Honolulu Rail Transit Project

P3 Viability Assessment

EXECUTIVE SUMMARY
P3 Assessment for the Honolulu Rail Transit Project

Executive Summary

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I. Background and Overview

In 2008, voters approved a ballot measure for the construction of the Honolulu Rail Transit Project in southern Oahu. The Project aims to reduce traffic congestion, enable transit-oriented development around rail stations, reduce carbon emissions, and provide an efficient low-cost transportation option for residents and tourists. It is a critical component in modernizing and expanding Oahu’s transportation network and its positive public benefits will enhance the city, county and state’s competitiveness, while fostering economic growth.

The project is extremely complex, with an elevated track and 21 stations spanning 20 miles between Kapolei to downtown Honolulu. Like an estimated nine out of ten mega-projects, it has suffered frustrating setbacks. Originally estimated to be completed by 2019 at a cost of $4.9 billion, now expectations are for full operations in late 2025, at a construction cost of $8.2 billion. Much of the trouble is imputable to lawsuits and funding shortfalls that paralyzed the project during a period when local construction markets were experiencing record inflationary pressures. Indeed, in 2014 alone, Honolulu’s annual construction price index reached 14%, demonstrating why delays have been so dramatically problematic.

Delays and cost overruns have understandably frustrated many, leading to talk of truncating the project to forgo the final City Center segment that runs from Kalihi to Ala Moana. Eliminating this critical segment, however, would substantially reduce the public benefits associated with this project, so much so that the Federal Transit Authority suggested that such a decision would put at risk some $1.55 billion of federal funding.

Obviously, completing the full system is essential to delivering the project’s benefits. However, the primary funding source, revenues from the General Excise Tax surcharge (G.E.T.) that is set to expire in 2027, are inadequate to cover full project costs. An approximate $2 billion funding shortfall for the City Center rail segment and Pearl Highlands Transit Center remains. The question is how this can best be addressed.

In an attempt to better understand options for delivering the infrastructure, the Ulupono Initiative, with the support of the Oahu Economic Development Board, engaged Jones Lang LaSalle (JLL) to undertake an assessment to determine whether alternative financing and delivery options, such as Public-Private Partnership (P3) structures, could bridge the funding gap and/or be leveraged to finalize the project in a timelier and more cost-effective manner.

The assessment leveraged cost and project data provided by the Honolulu Authority for Rapid Transportation (HART) and followed standard industry practice for the evaluation of finance and delivery options with the aim of identifying the method of delivering the project that will result in the greatest value for money on both a financial (quantitative) and qualitative basis. In financial terms, value for money is established by calculating the estimated cost of a project, based on a particular delivery method, and comparing it to the estimated cost if the project were procured using another method. This executive summary presents the key findings of the analysis.
II. Key Findings

1. Public Funding Needed to Complete the System (P3 is not Free Money)

The P3 analysis concludes categorically that the project remains dependent on public funding. This is to say that, whether through a G.E.T. extension or other State/County/City revenue sources, public funding is necessary to bridge the nearly $2 billion gap needed to complete the remaining elements of the Project (the 4.2 mile City Center segment and the Pearl Highlands Transit Center).

This dependency on public funding is easily explained by the fact that P3 is not free money. Investors will not commit private capital unless there is a reasonable expectation that they will be compensated for those investments; but in the case of the Honolulu Rail Transit Project, the system was never designed to provide full cost recovery. The reasons for this are quite clear:

- System designed for subsidized transportation

The Project was conceived of and designed to offer subsidized transportation, with farebox revenue not expected to provide for full operational cost-recovery, much less capital cost-recovery. This impedes the ability of private investors to recover their costs, explaining why tax revenues are essential for completion of the capital project.

- Reduced footprint limits commercialization and monetization opportunities

When originally conceived in the early 2000s, a conscious decision was made to minimize the system’s footprint to reduce impacts on property owners and diminish the need for land acquisition. This condensed footprint significantly limits monetization and commercialization opportunities, such as joint development, advertising, retail, etc., which might otherwise potentially generate revenues to offset some of the capital and operating costs of a similar system. That said, even where commercialization and monetization opportunities may exist within the existing footprint, revenues are dependent on rail operations, thus making them ill-timed for bridging the capital funding gap. Instead, these revenues will be crucial for funding ongoing operation and maintenance of the system (particularly in light of limited farebox revenue).

