September 2017 Monthly Progress Report Highlights

Summary (Page 9-10)

- This month, Honolulu Authority for Rapid Transportation (HART) contractor Ansaldo Honolulu Joint Venture (AHJV) conducted the initial energization of the contact rail, or third rail, in the Dynamic Testing section of the Project. Train Dynamic Testing is planned to start in October 2017.
- The Hawaii State Legislature passed Senate Bill 4, enacted into law by Governor Ige as Act 1 on Sept. 5, 2017, which extends the General Excise and Use Tax (GET) surcharge for three additional years, through Dec. 31, 2030, and raises the Transient Accommodation Tax (TAT) from 9.25% to 10.25% for 13 years, until Dec. 31, 2030. These measures will provide financial capacity needed to complete the project as planned in the FFGA. Following final passage of Bill 45 (2017), CD1, Relating to the Transportation Surcharge, by the City Council, Honolulu Mayor Kirk Caldwell signed into law Ordinance No. 17-48, which extends the county surcharge for 3 years from 2027 to 2030. Additionally, Ordinance 17-48 codifies the prohibitions on the use of the GET surcharge funds established in Act 1.
- On Sept. 15, 2017, HART submitted an updated Recovery Plan to the FTA, which included a Financial Plan that is predicated on additional local revenues generated by Act 1. With this update to the Recovery Plan, HART is able to confirm that it has the resources to complete the HRTP as described in the FFGA—20.1 miles with 21 stations.

### COST (as of Aug. 25, 2017)

<table>
<thead>
<tr>
<th>Description</th>
<th>Original FFGA Budget</th>
<th>Current Budget</th>
<th>Current Estimate at Completion (EAC)</th>
<th>Incurred To Date</th>
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<tbody>
<tr>
<td>Base Cost without Contingency</td>
<td>$4,305</td>
<td>$6,280</td>
<td>$7,102</td>
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<td>Total Contingency</td>
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<td>Finance Charges</td>
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<tr>
<td>Total</td>
<td>$5,122</td>
<td>$6,827</td>
<td>$8,630</td>
<td>$2,875</td>
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### SCHEDULE (as of Aug. 25, 2017)

<table>
<thead>
<tr>
<th>Project Progress* Through Aug. 25, 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual</td>
</tr>
<tr>
<td>Overall Project Progress</td>
</tr>
<tr>
<td>Construction Progress</td>
</tr>
<tr>
<td>Design Progress</td>
</tr>
</tbody>
</table>

*Reported percentages complete are based on the revised Estimate at Completion for the Minimum Operable Segment (MOS) and revised Revenue Service Date (RSD).

2.4 Project Funding (Page 14)

- $2,797 million = Total Cash Received Since 2007.
- The planned funding amount for the GET was adjusted to reflect growth rates forecasted by the State of Hawaii’s Council on Revenue.
3 Schedule (Page 15-16)
- Interim Revenue Service Date is planned for December 2020.
- Target Revenue Service Date (RSD) is December 2025.
- City Center's design, construction, and utilities packages are being assessed due to funding delays and procurement resolicitation. HART is assessing risk and options to prevent an impact to the projected Revenue Service Date of December 2025.

4 Contract Status (Page 17-18)
Contracts in Procurement (data as of Sept. 25, 2017)
- The University of Hawai'i (UH) West Oahu Station Temporary Park-and-Ride and Campus Road "B" contract was awarded, and a protest was received. Please see page 17.
- The On-Call Construction Contractor IV solicitation was canceled. Please see page 17.

4.1 System-wide (Page 19-25)
A. Core Systems Contract (CSC)
- Incurred-to-Date: $282,147,659
- Physical Percent Complete: 42.9%
- Hawaiian Electric (HECO) provided HART with results of the power quality study which shows that voltage variation issues caused by the operation of the trains leaving the stations may have to be addressed. HART is currently analyzing the data and will provide comments back to HECO.
- Hitachi Rail Italy (HRI) is investigating cable crimping irregularities on Train #1. This issue was discussed at the Car Readiness Review Board meeting held on Sept. 15, 2017.
- HRI is investigating slewing ring bolt failure discovered in the Pittsburg Final Assembly. This issue was discussed at the Car Readiness Review Board meeting.

