REPORT FROM

OFFICE OF THE CITY ADMINISTRATIVE OFFICER

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To: The City Council
The Mayor

From: Miguel A. Santana, City Administrative Officer

Reference: C.F. 14-1383

Subject: **LOS ANGELES CONVENTION CENTER DUAL PATH REPORT**

INTRODUCTION

At its meeting held on March 2, 2016, the City Council approved an Economic Development Committee (EDC) report (C.F. 14-1383) with recommendations for a Dual Path approach related to the Los Angeles Convention Center (LACC) Expansion and Modernization project (Project). Pursuant to the Council-adopted instructions in the report, the City commenced the environmental clearance process governed by the California Environmental Quality Act (CEQA) and continued to evaluate in detail two alternative approaches towards delivering the Project, approaches which impact the expansion, operation, and long-term maintenance of the LACC.

The analysis of both project alternatives was informed by a City Working Group comprising staff from the Chief Legislative Analyst (CLA), the City Administrative Officer (CAO), Bureau of Engineering (BOE), Department of Convention and Tourism Development (CTD), the Department of City Planning (DCP), City Attorney, and the Department of Building and Safety (DBS).

One project alternative assumes that the City manages the design and construction, issues bonds to finance the expansion, and is responsible for the operation and maintenance of the LACC for the useful life of the investment (the "Traditional Approach"). The analysis of the Traditional Approach is led by the BOE, with assistance from the CTD. The CAO has also assisted in the review of financing options through municipal debt financing alternatives. Architecture and engineering design services have been provided by Populous Inc. (Populous), which won a City-sponsored design competition. The proposed design accommodates the space and operational requirements for an expanded LACC and identifies a site for a hotel on the campus.

A second approach involves the competitive selection of a third-party development partner to Design, Build, Finance, Operate, and Maintain the LACC over the useful life of the investment (the "DBFOM Approach"). Under this approach, a private development consortium would privately finance the expansion and assume the responsibility to design, build, operate, and maintain the LACC pursuant to a long-term agreement. The analysis is led by the CAO with assistance from the CAO's project advisor, Arup Advisory Inc. (Arup), Arup's sub-consultant/architect HOK, BOE, and CTD. This alternative option involves three illustrative development schemes with property use types that include an expansion of the convention center that meets the space and

operational requirements of the City, potential sites for a hotel, and a sizable private mixed-use real estate development on the LACC campus. The design schemes considered are not intended to be prescriptive nor limiting the design solutions that could be developed by actual bidding teams through a competitive procurement process. The schemes demonstrate the Project's ability to combine the proposed property uses on the LACC campus and illustrate a few examples of what bidders might ultimately propose as part of a developer solicitation.

The construction management and cost estimation firm MGAC, Inc. (MGAC) was hired to provide independent opinions of the full cost of ownership for the two alternative approaches. MGAC was instructed to take a "cost of ownership" approach by providing an opinion of the costs for the construction of the expansion, operations, and long-term facility maintenance (i.e. lifecycle) of the LACC. MGAC's cost estimates are based on the LACC Facility Program documents provided by the City for the Traditional Approach and the DBFOM Approach. In both cases, the LACC Facility Program plan is guided by the goal for a "top-tier facility." Deviations from this facility program guide have not been considered in the cost-estimates and would require further analysis.

This Report summarizes the findings from the various investigations and analyses related to the two proposed approaches.

SUMMARY

A convention center is a unique public asset. They are extremely large and complex public assembly facilities that drive economic activity by attracting tourists as well as regional and local patrons who shop, dine, and vacation in the hotels, restaurants, and stores in the City. A convention center can be thought of as a hybrid hospitality-entertainment destination, where the quality of the facility matters greatly. In order to attract and sustain visitor demand, they must be up-to-date at all times in terms of audio/visual and information technology, bright and expansive spaces, attractive building elements and fixtures, and an active and alluring streetscape.

Many cities understand the benefits that convention centers bring, and the convention center industry is extremely competitive. All of the LACC's premium west coast competitors are undertaking expansion and modernization projects of their own, and according to the Los Angeles Convention and Tourism Board (LATCB), 33% of the LACC's lost business is due to insufficient or inadequate convention center space and hotel inventory (rather than seasonality or geographic variation in event demand which is outside of the City's influence). With its global appeal, the City will compete with any tourist destination, and now is a particularly unique opportunity to invest in the LACC in synergy with the thriving economic development occurring in South Park and downtown Los Angeles.

The common goal guiding this analysis is to deliver a thriving convention destination that is fitting of the nation's second largest City. This goal can be defined by the following objectives, listed in priority order as:

I. Provide a competitive, state-of-the art convention center facility

II. Expand the nearby hotel room inventory

III. Activate the LACC via good urban planning – e.g. connectivity to the neighborhood, new amenities such as public space, retail, etc.

IV. Control costs, timeliness, and overall delivery of the Project

V. Create jobs

VI. Generate net new City revenues

VII. Preserve fiscal flexibility to meet other City-wide objectives and priorities

This in-depth review of the Project under two potential delivery methods has been an important exercise for the City because it addresses our primary challenge: how does the City best achieve the outcomes it seeks? Evaluating the two approaches should focus on how the above objectives are met.

As the City prepares to make a significant capital investment in the LACC, this major undertaking should also adhere to key best practices in public policy:

- A Commitment to Capital Maintenance. Regardless of the project alternative chosen, the City should commit to maintaining the LACC according to the capital investment requirements of a hospitality-based facility, where regular ongoing maintenance and modernization is essential. This level of commitment should not only include financing a one-time construction project and budgeting for debt service, but also creating a dedicated capital fund and/or payment obligation to cover required maintenance and/or major renovation. This is in keeping with best practices from the Government Finance Officers Association (GFOA), which states that governments should "[allocate] sufficient funds in [a] multi-year capital plan and annual operations budget for condition assessment, preventative maintenance, repair, and replacement of capital assets..." GFOA further states that, "deferring essential maintenance or asset replacement could reduce the organizations ability to provide services and could threaten public health, safety, and overall quality of life. In addition, as the physical condition of the asset declines, deferring maintenance and/or replacement could increase long-term costs and liabilities.[1]"

- Fiscal Responsibility/Flexibility. The City's Financial Policies promote prudent fiscal stewardship to preserve the City's strong fiscal position as demonstrated by its high credit ratings, debt capacity, and budget flexibility. The LACC represents one of the City's most significant investments and incurring large amounts of new indebtedness for one project of this magnitude raises concerns with respect to the budget and our debt capacity. It is recommended that the City consider its investment in the LACC within the larger context of other City-wide infrastructure needs such as roads, existing City facilities, and other capital projects in the planning or conceptual stage.

Under this review, the City has gained greater clarity on the total cost of the Project over its useful life. As presented herein and in Arup's report, MGAC has independently calculated the cost for the Project under each scenario to be much higher than the City previously anticipated. Both the Traditional and DBFOM approaches made initial cost estimates of their respective design solutions, and when verified by MGAC, each project saw hard construction costs rise between $126 to $171 million ($142 to $250 million in total development costs) above their initial estimates, demonstrating the complex and risky nature of this project regardless of the project delivery method.

[1] Government Finance Officers Association Best Practice, Asset Maintenance and Replacement, March 2010.

Estimates ($2016)	TRADITIONAL			DBFOM B (High Scenario)		
	Initial	MGAC	Diff.	Initial	MGAC	Diff.
Construction	$344 M	$515 M	$171 M	$764 M	$890 M	$126 M
Soft Costs	$87 M	$133 M	$46 M	$101 M	$155 M	$54 M
Risk Contingency	$38 M	$72 M	$34 M	$119 M	$81 M	$-38 M
Total	**$469 M**	**$720 M**	**$251 M**	**$984 M**	**$1,126 M**	**$142 M**

These costs do not include the amount needed to operate, maintain, or renovate the existing buildings of the LACC over the life of the asset. These "lifecycle costs" range from $490 million to $780 million for the DBFOM and Traditional projects, respectively. Differences between lifecycle costs depend largely on the overall asset condition and scope of construction/renovation, where legacy facilities and systems cost more to maintain and renovate than newer, more modern facilities and systems (e.g. the Traditional and DBFOM A scheme keep West Hall; DBFOM B scheme demolishes the West Hall and replaces it within the new construction surrounding the South Hall – See Appendix A in Attachment 1). In aggregate, each project's "total life costs" are shown below:

Estimates ($2016)	TRADITIONAL	DBFOM A	DBFOM B
Construction	$720 M	$911 M	$1,128 M
Lifecycle	$780 M	$506 M	$490 M
Total	**$1,500 M**	**$1,417 M**	**$1,618 M**

Given the anticipated level of required investment in the LACC, it is recommended that the City carefully evaluate the variety of benefits and the associated costs for each project alternative. Key questions to consider include:

1) What is the total fiscal/budget impact of the Project based on each approach and can the City afford this cost?
2) What are the economic impacts of the Project and how do these impacts differ based on the delivery method selected?
3) How do the Project scopes differ for each delivery method and which Project scope is best aligned with the City's long-term objectives for the Convention Center?
4) What are the risks associated with each Project approach and who is responsible for managing the risks?

Because this is a complex and very expensive Project with significant risks, another critical issue to consider is whether the City should share the risk with a private partner. Arup's report discusses a variety of benefits associated with transferring certain risks to the private sector, including shielding the City from the financial repercussions of cost overruns and schedule delays associated with unforeseen circumstances for any capital project of this scale. Another benefit is that a privately financed project helps the City preserve its fiscal flexibility. Arup also raises the point that while the upfront costs associated with the DBFOM Approach are higher, lower lifecycle costs and greater revenues from the real estate component provide greater relative value and benefits of the Project under a DBFOM, which ultimately reduce the City's overall general fund exposure. Arup's financial analysis is summarized in the following table.

