Top Risk Summary

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

April 16, 2020
Results of March 2020 Risk Update, P65 Cost

Top Cost Risks:
- ROW
- CCUR: difficult underground conditions
- AGS TIA for HECO Zone 8 delay
- Procurement Extension (COVID-19)
- Core Systems (until assigned to P3)
- Environmental for CCGS (risk sharing)
- Delay in agency permitting
- Misidentified and unidentified utilities
- ROW: Mauka entrance to Kuloloia Station (at Downtown)
- Utility/Pedestrian bridges
- P3 and CCUR interface impacts
- CCUR Access Dates if not met for P3

Opportunities:
- P3 competitiveness, innovation

March 2020 Update: P65 = $8.246 B, without CCUR Base Cost Adjustment
(Compares to P65 of $8.222 B from Feb. 2020 Update, an increase of $24 Million)
Results of March 2020 Risk Update, P65 Schedule

Top Schedule Risks:
- Same categories as Cost
- Procurement timeframe due to COVID-19

Opportunities:
- P3 innovation in project execution and schedule reduction

March 2020 Update: P65 Schedule Completion, Full RSD: Oct. 2026 (compares to Aug. 2026 from Feb. 2020 Update; a 2-month difference)
FTA Risk Scoring Method

<table>
<thead>
<tr>
<th>Impact Scores</th>
<th>Low (1)</th>
<th>Medium (2)</th>
<th>High (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(P) Probability</td>
<td>&lt;10%</td>
<td>&gt;10% &lt;50%</td>
<td>&gt;50%</td>
</tr>
<tr>
<td>(C) Cost Impact</td>
<td>&lt;$10 M</td>
<td>&gt;$10 M &lt;$50 M</td>
<td>&gt;$50 M</td>
</tr>
<tr>
<td>(S) Schedule Impact</td>
<td>&lt;1 month</td>
<td>&gt;1 month &lt;4 months</td>
<td>&gt;4 months</td>
</tr>
<tr>
<td>Rating</td>
<td>&lt;6</td>
<td>7 - 12</td>
<td>13 - 18</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, March 2020

<table>
<thead>
<tr>
<th>Risk ID</th>
<th>Risk Description</th>
<th>Threat Score</th>
<th>Risk Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROW 60.01_01</td>
<td>ROW: Value of property acquisitions necessary for Rail could increase.</td>
<td>18</td>
<td>1. HART continues to negotiate in good faith with property owners. 2. Appraisals and due diligence through the courts have been supporting HART’s position in obtaining necessary ROW at a reasonable cost.</td>
</tr>
<tr>
<td>DBBS11 SIT 40.02_02</td>
<td>CCUR: Cost to deal with underground conditions could exceed contract allowances.</td>
<td>18</td>
<td>1. CCUR team continues to explore the most cost-effective ways of dealing with the geotechnical conditions along Dillingham.</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 Time Impact Analysis (TIA) for concurrent delays.</td>
</tr>
<tr>
<td>P3-DB550 PRO 80.01_06</td>
<td>P3 for CCGS and PH: Risk of Delay of Procurement due to more time requested by P3 PLO’s to prepare their proposals (due to COVID-19 impacts)</td>
<td>15</td>
<td>1. HART has recently extended the procurement timeframe for the P3 PLO’s, in response to the PLO request, to allow sufficient time to price the work given the impacts of COVID-19. This is viewed as an acceptable mitigation under the current circumstances.</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>
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</tr>
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<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>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_07</td>
<td>CCUR: Scope and schedule of construction could be impacted by the discovery of misidentified and unidentified utilities</td>
<td>12</td>
<td>HART will pay for differences in quantities of utility relocations based on as-bid unit rates.</td>
</tr>
<tr>
<td>ROW 60.01_17</td>
<td>ROW: Parcel Scope changes for Mauka Entrance to Downtown Station</td>
<td>12</td>
<td>HART and DTS are evaluating the preferred Mauka station entrance location for the downtown station. 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>P3-DB550 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.</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>
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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

April 16, 2020
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.
Allocated Contingency Drawdown Curve – Feb 2020

Contingency Drawdown Curve

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Milestone</td>
<td>P3 NTP</td>
<td>Interim Opening</td>
<td>DB8511 Construction Complete</td>
<td>DB450 Construction Complete</td>
<td>P3 Construction Complete</td>
<td>RSD</td>
</tr>
<tr>
<td>FTA Minimum Level (SM)</td>
<td>685</td>
<td>592</td>
<td>405</td>
<td>381</td>
<td>215</td>
<td>134</td>
</tr>
<tr>
<td>HART Minimum Level (SM)</td>
<td>551</td>
<td>458</td>
<td>271</td>
<td>247</td>
<td>131</td>
<td>85</td>
</tr>
</tbody>
</table>
Schedule Contingency Drawdown Curve - Mar 2020

Schedule Contingency Drawdown Curve

CCGS NTP

CCGS 50% Complete

Construction Complete

Projected RSD December 2025

FTA RSD September 2026

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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 – February 2020

Early Plan 88.2%
Late Plan 58.8%
Actual 68.3%
AGS Performance Curve – February 2020

Early Plan 85.4%
Late Plan 70.4%
Actual 60.6%
CCUR Performance Curve – February 2020

Early Plan 43 %
Late Plan 33.1 %
Actual 3.4 %
KHSG Performance Curve – February 2020

Early Plan TBD
Late Plan TBD
Actual 90.7%
FHSG Performance Curve – February 2020
WOSG Performance Curve – February 2020

Early Plan 100%
Late Plan 100%
Actual 98%
PMC Performance Curve – February 2020

HRRTP

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GEC Performance Curve – February 2020
CE&I WEST Performance Curve – February 2020
CSOC Performance Curve – February 2020

Actual: 60.38 %
Mahalo!

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