 1: ELECTRICAL & COMMUNICATION- KAMOKILA BLVD	1	LS	\$12,011,139	-	\$0	-	\$0
CSC40.02-9		SECTION 1: ELECTRICAL & COMMUNICATION- KAPOLEI BLVD	1	LS	\$10,445,060	-	\$0	-	\$0
CSC40.02-10		SECTION 1: ELECTRICAL & COMMUNICATION- SARATOGA BLVD	1	LS	\$15,366,773	-	\$0	-	\$0
CSC40.02-10a		SECTION 1: ELECTRICAL & COMMUNICATION- MOS 1 SARATOGA BLVD	1	LS	\$10,212,064	-	\$0	-	\$0
CSC40.02-11		SECTION 1: ELECTRICAL & COMMUNICATION- GEIGER/FT WEAVER BLVD	1	LS	\$8,843,392	-	\$0	-	\$0
CSC40.02-12		SECTION 2: ELECTRICAL & COMMUNICATION- FARRINGTON BLVD	1	LS	\$13,477,670	-	\$0	-	\$0
CSC40.02-13		SECTION 3: ELECTRICAL & COMMUNICATION- SALT LAKE/NORTH KING BLVD	1	LS	\$16,551,905	-	\$0	-	\$0
CSC40.02-14		SECTION 3: ELECTRICAL & COMMUNICATION- SALT LAKE/DILLINGHAM BLVD	1	LS	\$15,954,408	1	\$15,954,408	-	\$0
CSC40.02-15		SECTION 3: ELECTRICAL & COMMUNICATION- MAUKA SIDE OF AIRPORT VIADUCT	1	LS	\$113,953,266	-	\$0	-	\$0
CSC40.02-16		SECTION 3: ELECTRICAL & COMMUNICATION- MAKAI SIDE OF AIRPORT VIADUCT ELEVATED	1	LS	\$93,675,141	-	\$0	-	\$0
CSC40.02-17		SECTION 3: ELECTRICAL & COMMUNICATION- MAUKA SIDE OF AIRPORT VIADUCT	1	LS	\$23,060,302	-	\$0	-	\$0
CSC40.02-18		SECTION 3: ELECTRICAL & COMMUNICATION- AOELELE ST	1	LS	\$22,254,236	-	\$0	-	\$0
CSC40.02-19		SECTION 4: ELECTRICAL & COMMUNICATION- DILLINGHAM BLVD	1	LS	\$73,082,363	-	\$0	1	\$73,082,363
CSC40.02-20		SECTION 4: ELECTRICAL & COMMUNICATION- KING ST	1	LS	\$50,289,750	-	\$0	-	\$0
CSC40.02-21		SECTION 4: ELECTRICAL & COMMUNICATION- MIDDLE ST	1	LS	\$308,228	-	\$0	-	\$0
CSC40.02-22		SECTION 5: ELECTRICAL & COMMUNICATION- NORTH KING ST/HOTEL ST/KAWAIAHAO ST/KAPIOLANI BLVD	1	LS	\$137,618,480	-	\$0	-	\$0
CSC40.02-23		SECTION 5: ELECTRICAL & COMMUNICATION- DILLINGHAM BLVD/HOTEL ST/KAWAIAHAO ST/KAPIOLANI	1	LS	\$139,331,993	-	\$0	-	\$0
CSC40.02-24		SECTION 5: ELECTRICAL & COMMUNICATION- NORTH KING ST/WAIMANU ST/KAPIOLANI BLVD	1	LS	\$123,194,157	-	\$0	-	\$0
CSC40.02-24a		SECTION 5: ELECTRICAL & COMMUNICATION- MOS 1 NORTH KING ST/WAIMANU ST/KAPIOLANI BLVD	1	LS	\$9,782,903	-	\$0	-	\$0
CSC40.02-25		SECTION 5: ELECTRICAL & COMMUNICATION- DILLINGHAM BLVD/HOTEL ST/WAIMANU ST/KAPIOLANI	1	LS	\$124,907,669	-	\$0	-	\$0
CSC40.02-26		SECTION 5: ELECTRICAL & COMMUNICATION- NORTH KING ST/NIMITZ HWY/QUEEN ST/KAPIOLANI BLVD	1	LS	\$123,933,900	-	\$0	-	\$0
CSC40.02-62		SECTION 5: ELECTRICAL & COMMUNICATION- DILLINGHAM/NIMITZ/QUEENST/KAPIOLANI BLVD	1	LS	\$124,679,816	-	\$0	-	\$0
CSC40.02-63		SECTION 5: ELECTRICAL & COMMUNICATION- NORTH KING / NIMITZ / HALEKAUWILA ST / KAPIOLANI	1	LS	\$156,727,361	-	\$0	-	\$0