	TRADITIONAL	DBFOM A	DBFOM B
Private Revenue		**Total**	
Signage and naming rights	$207 M	$207 M	$207 M
Real estate revenue	---	$127 M	$175 M
Total private revenue	**$207 M**	**$334 M**	**$382 M**
Tax Revenue		**Annual in Millions**	
Convention center net fiscal impact	$9.8-13.1	$9.8-13.1	$9.8-13.1
Real estate net fiscal impact (1)	---	$4.4	$6.4
Total tax revenue	**$9.8-13.1**	**$14 –17.5**	**$16–19.5**
Cost of Ownership (Capital Costs)		**Total**	
Development costs	$720 M	$911 M	$1,128 M
Lifecycle costs	$780 M	$506 M	$490 M
Total Cost of ownership	**$1,500 M**	**$1,417 M**	**$1,618 M**
Total Net Cost to City		**Total Net Present Value**	
NPV of Net Cost to General Fund	$845 M	$734 M	$824 M
Delivery Schedule			
Total Duration	52 months	Not estimated	60 months
Economic Impact (net increase w expansion)		**Total**	
Total spending	$171 M	Not estimated	$177 M
Total employment (jobs)	3,000	Not estimated	7,546
Total Earnings	$113 M	Not estimated	$360 M
Fiscal Impact (net increase w expansion)		**Annual in Millions**	
Property tax / Possessory interest tax	---	Not estimated	$3.8
Motor vehicle licensing fee (in lieu)	---	Not estimated	$0.5
Gross Receipts	---	Not estimated	$1.3
LA Sales Tax	$0.6 - $0.8	Not estimated	$1.1 - $1.3
Transient Occupancy Tax (TOT)	$8.8 - $11.7	Not estimated	$10.8 - $13.7
Sales tax – indirect spending	$0.2 - $0.3	Not estimated	$0.2 - $0.3
LA Business Tax	$0.01 - $0.01	Not estimated	$0.01 - $0.01
LA Parking User Tax	$0.2 - $0.3	Not estimated	$0.7 - $0.8
Total	**$9.8 - $13.1**	Not estimated	**$18.4 - $21.7**

Note(s):
(1) It was outside the scope of this study to estimate fiscal impacts of a possible convention center hotel and hotel incentives.
(2) A contractual service fee equivalent to debt service and lifecycle maintenance combined.

NEXT STEPS

The in-depth review of the Project under two potential delivery methods has been an important exercise for the City; providing the City Council and Mayor with critical information required for the selection of the path that will best meet the City's objectives. If the City intends on moving forward with the Project with the goal of construction completion by fiscal year 2020-21, this

Office recommends the City select an approach and adopt the recommendations required to implement the selected approach as presented below.

RECOMMENDATIONS

Should the Council and Mayor decide to move forward with the **Traditional Approach** where the City acts as project developer, issues municipal bonds to finance the Project, and assumes maintenance responsibility for the useful life of the investment, the following actions are recommended.

That the City Council, subject to the approval of the Mayor:

1. ADOPT the core objectives for the Los Angeles Convention Center Expansion and Modernization Project as follows:

    a. Provide a competitive, state-of-the art convention center facility
    b. Expand the nearby hotel room inventory
    c. Activate the LACC via good urban planning – e.g. connectivity to the neighborhood, new amenities such as public space, retail, etc.
    d. Control costs, timeliness, and overall delivery of the Project
    e. Create jobs
    f. Generate net new City revenues
    g. Preserve fiscal flexibility to meet other City-wide objectives and priorities

2. INSTRUCT BOE to report back to Council on the Project scope and costs under the Populous design and detail any scope variations from the LACC Facilities Program plan and cost associated with those variations.

3. INSTRUCT BOE with the assistance of CTD to complete a detailed asset condition report of the West Hall that provides a thorough review of the facility to inform the City on the long-term cost and useful life implications associated with maintaining, renovating, and/or replacing the structure.

4. INSTRUCT BOE with the assistance of CTD and the CAO to develop a long-term asset management plan that incorporates lifecycle maintenance costs of the facility as designed by Populous, with a funding plan for ongoing and long-term maintenance.

5. INSTRUCT BOE with the assistance of CTD, CAO, and CLA to report back on the funding required for ongoing architectural services with Populous, the completion of the all CEQA related activities, all related staffing costs associated with a construction management/general contractor (CM/GC) approach, and with a revised project timeline and steps required to implement this approach.

6. INSTRUCT the CAO to report back with a recommendation on a detailed debt financing plan for the Project based on Council-confirmed Project scope and costs.

ALTERNATE RECOMMENDATIONS

Should the Council and Mayor decide to move forward with the **DBFOM Approach** the following actions are recommended:

That the City Council, subject to the approval of the Mayor:

1. ADOPT the core objectives for the Los Angeles Convention Center Expansion and Modernization Project as follows:

    a. Provide a competitive, state-of-the art convention center facility
    b. Expand the nearby hotel room inventory
    c. Activate the LACC via good urban planning – e.g. connectivity to the neighborhood, new amenities such as public space, retail, etc.
    d. Control costs, timeliness, and overall delivery of the Project
    e. Create jobs
    f. Generate net new City revenues
    g. Preserve fiscal flexibility to meet other City-wide objectives and prior

2. INSTRUCT the CAO assistance of the CLA and BOE to report back on the funding required for ongoing consulting services needed to complete a DBFOM procurement process, the completion of the all CEQA related activities, all related staffing costs associated with the DBFOM approach, and with a revised project timeline and steps required to implement this approach including the development of Request for Qualifications (RFQ) and Request for Proposals (RFP).

DEBT IMPACT STATEMENT

There is no debt impact associated with the recommendations in this report. However, should the City pursue the Project under the Traditional Approach, the issuance of commercial paper notes and/or long-term debt will be required. The future issuance of any debt will impact the City's debt levels and will be a General Fund obligation.

FISCAL IMPACT STATEMENT

The recommendations in this report do not have a direct impact on the General Fund. However, it is anticipated that the report backs requested under both approaches will identify funding requirements that may necessitate budget appropriations in the current fiscal year. The long-term General Fund impacts are subject to the approach taken as detailed in this report.

BACKGROUND

The City Council instructed the City Working Group to study the advantages of financing and delivering the Project under the proposed Traditional and DBFOM approaches and to present feasible development plans that meet the City's goals for an expanded and modernized top-tier convention center in a financially prudent manner.

Dual Path Methodology

Through this effort, a variety of studies and analyses are combined into a detailed Business Case, which evaluates the two alternatives in terms of their respective architectural design solutions, procurement and development schedule, cost of ownership (construction, operations, and long-term facility maintenance costs), economic and urban impacts, and financial affordability i.e. impact on the City's General Fund and Debt Capacity. The Business Case consolidates the following studies:

1. Architectural Design Alternatives

For the Traditional Approach, the Populous team refined the architectural concepts that resulted from the 2015 Design Competition and developed two new alternative designs which were presented to LACC stakeholders (show managers and owners, hotel developers, and community members), the CTD Commission, and the City Working Group. Input from these presentations led to the selection of a single preferred design which is evaluated in this analysis.

For the DBFOM Approach, Arup hired as sub-consultant the architecture and engineering firm HOK to produce design schemes that demonstrate the architectural viability of providing an expanded convention center facility that meets the City's space and operational needs while making available 7- to 14-acres of developable land for private mixed-use development (including hotel site options) on the LACC campus. These schemes were also presented to LACC stakeholders (show managers and owners, hotel developers, and community members), the CTD Commission, and the City Working Group. Ultimately, the illustrative design schemes will not be prescriptive to nor limit the design solutions that might be proposed by the bidding teams in a competitive procurement process.

The architectural design exercises for the Traditional and DBFOM approaches were key inputs toward evaluating the master plan concept, costs, and ultimately the financial and economic impacts that drive a plan of finance for each project alternative.

2. Independent Cost and Schedule Estimator (ICSE)

The construction management and cost estimation firm MGAC, Inc. was hired to assess the "total life costs" associated with the alternative project proposals for the LACC. According to MGAC's report (Attachment 2), total life costs are "derived from assessing the condition of an asset to determine its needs over the near, intermediate, and long term. Total life costs, also referred to as the costs of ownership, include the capital cost (i.e. hard and soft costs of construction) of a chosen capital improvement plan as well as the asset's 'lifecycle costs', which are estimated future capital investment requirements to refurbish, refresh, and/or replace an asset's building elements and components as they reach the end of their design or useful life".

3. Development Feasibility Analysis of Project Alternatives

The assessment of development feasibility for each project alternative includes the following elements:

- LACC Campus Master Plan: this includes a qualitative assessment of the architectural design solution, hotel site and other private development, business continuity during construction, urban impacts, among other factors related to utilization of the LACC Campus.
- Schedule: estimates of the development schedule for the Traditional and DBFOM projects were developed by analyzing separately the environmental clearance process pursuant to the California Environmental Quality Act (CEQA), project procurement and design timelines, and verified construction schedules.
- Financial and Economic Analysis: this component includes a financial analysis for each project alternative relative to their respective costs of ownership (construction, operations, and long-term maintenance needs), revenues, and fiscal impact. The analysis includes estimates of project revenues derived principally from convention center operating projections as well as analysis of the real estate market, lifecycle cost estimates, financing assumptions, and quantifying risks attributable to the City and/or a private development partner (in the case of the DBFOM Approach). The financial analysis is informed by (1) market feedback in the form of a Request for Information (RFI) for infrastructure and real estate investors/developers, (2) a real estate revenue analysis, as appropriate for each project alternative, and (3) fiscal impact analysis.