B. Elevators & Escalators Manufacture-Install-Maintain (MIM)
- Incurred-to-Date: $7,980,476
- Physical Percent Complete: 12.5%

C. Fare Collection System
- Incurred-to-Date: $3,266,121
- Percent Complete: 12.4%

4.2 Section I – West O'ahu/Farrington Highway (Page 26-34)
A. West O'ahu/Farrington Highway Guideway (WOFH)
- Incurred-to-Date: $665,313,907
- Physical Percent Complete: 99.3%
- As of the January 2017 progress update, the project was scheduled for substantial completion in March 2017.
- KIWC has communicated the projected substantial completion will be April 2017. HART disagrees, due to unresolved issues. This issue has been elevated to the executive level.
- Shims – KIWC has completed the shim replacement work for the entire WOFH Guideway.
- Tendons – KIWC has completed their investigation of the condition of all tendons. The data has been submitted to HART for review.
- **Key Content Change from the August Report:**
  - Pg. 26: The current contract value amount has increased due to a change order.
B. West O'ahu Station Group (WOSG) Construction
- Incurred-to-Date: $17,026,966
- Physical Percent Complete: 22.3%
- HART is working with the contractor to mitigate any delays, if possible, and is evaluating the contract substantial completion date and warranted time extensions.
- The project has been initially delayed due to site access issues. The schedule is forecasted to be further delayed due to 46kV line relocation by HECO, which impacts the box girder work at UH West O'ahu and East Kapolei Stations.
- **Key Content Change from the August Report:**
  - Pg. 28: The projected substantial completion date has changed from May 2019 to March 2019
  - Pg. 28: The schedule status has changed from "14 months behind" to "12 months behind."

C. Farrington Highway Station Group (FHSG) Construction
- Incurred-to-Date: $31,852,768
- Physical Percent Complete: 30.8%
- Hawaiian Dredging Construction Company's (HDCC's) current assessment of the schedule: They will deliver the project 12 months late.
- A change order is under review to extend the contract substantial completion date due to access delays and issuance of Issued for Construction (IFC) drawings and subsequent revisions.
- Additional electrical and communication conduit from the Train Control and Communications Room (TCCR) to the entrance building and the platform was added to the scope of work by the CSC.
- Additional electrical and communication conduit for the fare gates have been added to the scope of work by CSC.
- **Key Content Change from the August Report:**
  - Pg. 31: The current contract value amount has increased due to a change order.

D. Maintenance and Storage Facility (MSF)
- Incurred-to-Date: $281,753,403
- Physical Percent Complete: 100%
- The MSF project is currently in the close-out stage. The anticipated final acceptance date of Sept. 29, 2017, has to be changed due to the following issues: OSB fan warranty issue outstanding, final submittal documentation for the in ground lift commissioning report, the OSB computer room not meeting the seismic certification requirements, and completion of the Transfer of Capital Assets. A timeline on a new final acceptance date is being discussed with the contractor.
- 3/16" Direct Fixation Isolation Pads – KKJV is procuring the isolation pads for the east-side project through Nationwide. There are three shipments of isolation pads scheduled to be delivered to MSF for the east side. The first two shipments of isolation pads were received and turned over to the east side in June. The two shipments of isolation pads have been received by the east side and stored in containers at the MSF facility. The delivery of the third and final shipment of isolation pads arrived in July; the certifications and test reports are submitted. Final documentation to close-out the NCRs is pending.
- In-Ground Lift No. 5. The OSB in-ground lift rail gauge was found to be out of tolerance at 56"; the rail gauge requirement is 56 1/2" +/- 3/8". Per a meeting on June 27, 2017, KKJV agreed to correct the rail gauge to be within tolerance of 56 1/2". The in-ground lift rail gauge was corrected this month and is within tolerance. A resubmittal of the Macton Lift commissioning reports is pending for final close-out documentation.
• Transfer of Capital Assets. HART/MSF met on July 10, 2017, to discuss turnover of O&M manuals, warranties submittal, CMS, etc. Weekly meetings are scheduled until final acceptance is granted.
• OSB Computer Room Air Conditioning Unit – Seismic Requirements. On Aug. 2, 2017, KKJV informed MSF the OSB computer room air conditioning units did not meet the seismic requirements identified in the contract specification. KKJV has investigated the issue and identified only two ground air conditioning units are not in compliance with the seismic requirements. Letter 00283 was issued by MSF on Sept. 19, 2017, requesting an action plan and timeline for completion of the work. A timeline and action plan from KKJV is forthcoming.