CSC40.02-63a		SECTION 5: MOS 2a: NORTH KING / NIMITZ / HALEKAUWILA ST / KAPIOLANI	1	LS	\$34,558,581	-	\$0	-	\$0
CSC40.02-63a1		SECTION 5: MOS 2a: DILLINGHAM / NIMITZ / HALEKAUWILA ST / KAPIOLANI	1	LS	\$35,319,415	-	\$0	-	\$0
CSC40.02-63b		SECTION 5: MOS 2b NORTH KING / NIMITZ / HALEKAUWILA ST / KAPIOLANI	1	LS	\$54,079,323	-	\$0	-	\$0
CSC40.02-63b1		SECTION 5: MOS 2b Dillingham / NIMITZ / HALEKAUWILA ST / KAPIOLANI	1	LS	\$54,840,156	-	\$0	-	\$0
CSC40.02-64		SECTION 5: ELECTRICAL & COMMUNICATION- DILLINGHAM / NIMITZ / HALEKAUWILA ST / KAPIOLANI	1	LS	\$157,572,731	-	\$0	-	\$0
CSC40.02-64a		SECTION 5: MOS 3 DILLINGHAM / NIMITZ / HALEKAUWILA ST / KAPIOLANI	1	LS	\$128,571,133	-	\$0	-	\$0
CSC40.02-65		SECTION 5: ELECTRICAL & COMMUNICATION- NORTH KING / BERETANIA ST / S KING ST	1	LS	\$63,034,942	-	\$0	-	\$0
CSC40.02-66		SECTION 5: ELECTRICAL & COMMUNICATION- DILLINGHAM / BERETANIA ST / S KING ST	1	LS	\$64,698,334	-	\$0	-	\$0
CSC40.02-68		SECTION 5: ELECTRICAL & COMMUNICATION- NORTH KING ST/WAIMANU ST/KAPIOLANI BLVD (short Tunnel King st)	1	LS	\$169,135,055	-	\$0	-	\$0
CSC40.02-69		SECTION 5: ELECTRICAL & COMMUNICATION- DILLINGHAM BLVD/HOTEL ST/WAIMANU ST/KAPIOLANI BLVD (long Tunnel King st)	1	LS	\$170,848,566	-	\$0	-	\$0
CSC40.02-67		SECTION 5: ELECTRICAL & COMMUNICATION- WAIKIKI SPUR	1	LS	\$62,444,501	\$0	\$0	\$0	\$0
40.02 UTILITIES BASED ON 1992 INFORMATION							\$19,825,068		\$74,445,278
CSC40.03-1		Hazardous Material Mitigation: Petrochemical Contaminated Excavation	1	TON	\$274.00	834	\$228,516	12,504	\$3,426,096
CSC40.03-2		Hazardous Material Mitigation: Groundwater treatment	1	GAL	\$1	\$0	\$0	\$0	\$0
40.03 Hazardous Material Mitigation: Petrochemical Contaminated Excavation							\$228,516		\$3,426,096
CSC40.04-1		Environmental Mitigation: Allowance for Biological and Archeological/Historical Monitoring	1	ALLOW			\$2,500,000		\$2,500,000
40.04 Environmental mitigation, e.g. wetlands, historic/archeologic, parks							\$2,500,000		\$2,500,000
Site Development: Roads, Walkways, Landscaping									
CSC40.06-1		Street Construction Adj. to LRT - One Lane	1	RF	\$349	18,500	\$6,456,500	9,702	\$3,385,998
CSC40.06-1a		Turn Pocket (100 ft)	1	RF	\$241	2,200	\$530,200	2,690	\$648,290
CSC40.06-17		Intersection Modification Type 1	1	LS	\$172,517	0	\$0	0	\$0
CSC40.06-18		Intersection Modification Type 2	1	LS	\$128,651	0	\$0	8	\$1,029,208
CSC40.06-19		Intersection Modification Type 3	1	LS	\$95,388	0	\$0	0	\$0
CSC40.06-21		Intersection Modification Type 4	1	LS	\$38,709	0	\$0	0	\$0