CONVENTION CENTER EXPANSION AND MODERNIZATION

With the goal of becoming a top-tier convention center worthy of the nation's second largest city, it has been determined that the space offering needed to be more competitive with the LACC's west coast competitors in San Diego, Anaheim, and San Francisco are as follows:

	Existing Facility	Additional	Total After Expansion
Exhibit Space	720,000 SF	220,000 SF	940,000 SF
Ballroom	0 SF	70,000 SF	70,000 SF
Meeting Room	102,000 SF	78,000 SF	180,000 SF
Total	**870,000 SF**	**368,000 SF**	**1,190,000 SF**

Economic Impact of Expanded and Modernized LACC

The economic and fiscal impact of the above facility expansion has been thoroughly studied in an August 2015 study by Convention, Sports and Leisure International (CSL) and more recently in April 2016 Johnson Consulting was hired to update CSL's economic impact study. Johnson Consulting based its analysis on the expansion program shown above. All of the post expansion figures are estimated for the sixth year after expansion, which is assumed to represent a typical stabilized business year. Johnson Consulting references 2015 as the baseline year, while CSL references a "no expansion" option as a baseline, where it is assumed that the LACC activity will experience a 14% erosion of business from its five-year historical average.

According to Johnson Consulting, in 2015, LACC hosted 317 events attracting 2.1 million outside visitors. According to their estimates, the LACC expansion should boost bookings and attendance to 347 events and 2.5 million guests. As a result, the LACC expansion project would secure 30 additional events (including 13 additional citywide events from 27 to 40 events), and attract approximately an additional 432,000 convention guests and show managers every year. In 2015, the LACC generated an estimated 465,000 room nights, which would expand to 656,000 with an expansion.

The LACC's increased attendance and room nights will generate three types of economic impact: spending, jobs, and earnings.

Estimates – all events	**2015**	**Stabilized Year (6th Year)**		**Increase**
		No Expansion*	Expansion	
Total spending ($, million)	$410	$352	$581	$171 - $228
Total employment (jobs)	7,200	6,192	10,200	3,000 – 4,008
Total Earnings ($, million)	$272	$234	$385	$113 - $151
* Using CSL's estimate of a 14% loss in room nights from its 5-year historical average.				

CSL and Johnson Consulting also conducted a fiscal impact analysis to estimate the additional tax revenue the City would receive by pursuing the LACC expansion project. Fiscal revenue is calculated on the basis of direct and total spending; figures shown below are based on total spending.

Estimates ($, million)	**2015**	**Stabilized Year (6th Year)**		**Increase**
		No Expansion*	Expansion	
LA Sales Tax	$1.6	$1.4	$2.20	$0.6 - $0.8
Transient Occupancy Tax (TOT)	$20.7	$17.8	$29.5	$8.8 - $11.7
Sales tax – indirect spending	$0.5	$0.43	$0.7	$0.2 - $0.3
LA Business Tax	$0.02	$0.02	$0.03	$0.01 - $0.01
LA Parking User Tax	$0.5	$0.43	$0.7	$0.2 - $0.3
Total	**$23.4**	**$20.1**	**$33.2**	**$9.8 - $13.1**
* Using CSL's estimate of a 14% loss in room nights from its 5-year historical average.				

According to Johnson Consulting, in 2015, LACC generated $23.4 million of tax revenue for the City. It is estimated that the total spending associated with the LACC expansion project would lead to a net increase of between $9.8 million and $13.1 million annually in key tax revenue to the City in a typical business year.

DEBT CAPACITY AND AFFORDABILITY

The City of Los Angeles is not only the nation's second largest city in terms of population. With 469 square miles, it ranks third by land area (behind Houston and Phoenix) among the 10 most populated cities in the United States. A city of this scale has enormous ongoing investment needs, and $1 billion of capital equipment and over $2 billion of real property and infrastructure needs (excluding the needs of proprietary agencies) were readily identifiable as part of the Fiscal Year (FY) 2016-17 budget process.

As part of the Dual Path analysis, Council instructed the CAO to report back with an update on the City's debt capacity as it relates to the LACC and other capital projects under consideration. With the adopted FY 2016-17 budget now in place, this section provides an update on the CAO's November 13, 2015 report[2], which provided an overview of the City's real property, infrastructure, and capital equipment replacement needs within the context of its non-voted direct debt capacity through the Municipal Improvement Corporation of Los Angeles (MICLA). At issue is how to prudently address the City's backlog of underfunded capital equipment and mounting infrastructure needs when the City's debt financing capacity is limited.

Historically, the City has issued municipal debt to finance both capital equipment such as fire trucks and information technology systems and capital projects such as libraries, fire stations, and other public buildings. In the long-term, the City desires to move towards a budgeted pay-as-you-go approach to meet its capital equipment needs. However the financial crisis caused the City to dramatically underfund its equipment purchases and it now relies more heavily on debt financing over the short-term to "catch up" on its significant backlog. This limits the City's ability to debt finance both construction projects for new facilities and capital improvements of existing facilities.

Updated Debt Affordability Analysis

The FY 2016-17 direct debt ratio for non-voted approved debt is 4.12 percent. The debt ratio includes judgment obligation bonds and lease obligations issued through MICLA. This updated debt affordability analysis assumes the backlog of capital equipment is addressed over a five year period and maintains the City's status quo approach of fully debt financing its capital equipment replacement needs and its major capital projects through MICLA. The first chart below assumes a 2.9% annual revenue growth rate while the other assumes a more aggressive annual revenue growth rate of 3.4% over the next five years. Both charts assume no economic downtown occurs and no new bond issuances to finance potential judgments from litigation within the next five years, both of which are aggressive assumptions.

Charts 1 and 2 below illustrate the impact on the City's debt ratio for non-voted approved direct debt assuming a new debt issuance schedule to cover $1 billion of capital equipment and $2.1 billion of capital projects/infrastructure. The breakdown of known capital projects/infrastructure needs as of FY 2016-17 is as follows:

Known Capital Projects and Infrastructure (as of FY 2016-17)

Capital Projects/Infrastructure	**Amount**
Municipal Facilities (In progress)	$433,159,710
Municipal Facilities (Known needs)	$701,000,000
P3 Candidate Projects *	$1,035,000,000
Total	**$2,169,159,710**
* Includes unverified historical cost estimates for LACC ($470m), Civic Center ($465m), and Streetcar funding gap ($100m)	

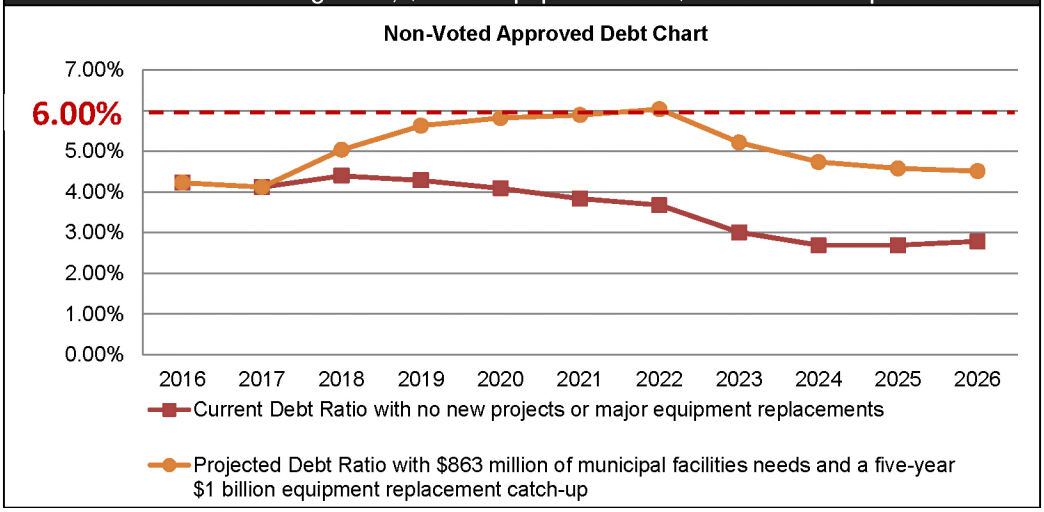
These projects represent known funding needs and do not account for unforeseen debt issuance needs for settlements that may arise due to litigation or other infrastructure matters that raise

[2] See the CAO report entitled *Overview of the City's Debt Capacity and Consideration of Various Financing Options for the City's Capital Equipment Replacement Program and Various Capital Projects* (Ref. FY 2015-16 Adopted Budget and C.F. 14-1383); http://clkrep.lacity.org/onlinedocs/2015/15-1345_rpt_CAO_11-13-2015.pdf

concerns (e.g. exorbitant fines associated with non-compliance of more stringent pollutant discharge requirements in the storm water system which cannot be addressed by storm system rates). The following is an illustrative new debt issuance schedule used for this updated debt affordability analysis:

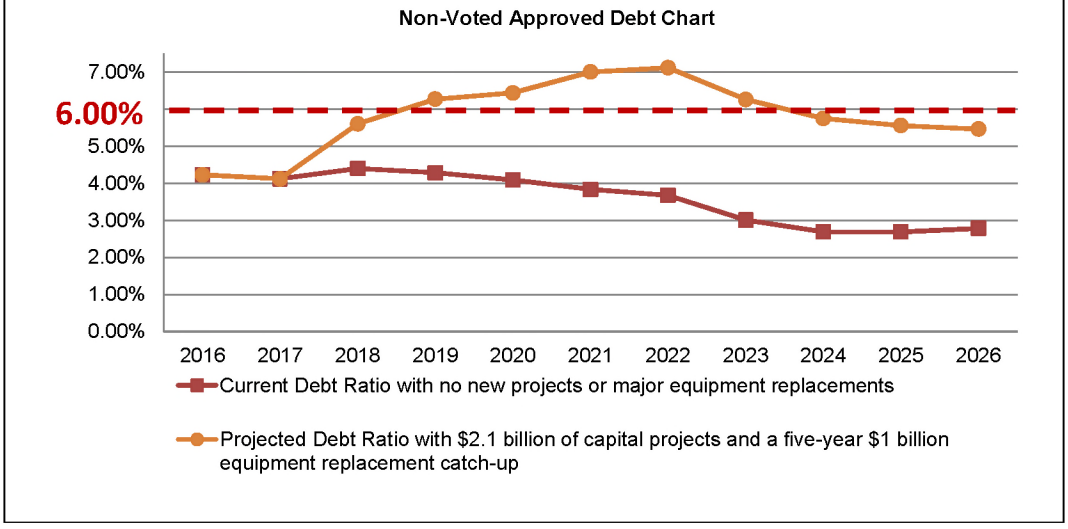
As illustrated below, in Chart 1 the City's debt ratio for non-voted approved direct debt is shown to approach its six percent ceiling (5.81% and 5.89%) in Fiscal Years 2019-20 and 2020-21 and exceed it in Fiscal Year 2021-22 after debt has been issued for approximately $1 billion of capital equipment and $863 million of capital projects (i.e. municipal facilities in progress and known) between FY 17-21 and $271 million of capital projects between FY 22-26, not including any of the P3 Candidate Projects.

Chart 1: 3.4% revenue growth; $1B of equipment and $863M of municipal facilities



In Chart 2 the City's debt ratio for non-voted approved direct debt is shown to exceed its six percent ceiling beginning in Fiscal Year 2018-19, when debt has been issued for $1 billion of capital equipment and $2.1 billion of infrastructure, including P3 Candidate Projects, and remains above the ceiling until Fiscal Year 2023-24.

Chart 2: 3.4% revenue growth; $1B of equipment and full $2.1B of capital projects



Although the City is safely within its debt limit at this time, this analysis illustrates the challenge that the City faces to meet its needs for capital projects and equipment. The debt affordability analysis and debt ceiling metric are part of a larger issue concerning the City's financial management practices, where prudent fiscal stewardship is essential in preserving the City's credit strength, high credit ratings, and budget flexibility by controlling debt among other financial management activities. One of the main objectives of the City's debt management policy and practices is to help maintain the City's high credit ratings so that access to borrowed funds is provided at the lowest possible interest rates, and noncompliance with the City's own debt management policy will negatively portray the City as a greater credit risk.

The rating agencies consider the City's moderate debt levels a plus in the context of its other fiscal and budgetary challenges. Therefore, CAO believes that if the City exceeded its debt ceiling by aggressively incurring large amounts of new indebtedness, the City's financial management position will be weakened at a time when most agree that we are at the peak of the current economic cycle.

Following this analysis, projects that the CAO has recommended for alternative financing and delivery mechanisms (e.g. LACC, Civic Center, and Streetcar) were selected in part for concerns raised about the City's ability to finance these projects given the City's other infrastructure needs, debt capability limits, and funding gaps or limited new revenues associated with a particular project.

LACC CAMPUS: MASTER PLAN ALTERNATIVES

In developing architectural design concepts, both Populous and HOK were instructed to address how the expanded LACC would function within a broader master plan for the LACC campus. This section describes the convention center space program and the associated master plan characteristics of each design, including private development components (hotel, retail, etc.), urban design and connectivity within the sports and entertainment district (e.g. LA Live and Staples Center), community linkages, and options for future convention center expansion in a 20-plus year time horizon. Renderings of the Populous preferred design have been submitted to C.F. 14-1383 and can be found online[3]. Renderings of the HOK schemes can be found in Appendix A of the attached Arup report.

Convention Center Space Program

The City has laid out its preferred convention center program requirements which include:

- Achieve expansion program defined by CTD and BOE, with the following priority:
  1. Create a single, contiguous exhibition space
  2. Build 78,000 SF of new meeting room space over and above existing inventory
  3. Build a new grand ballroom of 70,000 SF
  4. Add 220,000 SF of new exhibition space over and above existing inventory
- Design a world-class, top-tier, marketable, and flexible venue
- Identify a suitable site for the development of a 1,000-room hotel adjacent to the LACC facilities

[3] Council File 14-1383: https://cityclerk.lacity.org/lacityclerkconnect/index.cfm?fa=ccfi.viewrecord&cfnumber=14-1383

- Improve connectivity within the LACC campus and to LA Live! and Downtown LA by promoting walkability

The development options prepared in response to these convention center program requirements are discussed below.

	Traditional	DBFOM	
		Scheme A	Scheme B
Premium Exhibit Hall	181,000 SF	220,000 SF	180,000 SF
Outdoor Exhibit/Event Space	40,000 SF	-----	20,000 SF
Total Exhibit Space	221,000 SF	220,000 SF	200,000 SF
Total Contiguous Exhibit Space(1)	739,000 SF	778,000 SF	738,000 SF
Meeting Rooms	99,000 SF	78,000 SF	78,000 SF
Ballroom	70,000 SF	70,000 SF	70,000 SF
Total New Leasable	390,000 SF	368,000 SF	368,000 SF
(1) Includes the 348,000 SF South Hall and 210,000 SF West Hall (or equivalent space amount)			

For the Traditional Path, the preferred design calls for a program of 181,000 SF of indoor exhibit space and 40,000 SF of outdoor exhibit space to meet CTD's program requirement of 220,000 SF new exhibit hall space. It includes an additional 99,000 SF of meeting room space and a new 70,000 SF ballroom in a structure to be built on the existing Gilbert Lindsay Plaza, which is accentual to Figueroa Boulevard. It will also provide some connection to the streetscape fronting LA Live. The Traditional Path also calls for the demolition of 1,000 parking spaces offset by the provision of 500 new parking spaces. This would result in a net decrease of 500 parking spaces for an expanded convention center facility. Operational space envisioned by the Traditional Path includes 16 new loading docks and 200,000 SF of back-of-house/support space to facilitate move-in/move-out and general event function operations. This design option also provides for not only new landscaping space at the new entryways on Pico and 12th Street, but a new Gilbert Lindsay Plaza.

DBFOM Scheme A accommodates CTD's program requirements by providing 220,000 SF of exhibition space contiguous with existing exhibition space in both the South and West Halls. New exhibition, ballroom, and meeting space would be provided by constructing a new five-level structure over Pico Blvd. between the South and West Halls. This would entail the replacement of the West Hall and concourse meeting space with net new meeting room space of 78,000 SF. Parking in this scheme represents a small departure in configuration from the existing format, the primary difference being a new entry treatment and optimized layout for area to be developed north of Pico Ave. Support and back-of-house facilities will be included in the expanded portion of the facility and provide an additional 30 new loading docks.

DBFOM Scheme B can also accommodate CTD's program requirements by providing at least 180,000 SF of net new additional exhibition space, 20,000 square feet of outdoor event space, a 70,000 SF grand ballroom, and 78,000 SF of meeting room space. Both the grand ballroom and meeting space will be vertically organized in a six-story structure over Pico Blvd. Support and back-of-house facilities will be included in the expanded portion of the facility and provide for the reconfiguration and addition of 28 new loading docks. Scheme B retains the existing 1,120 space parking structure at Figueroa and Venice while creating new surface, ground, and mezzanine level parking spaces in the newly constructed exhibit areas. This scheme would create three

development parcels totaling approximately 12 acres while allowing for future convention facility expansion along the current site's western edge.

Master Plan Features

Private Development (incl. hotel)	Traditional • Private development in the traditional path includes a hotel site that will be ground leased to a development company. The site identified is located on Chick Hearn Plaza DBFOM • Private development in the DBFOM path includes a several hotel site options made available in the reestablished street grid. • In addition to a hotel site, this path would lead to the creation of three parcels totaling approximately 12 acres (approximately 15 acres total with hotel site) which would be ground leased to a private sector company for mixed-use development
Urban Design / Experience	Traditional • The urban experience is centered on connection, using Staples Center as the center-point for connecting the LACC with all of the other activities in a ring surrounding Staples Center, including LA Live, Fig Center across the Street, and Metro stations for multi-model transportation • The connections between the new GLP and the expanded convention facility and LA Live across the street at Staples center will activate the area with pedestrians DBFOM • Urban experience enhanced through the reestablishment of the historic street grid to foster connectivity and accessibility, particularly for pedestrian traffic, and provisions for wide sidewalks and ground floor retail to an "active promenade" on Georgia Avenue • New rights of way to be used as pedestrian streets, public gathering spaces, and places for public activities during non-peak traffic periods should further activate the area with pedestrian traffic
Community Linkage	Traditional • From a community standpoint, GLP will be revamped and relocated from its existing site to a new plaza between the Staples Center and the refurbished West Hall area • Remodels the outdoor space in front of the South Hall's tower with new pavements, islands of greenery, and integrated seating to help activate the facility's frontage on Chick Hearn Ct. and Figueroa St. while providing a unified design DBFOM • Provides for the inclusion of a "park promenade" as part of GLP to promote connectivity between the community and LACC and enhance its programmable space to support the increase of food service offerings, community events, and pop-up retail accommodated by the revamped area • A new transit hub to replace operations on GLP provides for a consolidated bus pickup and drop-off from Pico Blvd. within the new convention center expansion to enhance multi-modal accessibility

Future Expansion (Year 2035/2040)	Traditional • Future expansion opportunity may lie with the Venice street garage and the area west of LA Live • Replacement of the West Hall in a multi-story vertical structure could also represent a future expansion opportunity for the Traditional Path DBFOM • Realignment of LA Live Way to the west would make 95,000 SF available for future LACC expansion along the western edge of the expanded facility envisioned by the DBFOM schemes • Expansion in the area that currently supports the Venice street garage can also support approximately 70,000 square feet • Accommodations for future expansion would be included as a design requirement in the RFP to ensure all proposals consider future LACC expansion projects

SCHEDULE

The estimates of the development schedule for the Traditional and DBFOM projects were developed by analyzing three groups of activities that govern the overall timeline: (1) environmental clearance pursuant to the California Environmental Quality Act (CEQA); (2) project procurement and design; and (3) project construction. For the purposes of this report, it is assumed that the CEQA process commences on July 1, 2016.