4.3 Section II – Kamehameha Highway (Page 35-40)
A. Kamehameha Highway Guideway (KHG)
• Incurred-to-Date: $384,644,549
• Physical Percent Complete: 96.4%
• Longitudinal Tendons – Longitudinal tendons have been monitored for possible indications of rust. KIWC added two witness points to their Pre-Grout Inspection Checklist for HART to visually inspect the tendon anchorages for corrosion, take photographs, and observe the removal of the deviator boots to ensure no water had accumulated at the low points of the duct.
• Shims – NCR #225 was issued to KIWC in October 2016, for non-compliance with ASTM testing requirements.
• Key Content Change from the August Report:
  o Pg. 35: The current contract value amount has increased due to a change order.

B. Ramp H2R2
• Incurred-to-Date: $4,955,054
• Physical Percent Complete: 85.5%
• The most recent schedule indicates that the substantial completion is currently projected for November 2017. A Contract Change Order to extend the substantial completion date for the project has been negotiated with the contractor and is currently in the approval process.
• HDOT has requested additional guardrail for safety reasons, and an extension of the substantial completion date is in process.
• The ramp cannot be turned over to HDOT upon completion of construction. Late turnover does not affect the overall light rail project because the primary purpose of this ramp is to serve the Pearl Highlands parking structure from eastbound Farrington Highway.

C. Kamehameha Highway Station Group (KHSG) Construction
• Incurred-to-Date: $16,332,372
• Physical Percent Complete: 9.5%
• Critical path has been impacted due to the slow production of the Pearl Highlands drill shafts. HART continues to work with the contractor to assist in mitigating their delay.
• Falsework has been delivered and is currently being erected. HART is reviewing a Time Impact Analysis due to the delay of the delivery of the falsework.
• Only partial access was given to the contractor at the Aloha Stadium Station parking lot. The guideway contractor is still on-site until substantial completion is obtained. This will adversely impact the KHSG contractor.
• Unforeseen finds were encountered at the Pearlridge Makai Site on Aug. 7, 2017. Archaeologists with Cultural Surveys Hawai‘i performed careful excavation activities on the surrounding area by the find. Ten burials were found. HART has worked with the State of Hawai‘i Historic Preservation Division which has determined the finds will remain on location. The station elements in the area are in the process of being redesigned around the finds.
• The contractor completed all shafts at the Pearl Highlands site in September 2017.
• **Key Content Change from the August Report:**
  - Pg. 39: The current contract value amount has increased due to a change order.
  - Pg. 39: The contract incurred amount for the month is negative due to an invoice adjustment.

### 4.4 Section III – Airport (Page 42-45)

A. Airport Section Guideway and Stations (AGS)
   - Incurred-to-Date: $130,495,143
   - Physical Percent Complete: 9.8%

B. Airport Section Utilities (ASU) Construction
   - Incurred-to-Date: $27,919,489
   - Physical Percent Complete: 100%
   - A singular final change resolution, encompassing all remaining unresolved claims, is in review with HART management for discussion with Nan to finalize contract close-out.

### 4.5 Section IV – City Center (Page 46-48)

A. City Center Section Guideway and Utilities Final Design
   - Incurred-to-Date: $46,775,438
   - Percent Complete Based on Expenditures: 80.0%
   - DTU utilities design concluded in September 2017.
   - City Center Utilities and Guideway (CCUG) utilities and roadway design commenced on Dec. 29, 2016, and is scheduled to conclude on or before Jan. 30, 2019.

B. Dillingham and Kaka’ako Station Group (DKSG) Final Design
   - Incurred-to-Date: $12,205,081
   - Earned Value: 100%
   - This contract is scheduled to be closed out in late 2017.