CSC40.06-10		Landscaping & Urban Design: Urban	1	RF	\$195		\$0		\$0
CSC40.06-11		Landscaping & Urban Design: Rural	1	RF	\$98		\$0		\$0
CSC40.06-12		Landscaping & Urban Design Based on 1992 Study	1	RF	\$137	24,972	\$3,421,164	8,793	\$1,204,641
CSC40.06-13		Hotel Street Mall Reconstruction	1	SF	\$160	0	\$0	0	\$0
CSC40.06-14		PARK & RIDE AT GRADE	1	STALL	\$4,770	1,650	\$7,870,500	0	\$0
CSC40.06-15		PARK & RIDE STRUCTURED	1	STALL	\$25,682	0	\$0	0	\$0
CSC40.06-15A		ACCESS RAMP TO P&R STRUCTURE	1	SOFT	\$440	0	\$0	0	\$0
CSC40.06-16		BUS BAYS	1	STALL	\$26,121	4	\$104,484	6	\$156,726
		Public Art (2% of Section 20.00 Stations)	1	%	2%	\$13,518,880	\$270,378	\$20,534,289	\$410,686
40.06 Site Development: Roads, Walkways, Landscaping							\$18,653,226		\$6,835,549
Temporary Facilities									
40.08 Temporary Facilities							\$0		
Total Sitework & Special Conditions			1	LS			46,625,734		89,115,004

Honolulu High-Capacity Transit Corridor Project
Fixed Guideway Alternatives
Summary Cost Comparison of Alternative Analysis

Pricing Sheet
 Sitework & Special Conditions

						Dillingham/Nimitz Hwy/Halekauwila St/Kapiolani Blvd to Ala Moana Sta	
						Section 1 Alt 5	
COST ID	FTA Code	DESCRIPTION	QTY	UNIT	UNIT COST		
40.00 Sitework & Special Conditions			40.A		AERIAL ALIGNMENT	14,524	
			40.AG		AT GRADE ALIGNMENT	0	
CSC40.01-1		Demolition: Urban	1	RF	\$217	14,524	\$3,151,708
CSC40.01-2		Demolition: Rural	1	RF	\$23		\$0
CSC40.01-3		Demolition: Residential	1	RF	\$56		\$0
CSC40.01-8		Clear and Grubbing	1	RF	\$64	0	\$0
CSC40.01-5		Earthwork	1	RF	in guideway		
CSC40.01-6		Building Mitigation (Underpinning, etc)	1	RF	\$4,672,938		\$0
CSC40.01-7		Building Mitigation (Parking Structure Demolition & Reconstruction)	1	SF	\$532		\$0
40.01 Demo Clearing & Sitework							\$3,151,708
CSC40.02-1		UTILITIES BASED ON 1992 INFORMATION	1	RF	\$96	14,524	\$1,394,304
CSC40.02-7		Utility: REMOVALS	1	RF	\$59	14,524	\$856,916
CSC40.02-8		SECTION 1: ELECTRICAL & COMMUNICATION- KAMOKILA BLVD	1	LS	\$12,011,139	-	\$0
CSC40.02-9		SECTION 1: ELECTRICAL & COMMUNICATION- KAPOLEI BLVD	1	LS	\$10,445,060	-	\$0
CSC40.02-10		SECTION 1: ELECTRICAL & COMMUNICATION- SARATOGA BLVD	1	LS	\$15,366,773	-	\$0
CSC40.02-10a		SECTION 1: ELECTRICAL & COMMUNICATION- MOS 1 SARATOGA BLVD	1	LS	\$10,212,064	-	\$0
CSC40.02-11		SECTION 1: ELECTRICAL & COMMUNICATION- GEIGER/FT WEAVER BLVD	1	LS	\$8,843,392	-	\$0
CSC40.02-12		SECTION 2: ELECTRICAL & COMMUNICATION- FARRINGTON BLVD	1	LS	\$13,477,670	-	\$0
CSC40.02-13		SECTION 3: ELECTRICAL & COMMUNICATION- SALT LAKE/NORTH KING BLVD	1	LS	\$16,551,905	-	\$0
