Top Risk Summary

Focus: Summary of Top Risks from June 2020 Risk Update, for Review with HART Board POC

August 13, 2020
Results of June 2020 Risk Update, P65 Cost

June 2020 Update: P65 = $8.277 B, with the proposed CCUR Base Cost Adjustment (Compares to P65 of $8.181 B from May 2020 Update, an increase of $95.3 Million)
Results of June 2020 Risk Update, P65 Schedule

June 2020 Update: P65 Schedule Completion, Full RSD: December 2026 (compares to December 2026 from May 2020 Update – no change in P65 schedule forecast)
FTA Risk Scoring Method

<table>
<thead>
<tr>
<th>Risk Scoring for Risk Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Impact Scores</strong></td>
</tr>
<tr>
<td><strong>(P) Probability</strong></td>
</tr>
<tr>
<td><strong>(C) Cost Impact</strong></td>
</tr>
<tr>
<td><strong>(S) Schedule Impact</strong></td>
</tr>
<tr>
<td><strong>Rating</strong></td>
</tr>
</tbody>
</table>

Score = (Cost + Schedule) * Probability

Risks are assessed based on the probability of occurrence, potential (and most likely) cost impact, and potential (and most likely) schedule delay. The total score is arrived at by adding the cost and schedule impact scores, multiplied by the probability score. For example:

40% Probability = 2; A $60 million Cost Impact = 3; A five month Schedule Impact = 3
Resulting Score = 3 + 3 = 6 x 2 = 12; a Medium Risk.
## Top Cost and Schedule Risks, June 2020

<table>
<thead>
<tr>
<th>Risk ID</th>
<th>Risk Description</th>
<th>Risk Threat Score</th>
<th>Risk Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>DBOM920 PRO 80.03_10</td>
<td>Schedule and cost impacts due to AGS guideway and stations delays affecting the Core Systems Contractor (CSC). (New risk as of end of May 2020.)</td>
<td>15</td>
<td>HART Core Systems team is reviewing the merits of this issue expressed by the CSC, including concurrent delay due to time required for CSC’s design affecting the AGS schedule.</td>
</tr>
<tr>
<td>DB450 SIT 40.02_11</td>
<td>AGS: HECO Zone 8 Delay.</td>
<td>15</td>
<td>HART is evaluating the TIA for concurrent delays.</td>
</tr>
<tr>
<td>DBOM920 SYS 50.01_12</td>
<td>Core Systems: Risk of additional work by Core Systems Contractor following recent settlement, until assigned to P3.</td>
<td>12</td>
<td>1. HART is troubleshooting systems interface issues with West stations work to avoid further cost due to changed conditions. 2. Plan for 2-phase testing at platforms has allowed more time for canopy arm installation, followed by Core Systems devices and testing.</td>
</tr>
<tr>
<td>DBBS11 SIT 40.02_01</td>
<td>Insufficient construction performance by utility owners.</td>
<td>12</td>
<td>HART is coordinating with utility companies, including HTI and AT&amp;T, to ensure sufficient resources to meet HART’s schedule for utility relocations along the corridor. This risk was updated in May and June 2020 and is viewed as one of the larger risks within CCUR.</td>
</tr>
<tr>
<td>P3-DB550 SIT 40.03_03 (schedule) and 40.03_02 (cost)</td>
<td>P3 for CCGS and PH: Environmental Cleanup, Cost and Schedule impacts to HART (2 separate risks, but combined here for scoring). The Risk Management System (RMS) adjusted the cost portion of this risk slightly downward based on the expectation that CCUR work will uncover most, if not all, pockets of contamination. There is a risk sharing arrangement in the P3 RFP for environmental cleanup responsibilities.</td>
<td>12</td>
<td>1. Although HART would be responsible for the cost and schedule impact for cleanup of undisclosed contamination, the P3 would be responsible for the schedule risk associated with the cleanup of disclosed contamination. Some cleanup activities could be non-critical path delays depending upon where they occur in the project. 2. HART will handle the cleanup with on-call contractors familiar with this work and who can execute the work most efficiently.</td>
</tr>
<tr>
<td>Risk ID</td>
<td>Risk Description</td>
<td>Risk Threat Score</td>
<td>Risk Mitigation</td>
</tr>
<tr>
<td>---------</td>
<td>------------------</td>
<td>-------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>DBB511 SIT 40.08.01</td>
<td>CCUR: Delay in obtaining City Agency Permitting had been forecast and continues to result in delays to critical utility relocation work.</td>
<td>12</td>
<td>HART continues to coordinate with City permitting agencies to provide any further design information that is needed, and to reduce the timeframes for review and permitting of utility relocation work.</td>
</tr>
<tr>
<td>DBB511 SIT 40.02.24</td>
<td>CCUR: Field changes resulting from HECO requirements.</td>
<td>12</td>
<td>HART is continuing to coordinate with HECO to identify all appropriate requirements are fully planned, such as epoxy coated manholes, and increased conduit diameters for cabling.</td>
</tr>
<tr>
<td>ROW 60.01.17</td>
<td>ROW: Parcel Scope changes for Mauka Entrance to Kuloloia Station (at Downtown)</td>
<td>12</td>
<td>HART and DTS are evaluating the preferred Mauka station entrance location for the Kuloloia Station (at Downtown). The preferred location is within the courtyard of the existing Pacific Guardian Center (PGC). Initial discussions with the Property Manager have taken place.</td>
</tr>
<tr>
<td>DBB511 SIT 40.02.07</td>
<td>CCUR: Scope and schedule of construction could be impacted by the discovery of misidentified and unidentified utilities</td>
<td>10</td>
<td>HART will pay for differences in quantities of utility relocations based on as-bid unit rates.</td>
</tr>
<tr>
<td>P3-DBS50 PRO 80.01.07</td>
<td>P3 for CCGS and PH: Risk of Affordability Cap being exceeded for the capital construction and/or the future O&amp;M. Note: This risk was part of a risk grouping that has now resulted in a delay to RSD within the risk forecast, since the Procurement Delay risk has been inactivated.</td>
<td>10</td>
<td>1. The Affordability Cap for Capital as well as O&amp;M were provided to the P3 PLO(s) on 26JUL2019 in order to allow HART sufficient time to respond in case concerns are expressed by the PLO(s). 2. HART’s ICE estimate was reviewed and received concurrence from E&amp;Y and from HART’s Project Execution Consultant.</td>
</tr>
</tbody>
</table>
Contingency Drawdown Curves

