7. BUDGET INFORMATION

Estimated fabrication costs were reviewed several times during the design process. The first review was conducted during the Schematic Design stage to ensure the proposed post and panel system was the most cost effective. The next review was in tandem with the selection of the ALTO product for the maps to ensure cost versus quality was taken into consideration. The final estimating was conducted after the design and sign location planning was completed and includes cost for both fabrication and installation.

Final rough order of magnitude (ROM) estimates are based on information obtained from both on-island and off-island sources for comparison. The estimates were obtained based on the total cost of fabrication and installation of two (2) Information Node sign types and ten (10) each of all other sign types as a single procurement. On-island sources were about 4.7% less expensive in this particular scenario. However, a side-by-side comparison by sign type shows that other combinations of sign types and quantities could lead to different outcomes (see chart below).

The following assumptions were factored by both on- and off-island sources:

- Installation of Information Nodes (IN-1) and Pedestrian Sign on New Pole (PD-2) are assumed to be into hardscape and bolted to the ground without foundations. If foundations are required, costs will increase.
- Installation is assumed to be during regular business hours with typical labor rates and does not include fees for street closures or permitting.
- Unit costs listed are based on purchasing a quantity of 10, except as noted for IN-1. Purchasing fewer units may result in a higher cost per unit and purchasing more may result in a lower cost per unit.

*** Pricing was obtained during the COVID-19 pandemic. Material costs have been fluctuating dramatically. Pricing should be used for informational purposes only.**

**** Average was calculated as (Vendor 1 price + Vendor 2 price / 2) / Quantity and does not reflect the increased cost of ordering a single sign versus the sample project total of 52 signs.**

BUDGET PRICING COST COMPARISON (EXAMPLE SCENARIO) *

		FABRICATION AND INSTALLATION			
TYPE	DESCRIPTION	UNITS	VENDOR 1 (On-Island)	VENDOR 2 (Off-Island)	AVERAGE COST FOR 1 UNIT **
IN-1	Information Node – Three sided	2	$12,250	$16,250	$7,125
	(Alternate without Transit Panel)		*($11,350)*	*($15,660)*	*($6,753)*
PD-1	Pedestrian Directional – Double sided on existing pole	10	$22,500	$21,000	$2,175
	(Alternate without Transit Panel)		*($17,250)*	*($18,450)*	*($1,785)*
PD-2	Pedestrian Directional – Double sided on new pole	10	$33,150	$37,000	$3,508
MP-1	Map Panel on existing pole	10	$14,150	$15,000	$1,458
MP-2	Map Panel on same pole as PD-2	10	$14,150	$15,000	$1,458
MP-3	Map Panel on existing structure	10	$14,150	$11,500	$1,283
	SAMPLE PROJECT TOTAL	52	$110,350	$115,750	

PRICING SCENARIOS

The following example projects were developed for illustration purposes and demonstrate how potential implementation projects can be packaged and procured. Estimates account for only the initial fabrication and installation of the unit quantities shown in each table. The quantities are per the sign location plans documented during this phase of work. Other typical items that may be required during an implementation such as this are not included — for example, demolition or removal of existing signs, attic stock of sign blanks, remediation of sidewalks and landscaping, contracting of on-going management or maintenance of the system.

Notes:

1. "Average Cost Per Unit" shown in these tables is based on the data gathered and shown for the cost comparison described on page 24 and are inclusive of fabrication and installation.
2. Example 1 includes quantities based on the sign location planning completed for the area immediately outside of the station, but does not extend further into neighborhoods. The pricing is for the total number of signs for the stations from Kualaka'i to Hālawa implemented as a single procurement.
3. Examples 2 and 3 include quantities based on the sign location planning completed for the entire TOD neighborhood, including signs in the area immediately outside of the stations from Example 1. Implementing these in the same procurement as Example 1 would reduce the cost by four (4) IN-1, nine (9) PD-1, nine (9) PD-2, four (4) MP-1, five (5) MP-2, and one (1) MP-3.
4. Examples 4, 5, and 6 include quantities based on the sign location planning completed for the entire TOD neighborhood, using the alternate versions of IN-1 and PD-1, since the rail is not yet in these neighborhoods.