CSC40.02-14		SECTION 3: ELECTRICAL & COMMUNICATION- SALT LAKE/DILLINGHAM BLVD	1	LS	\$15,954,408	-	\$0
CSC40.02-15		SECTION 3: ELECTRICAL & COMMUNICATION- MAUKA SIDE OF AIRPORT VIADUCT	1	LS	\$113,953,266	-	\$0
CSC40.02-16		SECTION 3: ELECTRICAL & COMMUNICATION- MAKAI SIDE OF AIRPORT VIADUCT ELEVATED	1	LS	\$93,675,141	-	\$0
CSC40.02-17		SECTION 3: ELECTRICAL & COMMUNICATION- MAUKA SIDE OF AIRPORT VIADUCT	1	LS	\$23,060,302	-	\$0
CSC40.02-18		SECTION 3: ELECTRICAL & COMMUNICATION- AOLELE ST	1	LS	\$22,254,236	-	\$0
CSC40.02-19		SECTION 4: ELECTRICAL & COMMUNICATION- DILLINGHAM BLVD	1	LS	\$73,082,363	-	\$0
CSC40.02-20		SECTION 4: ELECTRICAL & COMMUNICATION- KING ST	1	LS	\$50,289,750	-	\$0
CSC40.02-21		SECTION 4: ELECTRICAL & COMMUNICATION- MIDDLE ST	1	LS	\$308,228	-	\$0
CSC40.02-22		SECTION 5: ELECTRICAL & COMMUNICATION- NORTH KING ST/HOTEL ST/KAWAIAHAO ST/KAPIOLANI BLVD	1	LS	\$137,618,480	-	\$0
CSC40.02-23		SECTION 5: ELECTRICAL & COMMUNICATION- DILLINGHAM BLVD/HOTEL ST/KAWAIAHAO ST/KAPIOLANI	1	LS	\$139,331,993	-	\$0
CSC40.02-24		SECTION 5: ELECTRICAL & COMMUNICATION- NORTH KING ST/WAIMANU ST/KAPIOLANI BLVD	1	LS	\$123,194,157	-	\$0
CSC40.02-24a		SECTION 5: ELECTRICAL & COMMUNICATION- MOS 1 NORTH KING ST/WAIMANU ST/KAPIOLANI BLVD	1	LS	\$9,782,903	-	\$0
CSC40.02-25		SECTION 5: ELECTRICAL & COMMUNICATION- DILLINGHAM BLVD/HOTEL ST/WAIMANU ST/KAPIOLANI	1	LS	\$124,907,669	-	\$0
CSC40.02-26		SECTION 5: ELECTRICAL & COMMUNICATION- NORTH KING ST/NIMITZ HWY/QUEEN ST/KAPIOLANI BLVD	1	LS	\$123,933,900	-	\$0
CSC40.02-62		SECTION 5: ELECTRICAL & COMMUNICATION- DILLINGHAM/NIMITZ/QUEENST/KAPIOLANI BLVD	1	LS	\$124,679,816	-	\$0
CSC40.02-63		SECTION 5: ELECTRICAL & COMMUNICATION- NORTH KING / NIMITZ / HALEKAUWILA ST / KAPIOLANI	1	LS	\$156,727,361	-	\$0
CSC40.02-63a		SECTION 5: MOS 2a: NORTH KING / NIMITZ / HALEKAUWILA ST / KAPIOLANI	1	LS	\$34,558,581	-	\$0
CSC40.02-63a1		SECTION 5: MOS 2a: DILLINGHAM / NIMITZ / HALEKAUWILA ST / KAPIOLANI	1	LS	\$35,319,415	-	\$0
CSC40.02-63b		SECTION 5: MOS 2b NORTH KING / NIMITZ / HALEKAUWILA ST / KAPIOLANI	1	LS	\$54,079,323	-	\$0
CSC40.02-63b1		SECTION 5: MOS 2b Dillingham / NIMITZ / HALEKAUWILA ST / KAPIOLANI	1	LS	\$54,840,156	-	\$0
CSC40.02-64		SECTION 5: ELECTRICAL & COMMUNICATION- DILLINGHAM / NIMITZ / HALEKAUWILA ST / KAPIOLANI	1	LS	\$157,572,731	-	\$0
CSC40.02-64a		SECTION 5: MOS 3 DILLINGHAM / NIMITZ / HALEKAUWILA ST / KAPIOLANI	1	LS	\$128,571,133	1	\$128,571,133
CSC40.02-65		SECTION 5: ELECTRICAL & COMMUNICATION- NORTH KING / BERETANIA ST / S KING ST	1	LS	\$63,034,942	-	\$0