The development schedules for the two alternative project delivery approaches have been reviewed by MGAC and are estimated to occur with 52 months for the Traditional Approach and 60 months for the DBFOM Approach.

Traditional Path

Project schedule for the Traditional Path

Phase	Dates	Duration
CEQA and Council Approval	07/2016 – 11/2017	18 months
Design and Approvals	09/2016 – 12/2018	16 months
Construction	07/2018 – 10/2020	28 months
Overall duration of all phases	**07/2016 – 10/2020**	**52 months**

Source: BOE

DBFOM Path

Project schedule for the DBFOM Path

Phase	Dates	Duration
CEQA / EIR	07/2016 – 11/2017	18 months
P3 Procurement	11/2016 – 01/2018	15 months
Design and Approvals	03/2017 – 10/2018	15 months
Phase 1A Construction	04/2018 – 09/2020	29 months
Demolition	09/2020 – 12/2020	3 months
Phase 1B Construction	10/2020 – 07/2021	6 months
Overall duration of all phases	**07/2016 – 07/2021**	**60 months**

Source: Arup

Environmental Clearance / CEQA

With the assistance of BOE and DCP, the City Working Group developed project-based Environmental Impact Report (EIR) approaches for both projects that are estimated to fit within an 18-20 month schedule, beginning on July 1, 2016.

For the Traditional Approach, a Project EIR will be defined by the space program (square footages, height, building locations and orientations, etc.) defined in the Populous design. The EIR will study the environmental impacts associated with this design.

For the DBFOM Approach, the environmental document that would be prepared is also a Project EIR with project description defined by a maximum space envelope (square footages of development, maximum areas and heights, etc.) for each of the different property use types, e.g. convention facilities, hotel, retail, office, etc. A project envelope approach, defining both the convention center space requirements as well as the private real estate components, can be used to assess environmental impacts and mitigation measures in parallel with a competitive procurement to select a DBFOM development partner. The specific project design chosen as part of the developer's proposal would be guided by the EIR's project description, impacts, and mitigation measures. Once a development partner is ultimately chosen, a consistency review would be made for the proposed design in order to determine whether or not it deviated from the approved maximum envelope project description.

Procurement and Design

For the Traditional Approach, a Construction Manager/General Contractor (CM/GC) delivery approach will be undertaken where the City assumes the role of project developer and long-term/permanent financier. The Populous architectural team has already gone through the City's procurement process and commenced conceptual design work. Further procurement steps would be for the City to amend the Populous contract and budget to complete construction drawings and procure the services of a CM during the pre-development and design phases to work alongside the City. The CM becomes the GC during construction.

For the DBFOM Approach, the City commences the procurement by issuing a Request for Qualifications (RFQ) to identify development consortiums sufficiently qualified to deliver on the Project goals and requirements. The outcome of the RFQ process will be a shortlist of qualified development consortia; the ideal number is three to four qualified teams. Once a shortlist of qualified bidders has been identified, the City would issue a Request for Proposals (RFP) to select the development partner. The RFP process is based on maintaining competitive tension among the bidders until final proposal submission, at which time the City would receive hard-bid proposals containing: (1) project designs and specifications paid for by the bidders; (2) full financing plans with equity/lender commitments, (3) fixed-price and date-certain construction bids; and (4) fixed-price O&M bids including lifecycle maintenance. At the end of the RFP process once a development partner is selected, financial close and construction of the convention center facilities can begin within 60 days.

The private real estate entitlement, procurement, and delivery elements of the project take place following final CEQA approval according to a schedule driven by market demand and independent of the convention center construction and delivery.

Construction

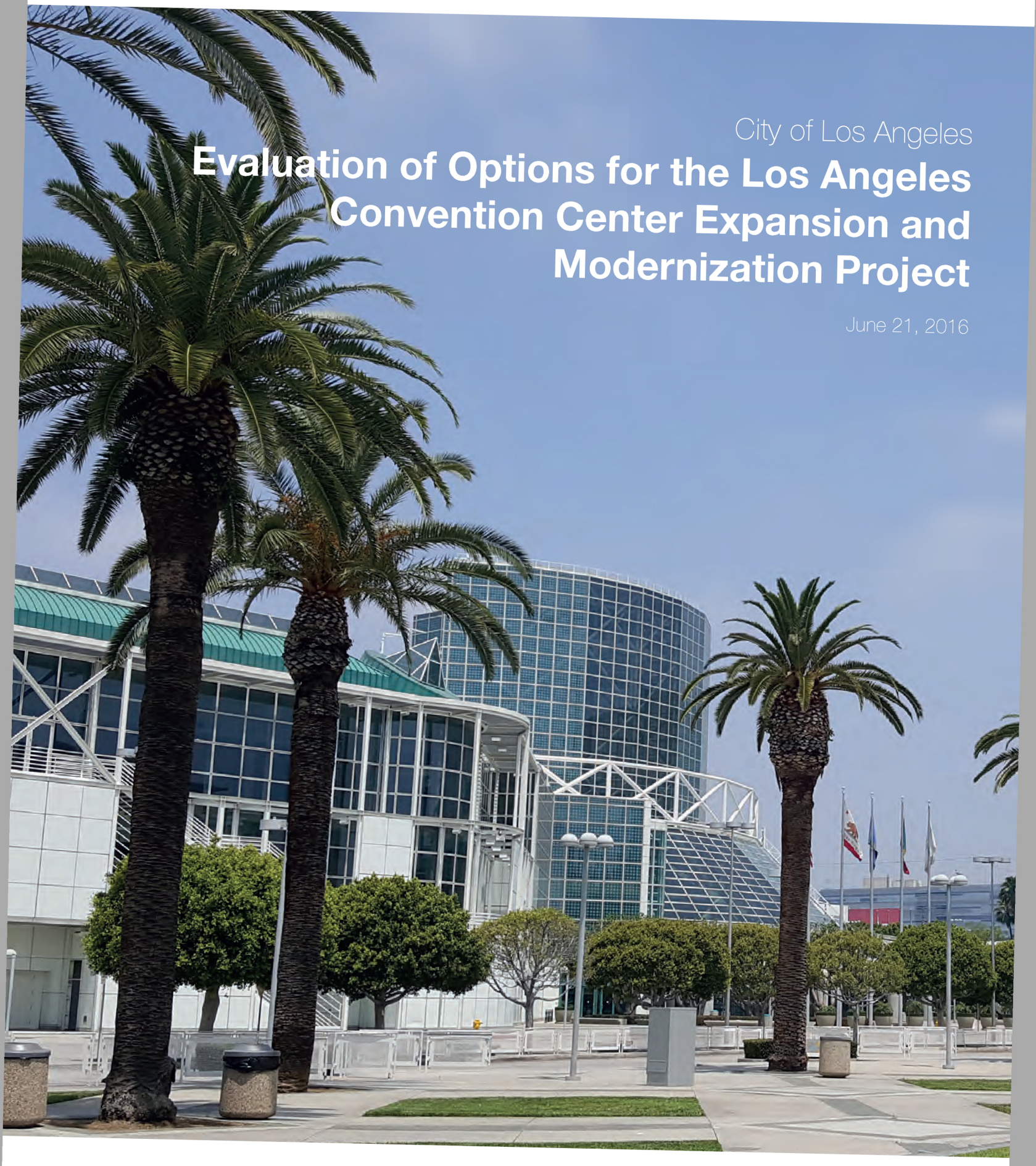
For the Traditional Approach, the construction period is estimated to be 28 months. For the DBFOM Approach, the construction period is estimated to be 29 months. Both of these estimates were deemed reasonable by MGAC.

OTHER CONSIDERATIONS

The City Attorney recently received a letter from AEG (attached) which raises concerns about certain Project elements, in particular the potential for a hotel on the LACC campus. The issues raised by AEG require further discussion which this Office recommends be done in a closed session given the potential legal matters addressed in the letter. Regardless of the path taken, clarification on the points raised is a critical first step for the success of the Project.

Attachments

MAS:BC:KC:00160003C



City of Los Angeles

Evaluation of Options for the Los Angeles Convention Center Expansion and Modernization Project

June 21, 2016

ARUP

Important Notice

Pursuant to the FINANCIAL CONSULTING SERVICSES AGREEMENT dated December 9, 2015 between Arup Advisory Inc. (Arup) and the City of Los Angeles (the City), enclosed is the Report for the Los Angeles Convention Center Expansion Project (LACC project).

Current accepted professional practices and procedures were used in the development of this report. However, as with any forecast, there may be differences between forecasted and actual results. The report contains reasonable assumptions, estimates, and projections that may not be indicative of actual or future values or events and are therefore subject to substantial uncertainty. Future developments cannot be predicted with certainty, and this may affect the estimates or projections expressed in this report, consequently Arup specifically does not guarantee or warrant any estimate or projections contained in this report.

Please note that our findings do not constitute recommendations as to whether or not the City should proceed with the LACC project. This document is intended only for the information of the City. It is not intended for and should not be relied upon by any third party, and no responsibility is undertaken to any third party.