EXAMPLE 1: Immediate Station Area at First 9 Stations

TYPE	UNITS	AVERAGE COST PER UNIT	UNIT COST EXTENSION
IN-1	13	$7,125	$92,625
PD-1	16	$2,175	$34,800
PD-2	12	$3,500	$42,000
MP-1	10	$1,460	$14,600
MP-2	8	$1,460	$11,680
MP-3	7	$1,285	$8,995
		SUBTOTAL	$204,700
		GENERAL CONDITIONS (15%)	$30,705
		CONTINGENCY (10%)	$20,470
		TOTAL	$255,875

EXAMPLE 2: Immediate Station Area at Pouhala Plus Waipahu Neighborhood within TOD boundary

TYPE	UNITS	AVERAGE COST PER UNIT	UNIT COST EXTENSION
IN-1	2	$7,125	$14,250
PD-1	18	$2,175	$39,150
PD-2	11	$3,500	$38,500
MP-1	12	$1,460	$17,520
MP-2	8	$1,460	$11,680
MP-3	3	$1,285	$3,855
		SUBTOTAL	$124,955
		GENERAL CONDITIONS (15%)	$18,743
		CONTINGENCY (10%)	$12,495
		TOTAL	$156,193

EXAMPLE 3: Immediate Station Area at Kalauao Plus Pearlridge Neighborhood within TOD boundary

TYPE	UNITS	AVERAGE COST PER UNIT	UNIT COST EXTENSION
IN-1	2	$7,125	$14,250
PD-1	22	$2,175	$47,850
PD-2	12	$3,500	$42,000
MP-1	12	$1,460	$17,520
MP-2	8	$1,460	$11,680
MP-3	2	$1,285	$2,570
		SUBTOTAL	$135,870
		GENERAL CONDITIONS (15%)	$20,380
		CONTINGENCY (10%)	$13,587
		TOTAL	$169,837

EXAMPLE 4: Downtown Neighborhood within TOD boundary			
TYPE	UNITS	AVERAGE COST PER UNIT	UNIT COST EXTENSION
IN-1	4	$6,750	$27,000
PD-1	49	$1,785	$87,465
PD-2	9	$3,100	$27,900
MP-1	23	$1,460	$33,580
MP-2	6	$1,460	$8,760
MP-3	1	$1,285	$1,285
		SUBTOTAL	$185,990
		GENERAL CONDITIONS (15%)	$27,898
		CONTINGENCY (10%)	$18,599
		TOTAL	$232,488

EXAMPLE 5: Civic Center Neighborhood within TOD boundary			
TYPE	UNITS	AVERAGE COST PER UNIT	UNIT COST EXTENSION
IN-1	3	$6,750	$20,250
PD-1	55	$1,785	$98,175
PD-2	11	$3,100	$34,100
MP-1	30	$1,460	$43,800
MP-2	6	$1,460	$8,760
MP-3	0	$1,285	$0
		SUBTOTAL	$205,085
		GENERAL CONDITIONS (15%)	$30,763
		CONTINGENCY (10%)	$20,509
		TOTAL	$256,356

EXAMPLE 6: Kaka‘ako Neighborhood within TOD boundary			
TYPE	UNITS	AVERAGE COST PER UNIT	UNIT COST EXTENSION
IN-1	2	$6,750	$13,500
PD-1	46	$1,785	$82,110
PD-2	6	$3,100	$18,600
MP-1	35	$1,460	$51,100
MP-2	4	$1,460	$5,840
MP-3	2	$1,285	$2,570
		SUBTOTAL	$173,720
		GENERAL CONDITIONS (15%)	$26,058
		CONTINGENCY (10%)	$17,372
		TOTAL	$217,150