CSC40.02-66		SECTION 5: ELECTRICAL & COMMUNICATION- DILLINGHAM / BERETANIA ST / S KING ST	1	LS	\$64,698,334	-	\$0
CSC40.02-68		SECTION 5: ELECTRICAL & COMMUNICATION- NORTH KING ST/WAIMANU ST/KAPIOLANI BLVD (short Tunnel King st)	1	LS	\$169,135,055	-	\$0
CSC40.02-69		SECTION 5: ELECTRICAL & COMMUNICATION- DILLINGHAM BLVD/HOTEL ST/WAIMANU ST/KAPIOLANI BLVD (long Tunnel King st	1	LS	\$170,848,566	-	\$0
CSC40.02-67		SECTION 5: ELECTRICAL & COMMUNICATION- WAIKIKI SPUR	1	LS	\$62,444,501	\$0	\$0
40.02 UTILITIES BASED ON 1992 INFORMATION			1	RF			\$130,822,353
CSC40.03-1		Hazardous Material Mitigation: Petrochemical Contaminated Excavation	1	TON	\$274.00	-	\$0
CSC40.03-2		Hazardous Material Mitigation: Groundwater treatment	1	GAL	\$1	\$0	\$0
40.03 Excavation							\$0
CSC40.04-1		Environmental Mitigation: Allowance for Biological and Archeological/Historical Monitoring	1	ALLOW			\$750,000
40.04 Environmental mitigation, e.g. wetlands, historic/archeologic, parks							\$750,000
Site Development: Roads, Walkways, Landscaping							
CSC40.06-1		Street Construction Adj. to LRT - One Lane	1	RF	\$349	6,919	\$2,414,731
CSC40.06-1a		Turn Pocket (100 ft)	1	RF	\$241	3,100	\$747,100
CSC40.06-17		Intersection Modification Type 1	1	LS	\$172,517	0	\$0
CSC40.06-18		Intersection Modification Type 2	1	LS	\$128,651	0	\$0
CSC40.06-19		Intersection Modification Type 3	1	LS	\$95,388	1	\$95,388
CSC40.06-21		Intersection Modification Type 4	1	LS	\$38,709	1	\$38,709
CSC40.06-10		Landscaping & Urban Design: Urban	1	RF	\$195		\$0
CSC40.06-11		Landscaping & Urban Design: Rural	1	RF	\$98		\$0
CSC40.06-12		Landscaping & Urban Design Based on 1992 Study	1	RF	\$137	14,524	\$1,989,788
CSC40.06-13		Hotel Street Mall Reconstruction	1	sf	\$160	0	\$0
CSC40.06-14		PARK & RIDE AT GRADE	1	STALL	\$4,770	0	\$0
CSC40.06-15		PARK & RIDE STRUCTURED	1	STALL	\$25,682	0	\$0
CSC40.06-15a		ACCESS RAMP TO P&R STRUCTURE	1	SOFT	\$440	0	\$0
CSC40.06-16		BUS BAYS	1	STALL	\$26,121	-	\$0
		Public Art (2% of Section 20.00 Stations)	1	%	2%	\$42,267,831	\$845,357
40.06 Site Development: Roads, Walkways, Landscaping							\$6,131,073
Temporary Facilities							
40.08 Temporary Facilities			1		\$0		
Total Sitework & Special Conditions			1	LS			140,855,134

Honolulu High-Capacity Transit Corridor Project Fixed Guideway Alternatives Summary Cost Comparison of Alternative Analysis Pricing Sheet Systems								
					Saratoga Ave/North-South Rd from UHWO-Makai Station		Fort Weaver Rd to Aloha Stadium	
					Section 1 Alt 5		Section 2 Alt 1	