Our findings are based on limited technical, financial, and commercial data concerning the project and its potential delivery options. Arup has relied upon the reasonable assurances of independent parties and is not aware of any facts that would make such information misleading. We envisage that if the LACC project is to be taken forward, further validation of these findings will be undertaken as part of the procurement process.

We must emphasize that the realization of any prospective financial information set out within our report is dependent on the continuing validity of the assumptions on which it is based. We accept no responsibility for the realization of the prospective financial information. Actual results are likely to be different from those shown in the prospective financial information because events and circumstances frequently do not occur as expected, and the differences may be material.

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Abbreviations

AP	availability payments
BOE	Bureau of Engineering
BOH	back-of-house
Caltrans	California Department of Transportation
CAO	City Administrative Officer
CLA	Chief Legislative Analyst
CEQA	California Environmental Quality Act
CM/GC	construction manager/general contractor
CSL	Convention, Sports & Leisure International
CPI	Consumer Price Index
CTD	Department of Convention and Tourism Development
CUP	central utility plant
D&B	Design and Build
DBFOM	Design, Build, Finance, Operate, and Maintain (a typical P3 business model)
EIR	Environmental Impact Report
FMC	Facility Maintenance Contractor
FTE	Full-time equivalent
FY	Financial year
GMP	guaranteed maximum price
ICSE	Independent Cost and Schedule Estimator
IT	information technology
LACC	Los Angeles Convention Center
LADWP	Los Angeles Department of Water and Power
LASED	Los Angeles Sports & Entertainment District
LATCB	Los Angeles Tourism & Convention Board
LAWA	Los Angeles World Airports
MEP	mechanical, electrical, and plumbing
NCP	net City payments
NPV	net present value
NIST	National Institute of Standards and Technology
O&M	operation and maintenance
P3	public-private partnership
POR	Program of Requirements
PF	Public Facilities
RFI	Request for Information
RFP	Request for Proposal
RFQ	Request for Qualifications
ROW	right-of-way
SCAQMD	South Coast Air Quality Management District
SPV	special purpose vehicle
TOT	transient occupancy tax
YOE	Year of expenditure

Executive Summary

Background and Objectives

The purpose of this report is to inform and support the decision-making process of the City of Los Angeles (the City) regarding the Los Angeles Convention Center (LACC) expansion and modernization project. The report considers two potential development paths and evaluates their fit with the City's goals and their net cost to the City's General Fund.

The LACC expansion and modernization project aims to re-position Los Angeles as a top-tier convention destination that attracts more city-wide events and out-of-town visitors. The City's facility program calls for expanding and diversifying the facility's meeting space inventory, adding exhibit space, and achieving a contiguous exhibit hall. In response to industry trends, additional goals include developing on-site amenities and creating a vibrant destination with an authentic urban experience. The program includes the development of an on-site convention hotel.

In 2014 the City initiated the project development process. Through an architecture competition it selected a design team and a design concept for the expansion. Under a traditional development path the project would be financed with City-issued bonds and built using a construction manager/general contractor (CM/GC) procurement model. In June 2015, the Council instructed the City Administrative Officer (CAO) to develop a financing plan for the project and to investigate alternative financing methods and revenues sources to fund it without raising taxes.

Principal constraints considered by the CAO are the City's affordability goal as defined by a total project budget of $470m to pay for construction and soft costs, and the City's limitation on debt service for non-voter approved debt of 6% of General Fund revenues. The CAO's analysis indicated that, given current financing commitments and reasonable expectations of General Fund revenue growth, financing a $470m project would breach the 6% limit in several years.

In December 2015, the CAO, in part based on an analysis developed by Arup as its consultant, released a report identifying an alternative approach for the LACC expansion project: to integrate it with a large-scale real estate development that creates a livable, walkable mixed-use district within the LACC campus. The report identified an opportunity to unlock significant land value to cross-subsidize construction costs. Combined with other revenue enhancements and using an integrated design-build-finance-operate-maintain (DBFOM) delivery model, the project could be procured without impacting the 6% limit, while potentially reducing the project's net cost to the General Fund.

In March 2016, City Council approved the CAO's recommendation for a dual path approach, whereby the City initiated the California Environmental Quality Act (CEQA) compliance process. In parallel, the City began to further examine two approaches for delivering the LACC project: the Traditional Path and the DBFOM Path.

Approach to the Dual Path Assessment

The dual path assessment has involved four key steps. The first two steps have been carried out concurrently and independently by the two teams progressing each development path. The

construction cost, schedule, and lifecycle maintenance cost estimates performed by each team have been audited by an Independent Cost and Schedule Estimator (ICSE) retained separately by the City.

The third step consisted of a financial analysis conducted by Arup based on the cost and schedule inputs provided by the ICSE, as well as financial market and other data. The financial analysis uses the whole-life costs and revenues generated by each path to calculate the net annual cost to the City for each development path, in the context of this report known as the net City payments (NCPs).

The final step makes a qualitative assessment of the degree to which each path achieves the City's goals, as outlined below, and a quantitative comparison of the NCPs of the two paths in terms of net present value over time (expressed in 2016 dollars).

The City's goals can be summarized as follows:

- Maximize revenue and economic benefit
- Expand LACC without impacting the 6% non-voters' approval debt cap and minimize the project's cost to General Fund over the long term
- Bring innovation to the venue and create a vibrant district
- Achieve cost and schedule certainty and long term maintenance and upkeep

The evaluation criteria relative to these goals is summarized below.

Table 1: Dual path evaluation matrix

Parameter	Evaluation Criteria
Project features	Achieves the City's program specifications
	Identifies sites for a convention hotel
	Delivers a high-performing top-tier facility
	Provides business continuity during construction
	Makes provisions for future expansion
	Creates a vibrant urban experience
Project economic benefits	Maximizes job capture on site
Project revenue	Grows existing revenue sources
	Creates new revenue sources (naming rights and signage)
	Creates new revenue sources (real estate)
Project cost of ownership	Meets the City's total budget of $470m
	Reduces lifecycle costs
	Reduces operations and maintenance costs
Sponsor risk exposure	Reduces the risk of cost and schedule overruns
	Reduces risks related to the procurement process
	Reduces lifecycle risk

Analysis of Dual Path Approach

The Traditional Path considers procuring the construction of the project by means of CM/GC delivery method. The Traditional Path design team, led by Populous architects, proposes adding the new facility program in between the existing South and West Halls and in a new multi-story structure on the existing Gilbert Lindsay Plaza. The design identifies a suitable site for the convention hotel. According to the ICSE, the total project cost for the expansion is estimated at $721m. In addition, the ICSE estimates that the lifecycle costs over a forty-year period would be $778m in 2016 dollars – this would include a major renovation of the West Hall within the first ten years.

In this path, new revenue sources from selling naming rights and developing signage would help to reduce the annual costs. The City would finance the construction of the LACC expansion and modernization project with City-issued taxable bonds and finance the ongoing lifecycle costs with future debt issuance. Debt service would be from the General Fund and would be subject to the 6% debt service limit described above.

The DBFOM Path considers procuring the LACC project and a 7 to 14 acre private mixed-use real estate development on-site by means of a DBFOM delivery method. For the purposes of assessing the feasibility and costs of the proposed approach, the DBFOM Path design team developed three design schemes that meet the facility expansion program and make land available for the real estate development. The three schemes provide flexibility for multiple suitable sites for the convention hotel.

These concept design schemes are not prescriptive, nor do they limit the design solutions that could be developed by bidding teams through a competitive procurement process. All the concept design schemes consider either replacing or renovating the West Hall as part of the expansion project's construction. According to the ICSE the project cost range of the DBFOM Path schemes range between $911m and $1,129m. In addition, the ICSE estimates that the lifecycle costs over a forty-year period would range between $490m and $505m in 2016 dollars.

In this path new revenue sources from selling naming rights and developing signage, as well as from real estate, would help to reduce the annual costs. Real estate revenues are comprised of ground lease payments to the City and tax receipts net of estimated City service costs. Under the DBFOM Path, the City would grant a long-term contract to a private partner, who would be responsible for the design, build, financing, and lifecycle maintenance of the facility.

Since this would be a contractual obligation of the City subject to appropriation and performance deductions, the annual payments from the City to the private partner are not subject to the City's 6% debt service limit described above.

At the end of the concession, the LACC would be handed back to the City at the facility condition level determined *ex ante* in the DBFOM agreement – typically set at 85% useful life remaining.

