

City and County of Honolulu
Department of Transportation Services (DTS)

Rail Operations and Maintenance (O&M) Cost Estimate update



Presentation to Rate Commission

June 18, 2019

Rail O&M Cost Estimates

- FTA 2018 Recovery Plan Cost Estimate
- Independent Cost Estimate

FTA 2018 Recovery Plan O&M Cost Estimate

Figure 7-3 Update of Rail O&M Costs, 2017 Dollars (Millions)

	FFGA First Full Year of Operations, June 2012					Updated FY2017	
	In Constant \$'s mil.	FFGA Inflation Factor	Inflated to Cost in FY2017	Inflated to Cost in FY2020	Inflated to Cost in FR2026	Updated Amount in Current \$'s	Change from FFGA FY2017
Core Systems Labor	\$ 25.5	1.2%	\$ 27.1	\$ 27.9	\$ 29.9	\$ 36.1	\$ 9.1
Core Systems Materials	\$ 20.2	3.6%	\$ 24.1	\$ 27.3	\$ 34.0	\$ 20.5	\$ (3.6)
Core Systems Admin	\$ 13.1	1.2%	\$ 13.9	\$ 14.5	\$ 15.6	\$ 13.9	\$ -
<i>Subtotal Core Systems</i>	<i>\$ 58.2</i>		<i>\$ 65.1</i>	<i>\$ 69.8</i>	<i>\$ 79.5</i>	<i>\$ 70.6</i>	<i>\$ 5.5</i>
Admin	\$ 10.4	2.5%	\$ 11.8	\$ 12.7	\$ 14.7	\$ 7.0	\$ (4.8)
Power Costs	\$ 18.3	0.8%	\$ 19.1	\$ 19.5	\$ 21.8	\$ 16.5	\$ (2.5)
Guideway Maintenance	\$ 1.9	2.5%	\$ 2.2	\$ 2.4	\$ 2.7	\$ 2.65	\$ 0.4
Security Patrols	\$ 0.7	2.5%	\$ 0.8	\$ 0.8	\$ 1.0	\$ 2.00	\$ 1.2
Fare Enforcement	\$ 1.8	2.5%	\$ 2.0	\$ 2.2	\$ 2.6	\$ -	\$ (2.0)
Fare Collection	\$ 2.4	2.5%	\$ 2.8	\$ 3.0	\$ 3.4	\$ 3.33	\$ 0.6
Station Maintenance	\$ 2.1	2.5%	\$ 2.3	\$ 2.5	\$ 2.9	\$ 2.83	\$ 0.5
Water	\$ 0.01	2.5%	\$ 0.01	\$ 0.01	\$ 0.02	\$ 0.03	\$ 0.0
<i>Subtotal</i>	<i>\$ 37.7</i>		<i>\$ 41.0</i>	<i>\$ 43.1</i>	<i>\$ 49.2</i>	<i>\$ 34.3</i>	<i>\$ (6.6)</i>
Total Projected O&M	\$ 96.5		\$ 106.0	\$ 112.8	\$ 128.7	\$ 104.9	\$ (1.1)

FTA 2018 Recovery Plan O&M Cost Estimate

Exhibit J-1: Operating Plan, Continue Original Plan Methodology

City Fiscal Year	Units	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Operating Revenues												
Fare Revenues (Bus)	YOE \$M	55	58	59	72	80	86	100	101	102	84	93
Fare Revenues (Rail)	YOE \$M	-	-	-	-	3	3	4	4	4	40	45
Fare Revenues (Handi-Van)	YOE \$M	2	2	2	2	2	2	3	3	3	3	3
Total Fare Revenues	YOE \$M	57	60	62	74	85	91	106	107	108	126	141
Federal Operating Assistance												
Total Federal Operating Assistance	YOE \$M	23	10	10	11	10	10	6	10	-	9	6
Local Operating Assistance												
Transfer from Project	YOE \$M	-	-	-	-	-	-	-	-	-	-	-
City Operating Subsidy	YOE \$M	176	197	207	207	248	287	307	330	366	389	420
Total Local Operating Assistance	YOE \$M	176	197	207	207	248	287	307	330	366	389	420
Total Operating Revenues	YOE \$M	256	268	279	292	343	389	419	447	475	524	567
Operations and Maintenance (O&M) Costs												
TheBus O&M Costs	YOE \$M	204	212	220	229	238	247	257	268	291	309	342
Rail O&M Costs	YOE \$M	-	-	-	-	39	71	87	100	101	127	130
TheHandi-Van O&M Costs	YOE \$M	52	55	58	61	65	68	72	76	80	85	89
Other O&M Costs	YOE \$M	1	1	1	2	2	2	3	3	3	3	5
Total O&M Costs	YOE \$M	256	268	279	292	343	389	419	447	475	524	567
Farebox Recovery Ratio (Bus and Rail)		27%	27%	27%	32%	30%	28%	30%	28%	27%	28%	29%

Independent O&M Cost Estimate

- Updated cost estimates were prepared by an independent consultant (Jacobs) hired by DTS
- Prepared in 2019 dollars (therefore future period estimates will be impacted by inflation)
- Estimates were prepared for both DBFOM (P3) and DBOM approaches
- While the estimate can be compared with O&M cost estimates previously reported by HART (e.g. FTA Recovery Plan), it uses updated assumptions
- Cost estimates will continue to be refined and will be used as the basis for:
 - Evaluation of P3 price proposals
 - Development of Affordability Cap/Target for the P3 RFP
 - City budgets

Independent O&M Cost Estimate

- HART Recovery Plan estimate is in year-of-expenditure dollars, while the independent cost estimate is in 2019 dollars.
- Updated Service Levels will affect costs
 - Previous cost estimates were based on fewer service hours and less frequent service
 - Updated independent estimate is based on new service plan included in DBFOM RFP
- Design/Build changes affect cost estimates
 - 4-car consist vs 2-car trains
 - Platform Screen Gates
 - Changes to fare system components
 - Increased security

Independent O&M Cost Estimate

- Develop cost estimates in two-step process:
 - Planning level O&M cost estimates (less detailed)
 - Bottoms-Up O&M cost estimates (more detailed)
- Perform cost comparison for different scenarios:
 - Procurement strategy: DBOM, P3 (DBFOM)
 - Train services levels: headways, hours of revenue services on weekdays and weekends
 - Duration of operating phases during Initial and Final Operations (IO, FO) periods
- Include cost for contactors, DTS, and relevant 3rd parties
- Review O&M cost of peer city public transit systems

Independent O&M Cost Estimate

- Operating costs inputs:
 - Train operations
 - Customer service
 - Revenue collection & processing
 - Public security patrol and enforcement
- Maintenance costs inputs:
 - Custodial maintenance
 - Routine/preventive maintenance
 - Corrective maintenance
 - Associated technical functions

Independent O&M Cost Estimate

- Utilities Costs
 - Energy including traction power and facilities/station power
 - Water/sewage, telecom, etc.
- Life-Cycle (CARP) / Capital Cost
 - Asset end of life replacement and rehabilitation cost
 - Overhaul of fixed assets
- Other Costs
 - Management and administration cost
 - Unallocated contingency

Independent O&M Cost Estimate

- Preliminary Results are now being reviewed internally
- Will be used to inform and evaluate P3 Developer price proposals
- Will be used as estimate for future budget expenses

Mahalo!