DESCRIPTION	COST ID	QTY	UNIT					
50.00 Systems			ALIGNMENT	19,269	30	35,574	9	
Train Control & Signals								
csc50.01-1	ATC, Signal System Line Stations	1	RF	\$266	19,269	\$5,125,554	\$35,574	\$9,462,684
csc50.01-2	Highway Crossing Warning Devices (Preemptive)	1	EA	\$263,153	8	\$2,105,224	\$0	\$0
50.01	Train Control & Signals		RF			\$7,230,778		\$9,462,684
Guideway: At-grade semi-exclusive (allows cross-traffic) NOT USED*****						**NOT USED**		**NOT USED**
Traffic Signals and Crossing Protection								
csc50.02-1	Traffic Signal Modifications (4 directions)	1	EA	\$420,346	0	\$0	\$13	\$5,464,498
csc50.02-2	Traffic Signal Modifications (3 directions)	1	EA	\$323,631	0	\$0	\$11	\$3,559,941
50.02	Traffic Signals and Crossing Protection		RF			\$0		\$9,024,439
Traction Power Supply: Substations								
csc50.03-1	Traction Power Substations (2 MW)	1	EA	\$1,834,535	4	7,338,140	7	12,841,745
50.03	Traction Power Supply: Substations		RF			\$7,338,140		\$12,841,745
Traction Power Distribution: Catenary and Third Rail								
csc50.04-1	Traction Power Supply - At-Grade OCS, Dual Track	1	RF	\$339	6,906	\$2,341,134	\$2,300	\$779,700
csc50.04-2	Traction Power Supply - Subway OCS, Double Track	1	RF	\$235	-	\$0	\$1,500	\$352,500
csc50.04-3	Traction Power Supply - Aerial OCS, Dual Track	1	RF	\$242	12,363	\$2,991,846	\$33,274	\$8,052,308
csc50.04-4	Traction Power Supply - Aerial OCS, Single Track	1	RF	\$183	-	\$0	\$0	\$0
50.04	Traction Power Distribution: Catenary and Third Rail		RF			\$5,332,980		\$9,184,508
Communication								
csc50.05-1	Communications System - Dual Track	1	LS	\$334	19,269	\$6,435,846	\$35,574	\$11,881,716
50.05	Communication		-			\$6,435,846		\$11,881,716
Fare Collection System and Equipment								
csc50.06-1	Fare Vending Equipment Underground Stations	1	LS	\$686,460	-	\$0	-	\$0
csc50.06-2	Fare Vending Equipment Aerial & At Grade Stations	1	LS	\$352,028	3	\$1,056,084	5	\$1,760,140
50.06	Fare Collection System and Equipment		RF			\$1,056,084		\$1,760,140
Central Control								
csc50.07	Central Control Facility	1	LS	\$8,693,757	-	\$0	-	\$0
50.07	Central Control		RF			\$0		\$0
Total Systems						\$27,393,828		\$54,155,232

Honolulu High-Capacity Transit Corridor Project								
Fixed Guideway Alternatives								
Summary Cost Comparison of Alternative Analysis								
Pricing Sheet								
Systems								
					Salt Lake Blvd/Dillingham Blvd		Dillingham Blvd	
					section 3		section 4	
DESCRIPTION	COST ID	QTY	UNIT	ALIGNMENT	11	18		
50.00 Systems					24,972	8,793		