Assessment and Comparison of Development Paths

Arup's qualitative assessment suggests that both development paths:

- Achieve the City's requirements regarding the facility's program for contiguous exhibit space, meeting rooms, ballroom, planning for business continuity during construction, and provisioning for future expansion
- Are expected to support the City's aspirations to attract more visitors to Los Angeles and, specifically, to develop more citywide conventions in line with the market studies previously conducted by the City's convention market consultants
- Identify suitable sites for a convention hotel: one site for the Traditional Path and multiple sites for the DBFOM Path
- Have comparable procurement and construction schedules, including working with the City's current CEQA approval schedule

Table 2: Comparison of development paths' fit with the evaluation criteria

Parameter	Evaluation Criteria	Traditional Path	DBFOM Path
Project features	Achieves the City's program specifications	🟢	🟢
	Identifies sites for a convention hotel	🟢	🟢
	Delivers a high-performing top-tier facility	🟢	🟢
	Provides business continuity during construction	🟢	🟢
	Makes provisions for future expansion	🟢	🟢
	Creates a vibrant urban experience	🟡	🟢
Project economic benefits	Maximizes job capture on site	🟡	🟢
Project revenue	Grows existing revenue sources	🟢	🟢
	Creates new revenue sources (naming rights and signage)	🟢	🟢
	Creates new revenue sources (real estate)	🔴	🟢
Project cost of ownership	Meets the City's total budget of $470m	🔴	🔴
	Reduces lifecycle costs	🟡	🟢
	Reduces operations and maintenance costs	🟡	🟢
Sponsor risk exposure	Reduces the risk of cost and schedule overruns	🔴	🟢
	Reduces risks related to the procurement process	🟢	🟡
	Reduces lifecycle risk	🟡	🟢

Table 3: Evaluation criteria rating scheme

Rating	Description
🟢	Achieves or strongly achieves the stated criteria
🟡	Partially achieves the stated criteria
🔴	Only minimally achieves or does not achieve the stated criteria

The two paths differ, however, in terms of the:

- Scale of the economic impact and revenue streams that could be generated for the City: whereas both paths generate similar economic impact from the expansion program and of naming rights and signage revenues, the DBFOM Path generates significant additional economic impact and revenue streams from the 7 to 14 acre real estate development
- Risk retained by the City in the construction and maintenance of the LACC: the City would transfer the majority of these risks to the DBFOM private partner, including the risks associated with raising the financing, and would avoid triggering its statutory 6% debt service limit
- Level of complexity of and familiarity of the City with the procurement processes: while the City has greater familiarity with CM/GC procurement and the ability to approach decision-making with respect to risk allocation and long-term lifecycle needs of the facility in an incremental way reduces process complexity, the City of Los Angeles is currently undertaking a programmatic approach to developing DBFOM procurements of many of its many most complex capital projects and is developing its institutional capacity to deliver them to meet its goal of being a major national hub for infrastructure – this is further underscored by the high level of interest expressed by the infrastructure industry in a potential DBFOM for the LACC, with many of those industry leaders being based in LA

The quantitative analysis and comparison indicates that the DBFOM Path can deliver the key benefits described above at a lower net cost to the City.

Table 4 below summarizes the Net Present Value (NPV)[1] of the NCPs from 2016 to 2060 for the two development paths. For the DBFOM Path a range is provided that represents the schemes analyzed in this report. The figures are expressed in 2016 dollars in order to compare future and current costs and revenues without the distorting effect of inflation[2].

Table 4: Traditional and DBFOM Path NPV of net City payments from 2018 to 2060 (2016 $m)

	DBFOM	Traditional	Notes
NPV of net City payments	$734m to $824m	$845m	Net present value of City's financial obligation over the 43 year time period for procurement, construction, and operation.

[1] Net present value is a standard investment analysis tool to compare investments. If the City can earn, for example, a 6% annual rate of return by investing $100 today, then it expects to receive $106 one year from now. When comparing investments that have different patterns of costs and revenues over time, the City can use net present analysis to convert, or discount, these costs and revenues to their value today. The conversion is made with the City's expected rate of return from investing its own funds. In this example, the conversion or discount rate is 6%.

[2] Comparing costs or income today with costs or income in the future needs to take account of the effect of inflation, which means that $100 one year from now is worth less than $100 today. As is common when people plan for their retirement or make long-term investment decisions, it is important to account for the effect of inflation. The analysis presented in this section takes account of inflation by converting all future dollar figures in 2016 dollars so that the costs and revenues over time can be understood in terms of what things cost now and what the City's General Fund revenues are today.

Recommended Delivery Option

The DBFOM Path better achieves the goals and evaluation criteria for this analysis and delivers the LACC project at a lower aggregate cost in NPV terms. Arup recommends that the City move forward with the DBFOM Path. This path can be implemented to optimize the value of the assets, which in turn maximize economic development and fiscal impact.

The DBFOM Path avoids impacts to the City's debt-service limit of 6%. This would afford the City more flexibility to finance other needed investments in essential assets that do not have the revenue-generating capacity that the LACC campus has, without contravening the City's financial management policies.

It is important to highlight that Arup did not consider the City's $253m outstanding debt for the LACC in its financial projections for either development path. This outstanding debt is projected to be fully repaid by 2023 and would thus overlap to some extent with the start of City's payment obligations in relation to the LACC expansion and modernization project. An analysis of the financial and budget implications of this overlap for the City is outside the scope of this report.

Arup's net cost analysis results are dependent on several key assumptions. For example, the analysis assumes that the City will negotiate media rights agreements for signage and naming rights, such that these sources of revenue materialize according to the valuation and timing set out in this report.

Finally, in our opinion, the legal implications, commercial arrangement, and fiscal and economic benefits of the DBFOM Path reinforce the value of this procurement model for the City when compared to the Traditional Path. The benefits of the DBFOM Path for the City relate to:

- **Competitive procurement process:** During the DBFOM RFQ/RFP stage, the City would shortlist proponents and ultimately select a private development partner that meets the City's clearly articulated must-have requirements and its overall objectives to reduce the project's net cost, deliver it faster, get a better urban destination, and attract more visitors.
- **Predictable performance payments:** Under the DBFOM Path, the City enters into a DBFOM agreement with a private partner who is remunerated by the City through a series of annual Availability Payments (APs) starting only when construction is completed to the City's satisfaction. The APs are based on the availability and performance of the facility. The APs can be adjusted downwards if the private partner is not delivering at the condition level determined in the concession contract, yet cannot be adjusted upwards if the private partner faces risks that have been allocated by the DBFOM agreement to it.
- **Key risks transfer**: A DBFOM contract aims to explicitly allocate the project's risks to the party best able to manage them. As a result, during the construction phase, the private partner is responsible for delivering cost and schedule certainty. During the operating phase, the private partner assumes the lifecycle risks. Should the risks allocated to the DBFOM developer materialize, they will not bear financial consequences for the City. Examples of risks transferred to the private partner include construction market conditions, design errors and omissions, and latent defects, among others.

- **Long-term real estate revenues and fiscal impact:** The City would receive proceeds in the form of ground lease revenues and tax revenues from the real estate component of the DBFOM Path during the operating term of the DBFOM agreement. A 99-year ground lease, which is a standard market instrument, would continue to provide stable long-term real estate revenues, as well as tax revenue net of the cost of City services, beyond the term of the DBFOM agreement. In Arup's opinion, these long-term revenue streams for the City have significant economic value today and represent a tangible source of recurring annual funds for future lifecycle needs of the facility.

- **Economic benefits:** The on-site mixed-use real estate project will enable South Park to capture a significant share of jobs expected to be created in the Los Angeles region over the next 25 years. Diversifying land uses within the LACC campus will help create a vibrant 24/7 convention district, a place where people want to hang out. Urban amenities and the quality of the convention destination are increasingly important to securing market share in the competitive convention and events industry. The real estate component will drive towards a convention experience that expands beyond the facility's bricks and mortar. The DBFOM Path will capitalize on ongoing South Park's development momentum to create a more lively neighborhood and a more marketable venue altogether.

Next Steps and Implementation Strategy

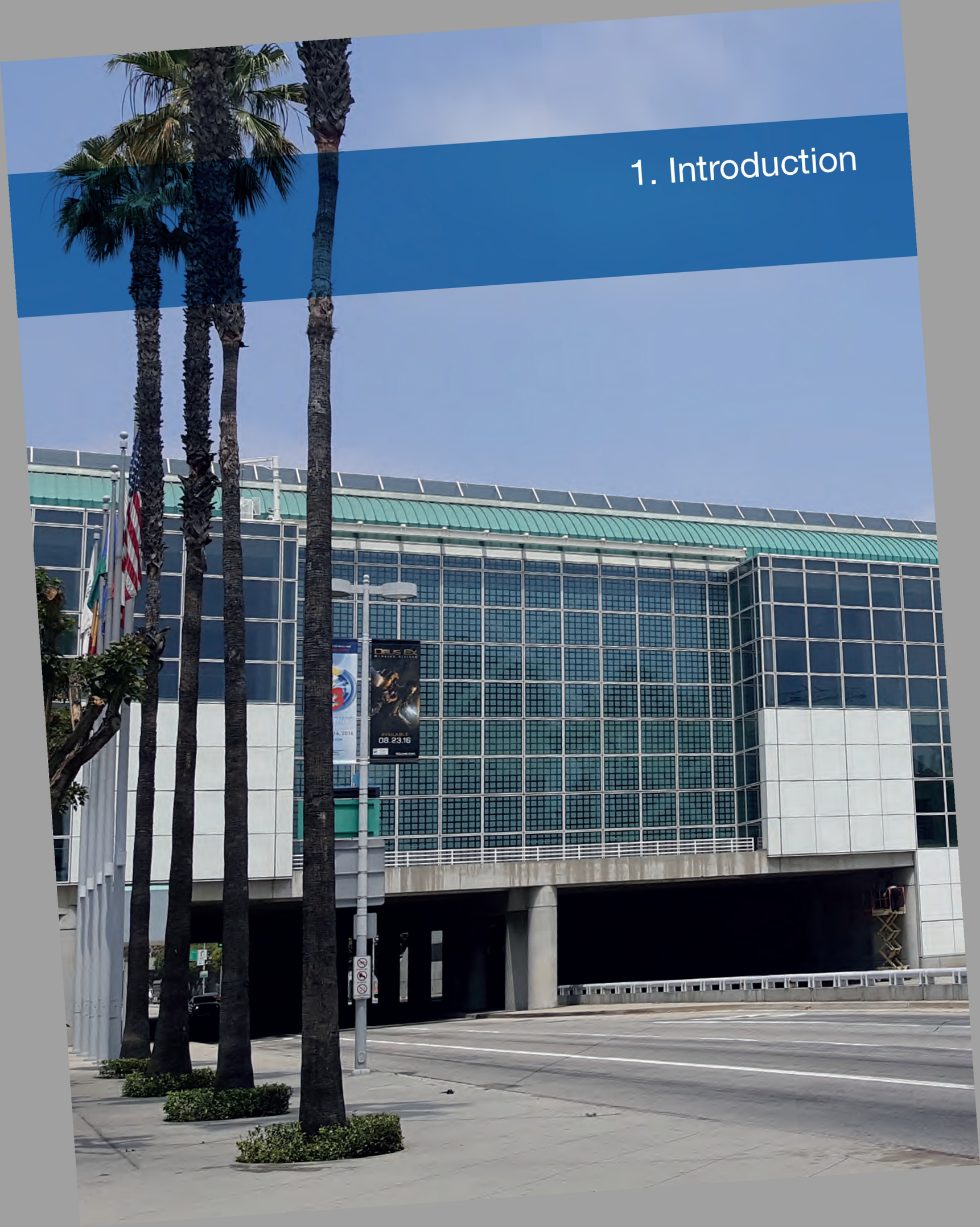
Should the City elect to move forward with the DBFOM Path, it will need to start a series of parallel activities to advance CEQA documentation, make decisions on the entitlement strategy, begin preparing procurement documentation, and perform community and stakeholder outreach. The schedule provided in this report provides a road map for the planning of the CEQA, DBFOM, and real estate entitlement processes.