- Transit-Oriented Developments do not offer short-term funding opportunity

Transit-oriented developments may ultimately raise property values, thus increasing property tax proceeds; but in order to create a reasonable expectation of value creation to enable tax increment financing or similar tools, there must first be much greater certainty as to the completion of the rail, as well as to how other infrastructure improvements will be funded. In this sense, it is important to note that the TOD require in and of themselves massive investments in new infrastructure, thus offering no realistic opportunity in the short term to contribute to the rail’s capital costs. Again, it is important to remember that developers, like all private investors, will only invest if they can anticipate a reasonable return. Expecting them to fund the rail, while likewise requiring them to make TOD-related infrastructure improvements and provide affordable housing, is not realistic. The numbers simply do not pencil out.

- Joint Development Opportunities

While JLL does believe that there may be opportunities to cost-share some of the remaining stations with private developers, this does not move the needle much in terms of overall costs and
the funding gap. Moreover, joint development opportunities will likely take time to negotiate in a project where “time” is an extremely costly luxury.

Put succinctly, P3 is not free money and will not magically create new funding sources. The project was designed to be — and continues to be - dependent on public funding. Whether the funding comes from a G.E.T extension or other public source was not the focus of this study; however, the assessment does emphasize the need to expeditiously secure a source of funding, lest the project suffers additional – and ultimately unnecessary – cost escalations.

Delays are a very expensive luxury for the project and although the construction price index has fallen from its high in 2014, inflationary pressures remain significant. In the current market environment, JLL estimates that delays could impact the project by a magnitude of 5.7% per year. This does not only reflect the current construction price index, but also the additional administrative costs associated with standby agreements and mobilization/demobilization. Given the current $2 billion funding gap, this means that delays could cost the taxpayers of Hawaii close to $114 million per year, underscoring the need for a timely decision on a funding mechanism.

2. P3 could accelerate benefits, reduce risks and lower cost to taxpayers.

Given that public funding is a requirement for finalizing the project, the P3 assessment explores whether alternative finance and delivery models might potentially reduce cost and schedule risks associated with the project. To this end, JLL undertook a qualitative and quantitative evaluation of diverse finance and delivery options, including P3. The delivery options were considered in the context of the following general objectives:

(1) Schedule and Cost Certainty: Achieve timely delivery and efficient project sequencing.
(2) Facilitate System Integration and Interoperability: Ensure the ability to deliver a seamless integration and interoperability of the City Center segment with the rest of the system.
(3) Operation Integration: Ensure seamless delivery systems operations and maintenance throughout the operating period.
(4) Maximize Competition: Ensure an attractive and marketable transaction and ensure a fair and transparent procurement process.
(5) Allocation and Management of Risks: Allocate risk to the party that is best able to manage the risk and find the optimal risk balance for the project.
(6) Overall Value for Money: Deliver the best quality project for the best price.

In pursuit of these objectives, JLL evaluated a number of delivery models, including the following:

1. **Design Build (DB):** HART has utilized DB on other segments of the Project and thus understands the structure. Under this contracting modality, the design-builder would undertake the detailed design and construction of the Project, based primarily upon the output specifications prepared by HART. The design-builder would enter into a fixed price contract with payments being made by the government at specific progress milestones. In this model, design and construction risk is transferred to the design builder, while the City (DTS) retains life-cycle operations and maintenance risks. The benefits of a DB procurement model include the enhanced risk transfer and innovation that comes from integrated design and construction when compared with Design-Bid-Build.
2. **Design Build Finance (DBF):** A DBF model is similar to a DB option, with the addition of private financing of the capital requirements during construction. The total cost of the project (including financing used during construction) is repaid upon completion of the project, with the potential for a partial hold back during an availability demonstration period post substantial completion. It is important to note that a DBF arrangement is a deferred payment and is not considered debt under usury laws. Legally, HART would be purchasing construction services and simply deferring payment for them until after project completion.