Train Control & Signals								
csc50.01-1	ATC, Signal System Line Stations	1	RF	\$266	\$24,972	\$6,642,552	\$8,793	\$2,338,938
csc50.01-2	Highway Crossing Warning Devices (Preemptive)	1	EA	\$263,153	\$0	\$0	\$0	\$0
50.01	Train Control & Signals		RF		\$6,642,552		\$2,338,938	
Guideway: At-grade semi-exclusive (allows cross-traffic) NOT USED*****					**NOT USED**		**NOT USED**	
Traffic Signals and Crossing Protection								
csc50.02-1	Traffic Signal Modifications (4 directions)	1	EA	\$420,346	\$6	\$2,522,076	\$6	\$2,522,076
csc50.02-2	Traffic Signal Modifications (3 directions)	1	EA	\$323,631	\$10	\$3,236,310	\$2	\$647,262
50.02	Traffic Signals and Crossing Protection		RF		\$5,758,386		\$3,169,338	
Traction Power Supply: Substations								
csc50.03-1	Traction Power Substations (2 MW)	1	EA	\$1,834,535	5	9,172,675	2	3,669,070
50.03	Traction Power Supply: Substations		RF		\$9,172,675		\$3,669,070	
Traction Power Distribution: Catenary and Third Rail								
csc50.04-1	Traction Power Supply - At-Grade OCS, Dual Track	1	RF	\$339	\$0	\$0	\$0	\$0
csc50.04-2	Traction Power Supply - Subway OCS, Double Track	1	RF	\$235	\$0	\$0	\$0	\$0
csc50.04-3	Traction Power Supply - Aerial OCS, Dual Track	1	RF	\$242	\$24,972	\$6,043,224	\$8,793	\$2,127,906
csc50.04-4	Traction Power Supply - Aerial OCS, Single Track	1	RF	\$183	\$0	\$0	\$0	\$0
50.04	Traction Power Distribution: Catenary and Third Rail		RF		\$6,043,224		\$2,127,906	
Communication								
csc50.05-1	Communications System - Dual Track	1	LS	\$334	\$24,972	\$8,340,648	\$8,793	\$2,936,862
50.05	Communication		-		\$8,340,648		\$2,936,862	
Fare Collection System and Equipment								
csc50.06-1	Fare Vending Equipment Underground Stations	1	LS	\$686,460	-	\$0	-	\$0
csc50.06-2	Fare Vending Equipment Aerial & At Grade Stations	1	LS	\$352,028	2	\$704,056	3	\$1,056,084
50.06	Fare Collection System and Equipment		RF		\$704,056		\$1,056,084	
Central Control								
csc50.07	Central Control Facility	1	LS	\$8,693,757	-	\$0	-	\$0
50.07	Central Control		RF		\$0		\$0	
Total Systems					\$36,661,541		\$15,298,198	

Honolulu High-Capacity Transit Corridor Project									
Fixed Guideway Alternatives									
Summary Cost Comparison of Alternative Analysis									
Pricing Sheet									
Systems									
					Dillingham/Nimitz Hwy/Halekauwila St/Kapiolani Blvd to Ala Moana Sta		Systemwide		
					Section 1 Alt 5		Section 6		
DESCRIPTION					COST		COST		
					ID	QTY	UNIT		
50.00 Systems					ALIGNMENT		14,524	37	
								38	
Train Control & Signals									