### 5.3 Utility Agreements (Page 56-58)

- Electrical Construction – For WOFH and KHG, HART was responsible for infrastructure (trenching, ductline installation, etc.) construction and HECO was responsible for electrical (cable installation and termination) construction for electric utility relocations. In April 2017, HECO informed HART that it will not perform electrical construction for electric utility relocation for the Airport and City Center sections, including the Dillingham Temporary Utilities section. HECO will continue to perform the electrical design. HART is proceeding to procure utility relocation electrical construction services and is also now responsible for procuring electrical materials.
- Mitigation of Horizontal Working Clearance Requirements – For WOFH and KHG, HECO has successfully tested two new bucket trucks (not currently in their fleet) that can perform maintenance and repair work for existing 46kV and 12kV lines with less than their required horizontal working clearance. This will mitigate the need to relocate almost 90% of the 46kV and 12kV poles/lines that do not meet their current required working clearances. For the 138kV lines at WOFH and KHG, HECO and HART traveled to Colorado to review the operational capabilities of
the Phoenix and Skybird bucket trucks. HECO has determined that these two types of trucks will allow them to perform 138kV work with less than their required horizontal working clearance. HECO has provided specialized equipment reports for both the 46kV/12kV and 138kV trucks, including the quantity of trucks needed and costs for these trucks. HART and HECO are currently working to procure these trucks. For AGS, a HECO-HART solution of 1) shortening the conductor pole arms on nine (9) existing 138kV poles fronting Pearl Harbor; 2) increased conductor easements from the Navy; and 3) the use of the new 138kV specialized equipment as mentioned above, will avoid having to underground HECO’s 138kV lines to meet horizontal working clearance requirements. For City Center, HART and HECO have agreed to underground the existing overhead 138kV lines.

5.4 Right-of-Way (Page 58-64)
(data as of Sept. 1, 2017)
- Negotiations are underway with HECO regarding clearances next to the HART system. HART may have approximately 100 new private easements that will be acquired for HECO undergrounding. Another 146 small parcels will be located in public streets and HDOT property. They are primarily in the Airport and City Center sections for miscellaneous utility easements for HECO and other utilities. These parcels will eventually be turned over to HECO.
- ROW and Construction are working collaboratively to mitigate any potential construction impacts. The objective is to secure site access via Rights of Entry (ROE) or other arrangements. ROW has moved forward with some condemnation and obtained legally enforceable possession of the property. However, these possession authorities will eventually require resolution of the valuation of the subject parcel.

6.1 Safety and Security (Page 65-68)
- The Core Systems AHJV Safety and Security Certification point of contact is on island part-time. This individual is on island for approximately 10 days once every 6 weeks. This raises a concern of not providing onsite availability of certification expertise and experience at the Core Systems contractor level. HART Safety and Security Division certification efforts continue to progress while the status of the replacement manager is being addressed. An interim plan proposed by AHJV to address the gaps in coverage for meeting system safety requirements has been accepted. This issue will be ongoing and monitored by HART Safety and Security and Core Systems.
- Operations and Maintenance (O&M) safety during commissioning activities is a concern.
- AHJV Director of O&M and Deputy Director of O&M positions are vacant. AHJV does not have an Operational Safety Manager on site. Concerns have been raised with respect to AHJV’s ongoing management capability of Operations and Maintenance and Operational Safety.
- Shims – KIWC has completed the shim replacement work for the entire WOFH Guideway.
- Tendons – KIWC has completed their investigation of the condition of all tendons. The data has been submitted to HART for review.
- PT-001 Car History Book – HART Safety and Core Systems are reviewing the Car History Book for completeness in order to start the verification process to issue an Interim Certificate for PT-001 to enter Dynamic Testing and operate on the Dynamic Section Test Track.
- There are 69 Passenger Train (PT) NCRs that surfaced over the last months that are under review for safety impacts. Issues under review include the following:
  o PT interior panel flammability issue (non-conformance with contract requirements).
  o Truck sluing ring bolt torque issue.
  o Truck main motor leads cable crimping issues.
- A candidate for the Safety Specialist II position has been identified; an offer is pending.
- The Safety and Security Support Consultant position is vacant.
• Certification of the MOW Vehicles (9) has not been completed.
• Certification for the Yard Control Bungalow (YCB) Civil Design Criteria Conformance Checklists (DCCC) and Construction Specification Conformance Checklist (CSCC) has not been completed.
• Incidents for Aug. 30, 2017 – Sept. 22, 2017:
  o KHG: Two power tools and batteries were stolen from a flatbed working in the median.
  o WOSG: The fencing was cut and persons tried to break into a secured electrical room at the Ho’opili Station. Nothing was taken.