The DBF model is particularly beneficial when short-term gap financing provided by design-builder allows sponsor to expedite Project implementation. In broad strokes, there are two principle reasons that project sponsors consider DBF:

- Owner cash flow constraints
- Desire to defer payment until after completion

The DBF structure is a common delivery approach. It provides greater security around the risk transfer related to cost and schedule, in particular, through performance incentives up to and including project commissioning as a result of the at-risk private finance. Other benefits of this approach include: the addition of lender due diligence; limiting scope change; and enhanced enforceability. Satisfactory performance is incentivized as the private partner would receive no payment as a result of work that was incomplete.

As demonstrated in the Evergreen Line Rapid Transit DBF in Vancouver, recent relevant industry experience suggests that incentivized performance does not only produce greater price and schedule certainty, but also can result in project cost savings in the order of 10%-15% when compared to Design-Build.

3. **Design-Build-Finance-Operate-Maintain:** Design-build-finance-maintain (DBFM) and design-build-finance-operate-maintain (DBFOM) are delivery approaches in which the private partner is responsible for designing, constructing, financing, maintaining and/or operating the Project under the terms of a long-term contract (typically 30+ years).

Like a DBF, a DBFOM structure provides financial incentives to ensure on-time and on-budget delivery, but additionally ensures quality operating, maintenance and rehabilitation services over the life-cycle of the asset. By bundling multiple phases of the asset life-cycle, a greater amount of risk is transferred to the private partner than under a DBF structure. Upon completion of the Project, the private partner would be compensated by the City via performance-based availability payments that would cover both capital and operating costs, subject to deductions in the case of performance shortfalls. This, at a minimum, would provide long-term budget predictability for rail construction and operations over the term of the agreement, thus addressing a risk concern that has been flagged consistently in the City’s credit reports.

Similar to the DBF, under a DBFOM, the City would only pay for completed works, but given the long-term payment structure, the City would be able to align payment to the Private Partner with public funding sources, avoiding the need to issue its own debt for the works contemplated under the DBF.
DBFOM is a very common P3 structure that has been used successfully for many relevant rapid transit projects, including the Eagle P3 project in Denver, Colorado, where it saved over 30% in capital costs as compared to alternative approaches considered by public authorities. DBFOM structures also tend to inspire increased innovation, as the nature of the long-term contractual relationship creates an added incentive to reduce whole life costs of the Project. In other words, given that the private partner is at risk and responsible for long-term life-cycle maintenance, it has a vested interest to deliver the best quality asset up-front. This commitment drives innovation in Project design which typically delivers cost-savings to the public sector over the operating, maintenance and rehabilitation term. Likewise, these same incentives often result in expanded monetization and commercialization opportunities, as the private partner identifies means for generating additional revenue.

Like other P3 structures, DBFOM contracts are tailored to meet the specific objectives and needs of project owners. In this sense, there is no one-size fits all P3 approach and considerations are commonly made to address local priorities, such as the use of union labor, prevailing wage, small businesses, etc.

Although the DBFOM model would appear at first glance to be a potentially good fit for the Honolulu Rail Transit Project, this option was ultimately deemed impractical, as Ansaldo holds a five-year Core Systems O&M contract. This Core Systems contract effectively impedes that possibility of leveraging a DBFOM or DBFM for the system. Moreover, Hawaii is one of only a dozen or so states in the country without the P3 enabling legislation for transportation and other infrastructure. This lack makes the use of a DBFOM currently untenable for the Honolulu Rail Transit Project, as well as for other infrastructure projects.