csc50.01-1		ATC, Signal System Line Stations	1	RF	\$266	\$14,524	\$3,863,384	-	\$0
csc50.01-2		Highway Crossing Warning Devices (Preemptive)	1	EA	\$263,153	\$0	\$0	0	\$0
50.01	Train Control & Signals			RF			\$3,863,384		\$0
Guideway: At-grade semi-exclusive (allows cross-traffic) NOT USED*****							**NOT USED**		**NOT USED**
Traffic Signals and Crossing Protection									
csc50.02-1		Traffic Signal Modifications (4 directions)	1	EA	\$420,346	\$13	\$5,464,498	0	\$0
csc50.02-2		Traffic Signal Modifications (3 directions)	1	EA	\$323,631	\$5	\$1,618,155	0	\$0
50.02	Traffic Signals and Crossing Protection			RF			\$7,082,653		\$0
Traction Power Supply: Substations									
csc50.03-1		Traction Power Substations (2 MW)	1	EA	\$1,834,535	3	5,503,605	-	0
50.03	Traction Power Supply: Substations			RF			\$5,503,605		\$0
Traction Power Distribution: Catenary and Third Rail									
csc50.04-1		Traction Power Supply - At-Grade OCS, Dual Track	1	RF	\$339	\$0	\$0	-	\$0
csc50.04-2		Traction Power Supply - Subway OCS, Double Track	1	RF	\$235	\$0	\$0	-	\$0
csc50.04-3		Traction Power Supply - Aerial OCS, Dual Track	1	RF	\$242	\$14,524	\$3,514,808	-	\$0
csc50.04-4		Traction Power Supply - Aerial OCS, Single Track	1	RF	\$183	\$0	\$0	-	\$0
50.04	Traction Power Distribution: Catenary and Third Rail			RF			\$3,514,808		\$0
Communication									
csc50.05-1		Communications System - Dual Track	1	LS	\$334	\$14,524	\$4,851,016	-	\$0
50.05	Communication			-			\$4,851,016		\$0
Fare Collection System and Equipment									
csc50.06-1		Fare Vending Equipment Underground Stations	1	LS	\$686,460	-	\$0	-	\$0
csc50.06-2		Fare Vending Equipment Aerial & At Grade Stations	1	LS	\$352,028	6	\$2,112,168	-	\$0
50.06	Fare Collection System and Equipment			RF			\$2,112,168		\$0
Central Control									
csc50.07		Central Control Facility	1	LS	\$8,693,757	-	\$0	1	\$8,693,757
50.07	Central Control			RF			\$0		\$8,693,757
Total Systems							\$26,927,634		\$8,693,757

Honolulu High-Capacity Transit Corridor Project Fixed Guideway Alternatives Summary Cost Comparison of Alternative Analysis

Pricing Sheet Vehicles
Summary Cost Comparison of Alternative Analysis

Vehicles Cost Summary

COST ID	DESCRIPTION	20-mile Alignment QTY	UNIT	UNIT COST	20-mile Alignment COST
70.00 Vehicles					
CSC70.01	Articulated LRV	66	EA	\$2,719,572	\$179,491,752
70.01	TOTAL		EA		\$179,491,752
CSC70.06	Non Revenue Vehicles	1	LS	\$4,203,149	\$4,203,149
70.06	TOTAL		LS		\$4,203,149
CSC70.07	Spare Parts	66	EA	\$271,957	\$17,949,162
70.07	TOTAL		EA		\$17,949,162
Total Vehicles					\$201,644,063