Focus: Cost and Schedule Contingency Drawdown Curves, and Contract Performance Curves, with February & March 2020 Data, for Review with HART Board POC
Contingency Management Approach

• Contingency is allocated or drawn down as soon as quantifiable impacts, risks, issues, potential change orders, or proposed change orders are identified.
• This allows for mitigation opportunities to be explored and established.
• This conservative approach to Contingency Management will show a greater fluctuation in drawdowns from month to month.
• Schedule contingency to RSD is calculated off an assumed schedule for CCGS which will be replaced once an accepted baseline is submitted.
Schedule Contingency Drawdown Curve - June 2020
Contract Performance Curves

- Construction revenue performance curves are based on physical percent complete or milestone payments from the Contractor’s submitted schedules.
- All plan data is based on the contractor’s accepted baseline schedule.
- All forecast data is from the contractor’s schedule submittals and is based on 50/50 dates (midpoint of early and late dates calculated by scheduling software).
- Professional services performance curves are based on staffing plans and actual invoices.
Core Systems Performance Curve – June 2020

- Early Plan 89.7%
- Late Plan 63.6%
- Actual 71.2%

HONOLULU RAIL TRANSIT PROJECT

www.HONOLULUTRANSIT.ORG
AGS Performance Curve – June 2020

Early Plan 92.4%
Late Plan 78.8%
Actual 71.3%
KHSG Performance Curve – June 2020

- Early Plan 100%
- Late Plan 100%
- Actual 94.2%

HONOLULU RAIL TRANSIT PROJECT

www.HONOLULUTRANSIT.ORG
FHSG Performance Curve – June 2020

Early Plan 100%
Late Plan 100%
Actual 97.8%
WOSG Performance Curve – June 2020

Early Plan 100%
Late Plan 100%
Actual 99.3%
PMC Performance Curve – June 2020

HONOLULU RAIL TRANSIT PROJECT
www.HONOLULUTRANSIT.ORG
GEC Performance Curve – June 2020
CE&I East Performance Curve – June 2020
Mahalo!