The following table summarizes key qualitative factors:

<table>
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<th>P3 Alternative</th>
<th>Overview</th>
<th>Benefits</th>
<th>Challenges</th>
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</table>
| Design-Build-Finance | • Private Partner assumes responsibility for design and construction activities, short-term financing, and the risk of providing these services for a fixed fee.  
• City retains O&M responsibilities (through current contracts)  
• City pays Private Partner after completion of CCGS and/or Pearl Highlands.  
• City would issue bonds to compensate private partner upon completion. | • Design-Build Advantages  
• Accelerated delivery  
• Defers payment until completion  
• Addresses cash flow issues  
• Budget predictability  
• Cost and Schedule risk transfer  
• Should not require new legislation  
• On average 15% savings versus DBFOM | • Market interest more reduced than with DBFOM/DBFM  
• Slightly higher cost of financing (gap financing) than baseline case  
• Need to initiate DBF procurement  
• Some risks retained by HART and City |
| DBFM / DBFOM | • Private Partner assumes responsibility for design, construction, financing, and some level of O&M services for a specified fee.  
• City pays Private Partner over term of P3 agreement, beginning after completion of CCGS and Pearl Highlands and based on performance levels.  
• If G.E.T. is extended, City would probably not need to issue bonds, but capital component of Availability Payments would be considered debt by credit agencies (on-balance sheet financing) | • Accelerated delivery  
• Life-cycle integration benefits (typically a 15-20% life-cycle savings)  
• Payments begin only upon completion of project  
• Long-term budget predictability  
• Risk transfer (including cost, schedule and performance risk)  
• Additional monetization opportunities  
• Incentivized innovation (to reduce life-cycle project costs)  
• Potentially robust market interest | • Need for enabling legislation  
• Higher cost of financing than DBF case  
• Need to initiate P3 procurement  
• Complications with existing contracts (Core Systems)  
• Some risks retained by HART and City |
After undertaking a qualitative assessment, these same delivery models (DB, DBF and DBFOM) were analyzed on a quantitative basis via a high-level Value for Money (VFM) assessment. A VFM assessment is a standardized methodology entailing the comparison of the net present values of the risk-adjusted project cost estimates over the project term.

Sensitivity analyses were run on a range of cost and risk scenarios and in all cases, the DBF presented the lowest risk adjusted project cost. Depending on cost scenarios and project risk estimates, DBF represented savings of between 6%-15% versus Design-Build. This translates into between $248 million to $570 million in capital cost savings (including financing costs). This is in line with the cost savings and efficiencies witnessed in similar projects, such as the Evergreen Line Rapid Transit project DBF in Vancouver. DBFOM was also assessed on a quantitative basis, but given that a significant driver of value-for-money for this model derives from operations and maintenance savings, which are not possible due to the Core Systems contract, the analysis was essentially truncated.

As illustrated in the standard DBF risk allocation table, DBF does not imply a full and total transfer of risk to the private partner. As with all DBF projects, some risks are still retained in whole or in part by the project owner (in this case HART); however, DBF does transfer significantly more risk to the private partner than in the case of a DB, thus providing greater cost and schedule incentives, as well as enhanced contract enforceability.

In other words, after screening against typical P3-suitability criteria, the assessment confirmed that the Project could be delivered effectively using one or more P3 delivery models, allowing the City to buy-down cost and schedule risk. Moreover, after a multiple criteria analysis, including a value-for-money assessment, it was determined that DBF appears to be superior to other models in delivering the project.

<table>
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<tr>
<th>Standard DBF Risk Allocation</th>
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<tbody>
<tr>
<td>Risk</td>
</tr>
<tr>
<td>Design</td>
</tr>
<tr>
<td>Construction</td>
</tr>
<tr>
<td>Functionality of design</td>
</tr>
<tr>
<td>Ground conditions (foreseen)</td>
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<tr>
<td>Ground conditions (unforeseen)</td>
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<tr>
<td>Traffic management during construction</td>
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<tr>
<td>Utilities – foreseen</td>
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<tr>
<td>Utilities - unforeseen</td>
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<tr>
<td>Contamination – known</td>
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<tr>
<td>(removal and disposal)</td>
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<tr>
<td>Contamination – unknown</td>
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<tr>
<td>Systems installation and integration</td>
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<tr>
<td>Testing and commissioning</td>
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<tr>
<td>Proof of performance</td>
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<tr>
<td>Private Financing</td>
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<tr>
<td>Property acquisition</td>
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<tr>
<td>HART scope changes</td>
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<tr>
<td>Compensation events</td>
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<tr>
<td>Force Majeure / relief events</td>
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<tr>
<td>Schedule</td>
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</tbody>
</table>