6.2 Quality Management (Page 69)
• Resolution of two (2) major WOFH NCRs that need to be addressed and corrected to prevent recurrence and to mitigate impact on the overall progress of the project. The major NCRs are described below:
  o Tendons: KIWC has completed their investigation of the condition of all tendons. The data has been submitted to HART for review.
  o Shims: KIWC has completed the shim replacement work for the entire WOFH Guideway.
• Resolution of one (1) major KHG NCR that needs to be addressed and corrected to prevent recurrence and to mitigate impact to the overall progress of the project. The major NCR is described below:
  o Shims: NCR #225 was issued to KIWC in October 2016, for non-compliance with ASTM testing requirements.
• Resolution of one (1) major CSC NCR that needs to be addressed and corrected to prevent recurrence and to mitigate impact on the overall progress of the project. The major NCR is described below:
  o HRI presented the positive results of the first car shell structural defect retrofit to Safety and Security Review Committee (SSRC). HRI has shipped four car shells that include the aluminum extrusion defects back to Reggio Calabria, Italy, for retrofit.

6.4 Disadvantaged Business Enterprise (DBE) (Page 69)
• $65,889,175 = total dollar participation for all DBEs on all HART contracts from 9/24/07 to 9/30/17

6.7 Risk Management (Page 72-74)
• On-Call contractor is verifying the existing as-built data of the utilities in the City Center Section to mitigate risk of unidentified utilities.
• Developing agreements with landowners and utilities for access during construction is mitigating potential construction schedule delays.
• Evaluating response strategies for HART performing HECO construction work.
• The procurement for combined guideway and station package on the City Center Guideway and Stations contract was cancelled by HART on Aug. 24, 2017. HART is evaluating options for a new procurement with input from Risk Management. Risk models can and will be run on several procurement strategies to determine the optimal approach given market conditions.
• Evaluating advancing all or portions of the City Center utilities relocation packages as an early contract, followed by a new DB procurement for the City Center Guideway and Stations project.
• The Risk Manager held numerous meetings with the project teams in September 2017 for the Quarterly Risk Refresh. The most significant findings and results were as follows:
  o Separation of CCGS Risks
  o Risk Reductions due to Duplications
  o Value Engineering and Cost Containment/Cost Reduction Workshop Ideas
6.8 Community Outreach (Page 74)
- Since the inception of HART, the outreach team has participated in:
  o 1,134 Presentations and Events
    ▪ 9 Events and Presentations in September 2017. HART’s public outreach team participated in the Hawaii Global Tourism Summit and provided a tour of the Rail Operations Center to the staff of the Hawaii Community Development Authority. HART staff also participated in the University of Hawaii-West Oahu Internship Fair 2017.
  o 663 Neighborhood Board Meetings
    ▪ 9 Neighborhood Board Meetings in September 2017.
- HART’s public outreach team responded to dozens of public inquiries and comments this month. Inquiries were related to employment with the rail project, construction work and timetables along the project corridor, as well as questions relating to the operation of the rail system.

6.9 Staffing (Page 75, 83)
- Staffing:
  o Actual Total: 129 personnel (this includes HART City and PMC staff—reflects all arrivals as well as departures for the current month)
    ▪ City Staff: 109 (5 Civil Service and 104 Personal Services Contract [PSC] positions)
    ▪ PMC Staff: 20 (HDR)
- The following positions were filled in September:
  o Fiscal Officer (PSC)
- The following positions became vacant in September:
  o Contract Management Assistant (PSC)

Appendix C. Project Organization Chart (Page 83)
Key Content Change from the August Report:
- Pg. 83: The Project Organization Chart has been updated.