Under a DBF, the Private Partner would provide gap financing during construction, providing the City with greater cost and schedule certainty. While recent relevant industry experience suggest a potential savings of up to 15% versus DB structure, as well as accelerated delivery, the magnitude of any potential savings or schedule efficiencies would only be known after a competitive procurement. The DBF structure does, however, allow the City to address cash flow constraints and defer payment until after project completion, permitting taxpayers to pay only once they are accruing the benefits of the project. This does not mean that public authorities can defer a decision on funding sources, but it would allow for greater certainty as to cost and schedule.
The DBF structure should be possible under existing legislation and would not conflict with any known existing contracts. That said, it would necessarily involve launching a new procurement. While JLL does not deem that this would significantly impact existing project timelines, this should be further analyzed. Using standard procurement timelines for DBF procurements, and taking into consideration that HART is well advanced with design-build technical documentation, the transition from a DB to DBF to would be relatively simple and could potentially even accelerate delivery of the Notice to Proceed.

3. Criticality of O&M Funding

Once operational, HART estimates that the annual operation and maintenance (O&M) budget for the rail system to be approximately $140 million per year, in addition to some $200 million needed by 2030 for major maintenance (Capital Assets Replacement Program) and additional rail cars. Given that the Rail Transit system was conceived and designed as a means of providing affordable transportation, the Farebox Recovery Rate (FRR) is expected to be set somewhere between 27-33% of O&M costs, which means that the City will have a significant shortfall that will need to be addressed if the rail is to be operated and maintained at optimal levels. This is particularly important in light of increased competition for limited federal funding available for transportation projects. To address this issue, the P3 assessment also identified potential commercialization and monetization opportunities, benchmarking them against relevant projects. Specific examples include digital and traditional advertising within stations and throughout the rail transit system, commercial/retail concessions, parking revenue and joint development / station integration development opportunities.

JLL emphasizes the need for the City to begin sooner, rather than later, exploring and implementing value-capture and monetization opportunities. A logical approach would be to hire a specialist firm to assist with identifying, scoping and implementing potential opportunities. This would ideally be done under a performance-based contract where the firm is incentivized to generate revenues and create value for the rail, subject to City policy parameters.

While the limited project footprint constrains commercial revenue opportunities, if managed appropriately, revenue generation could be relatively significant. Comparable experience with public transit systems suggests that digital advertising alone could generate tens of millions of dollars per year for the system, if integrated with broader transportation networks. That said, certain policy parameters, such as limits on advertising or free/subsidized parking, could impede the City’s ability to capture revenue.

III. Conclusions

The Honolulu Rail Transit project is good for Hawaii and needs to be completed, but it is also important to deliver the project in the timeliest and most cost-effective manner possible. While it is abundantly clear that finalizing the project requires public funding, whether through the G.E.T. or another revenue source, this does not mean public authorities should not also consider an alternative finance and delivery model that might accelerate benefits, reduce risks and lower costs for taxpayers. While the analysis demonstrated that a DBF appears to be superior to other models in delivering the project, potentially maximizing benefits to taxpayers. This delivery structure would also have the benefit of allowing public authorities to defer payments until after construction is completed, when the public is enjoying the benefits of the new rapid transit system.
That said, whatever structure the authorities ultimately decide to utilize for the remaining project elements, a timely decision on the funding source to bridge the project’s nearly $2 billion shortfall is critically important. All delivery models, including DBF, require an upfront public funding commitment and deferring a decision will simply result in project delays, adding unnecessarily to total project costs.

Moreover, given the history of this project, it seems quite evident that Hawaii could benefit from broad based P3 enabling legislation that provides public authorities with additional tools in their toolbox to address the State’s critical infrastructure needs. While P3 may not be suitable for every project, the use of at-risk private capital could help the State buy-down risk and accelerate delivery on complex infrastructure initiatives in the future.