- **CEQA compliance program:** The City has selected an EIR consultant and is in a position to move quickly and efficiently. The next critical path activity is to develop a Project Description that refines the LACC design to establish final program requirements and critical design considerations. This should be an integrated process with the refinement of an indicative master plan and development scheme for the real estate, including target land uses, densities, and development standards.

- **Entitlements and pre-development**: To maximize the value of the LACC real estate development opportunity, careful consideration is needed for the City's land disposition strategy. To the extent that development process and rights are clear, concrete, and with an appropriate degree of flexibility, private developers will be attracted to the opportunity and offer better land value to the City. Arup's recommended strategy is for the City to play an active role in entitling the site and then ground leasing parcels timed to market cycles. This can and should be done in concert with a competitively procured DBFOM development partner, a competitively procured real estate developer, or both jointly. The City's objective is to capture the highest value for the right type(s) of complementary and compatible development(s) to the LACC and surrounding uses. This can be achieved by creating entitlement certainty without overly prescribing the development. Arup's estimate is that this process can be managed to time disposition and development of parcels as the construction of the LACC expansion project is completed in 2020.

- **DBFOM RFQ/RFP process**: The DBFOM procurement documentation process must clearly spell out the City's main technical, financial, and commercial requirements as well as the criteria by which proposals will be evaluated and a partner selected. The procurement strategy for the RFQ/RFP should be developed in close parallel with the CEQA process. Experience of other similar procurements indicates the feasibility and value in pursuing parallel procurement and CEQA processes, including, for example, as LAWA is developing for its two current DBFOM procurements. Because of the significant pursuit costs associated with a DBFOM procurement of this size, a clear process is paramount to attracting the best teams the market has to offer – this can leverage off the significant market interest that already exists for a potential LACC DBFOM. The City will need to establish a procurement management plan that identifies the responsibilities of various departments in the process. Key considerations include a confirmation of contracting authority, establishing the evaluation methodology, and development of performance specifications that will guide the bidder proposals.

1. Introduction



1 Introduction

1.1 Objectives of the Report

The objective of this report is to inform and support the decision-making process of the City of Los Angeles (the City) with respect to the expansion and modernization of the Los Angeles Convention Center (LACC). The report considers two potential development paths, based on two different design schemes which each seek to deliver the City's required program.

- The Traditional Path delivers the LACC expansion and modernization project within the LACC campus via a traditional procurement method
- The DBFOM Path modifies the existing LACC footprint to incorporate a private mixed-use real estate development on site, while also delivering an expanded and modernized LACC via a public-private partnership (P3)

This report evaluates the whole-life costs and revenues associated with each development path in order to calculate the City's payment obligations for each project alternative.

1.2 Background

The objective of the LACC expansion and modernization project is to develop a new master plan for the LACC that transforms it into a top-tier facility which maximizes economic impact.

Through a joint report dated May 22, 2014, the Chief Legislative Analyst (CLA) and the City Administrative Officer (CAO) articulated the key goals for the LACC expansion and modernization project, including the following with respect to a P3:

> *"Identify public-private development opportunities that fit with the LACC campus and generate adequate revenue to support development of the major [LACC] improvements. These could include one or more hotels or retail uses. Revenues generated through the development of private uses on the property, including ground lease payments and possessory interest tax, could be used to help support bond payments. The conceptual plan should provide a blank pad where a privately owned and operated hotel, or other commercial use, could be located."*

On June 4, 2014, the Los Angeles City Council approved a design competition for the LACC expansion and modernization project and later selected a team led by Populous architects (the Populous Team) as the winners of the design competition. On June 30, 2015, the City Council instructed the CAO to investigate and analyze financing options, including a P3, for the LACC expansions and modernization project.

On August 18, 2015, the CAO released a Request for Proposals (RFP) for Financial Consulting Services to evaluate alternative financing options for the proposed LACC expansion project. The CAO awarded a contract to Arup in September 2015, after it received four responses. Arup's scope of work for phase I was to evaluate alternative funding and delivery methods for the LACC expansion and modernization project.

On December 23, 2015, the CAO published a report entitled 'Public-Private Financing Options for the Los Angeles Convention Center Expansion Project', in which it identified that the LACC expansion and modernization project could be procured under a design-build-finance-operate-

maintain (DBFOM) contract. Moreover, the report proposed re-imagining the LACC campus to integrate a real estate development on-site, highlighting that the revenue generated by the real estate development could cross-subsidize a part of the LACC expansion and modernization project's costs.

In March 2016, City Council adopted a dual path approach, whereby the City initiates the California Environmental Quality Act (CEQA) compliance process, and in parallel, further examines two approaches for delivering the LACC expansion and modernization project: the Traditional Path and the DBFOM Path, each described in more detail in Section 1.3.

In this context, the objective of this phase 2 report is to inform and support the decision making process of the City by providing a comparative analysis of the two paths. This report undertakes a detailed comparative analysis of each path's public investment value, cost, risk, and schedule.

On this basis, it is envisaged that the City will make a final selection on one path by June 2016.

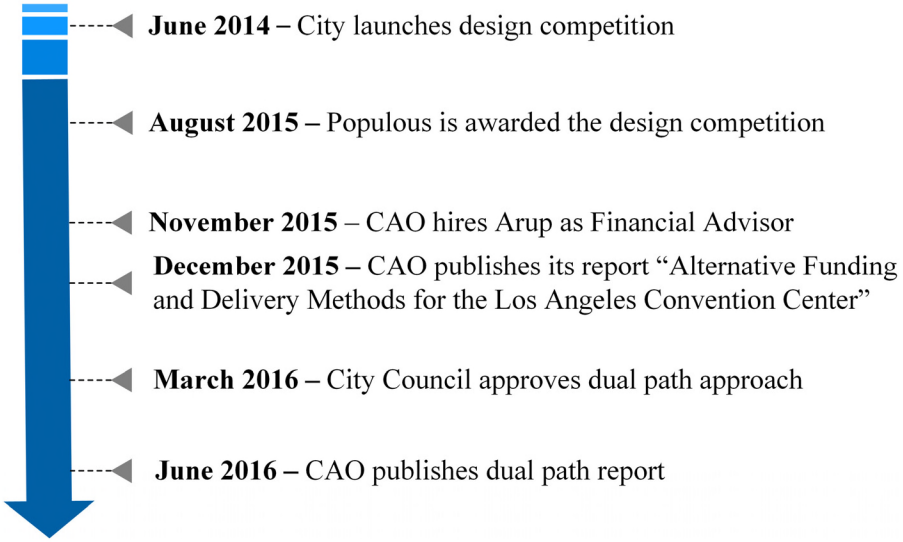


Figure 1: LACC expansion and modernization project timeline

1.3 Development Paths Being Considered

The two development paths considered for the LACC expansion and modernization project involve different procurement and delivery models, for two different design schemes.

Both aim to meet the LACC's space and operational requirements and identify potential development sites for a new convention center convention hotel.

1.3.1 Traditional Path

The Traditional Path considers procuring a scheme based on further development and refinement of the 2015 design competition scheme, by means of a construction manager/general contractor (CM/GC) procurement method to build the project.

Under this Path, the construction of the LACC expansion and modernization project would be financed with City-issued taxable bonds. The City would continue to be responsible for ongoing capital maintenance and replacement costs of the facility over time, which would be financed with future debt issuance. The source of repayment of City-issued debt for the initial construction and ongoing capital maintenance and replacement costs is the City's General Fund.

Under the Traditional Path, the design for the LACC expansion and modernization project was developed by a team led by Populous architects (the Traditional Path design team), who further developed and refined their 2015 competition design scheme. The Traditional Path design team considered multiple design options and identified a preferred option in response to the City's facility program requirements, including identification of a potential site for a convention center convention hotel.

The preferred option considers adding the expansion program across two locations:

- Additional contiguous exhibit space is provided in between the existing South and West Halls by bridging over Pico Boulevard, with additional meeting rooms provided adjacent to the new exhibit space.
- A new ballroom and additional meeting rooms are provided to the east of the Concourse and the West Hall, in a new multi-story structure on the existing Gilbert Lindsay Plaza. New entry lobbies are also provided at these locations.

The preferred option also considers relocating the public open space provided by Gilbert Lindsay Plaza along the space in between the new facilities and the Staples Center.

Further details regarding the Traditional Path are provided in Section 4 and Appendix A.

1.3.2 DBFOM Path

The DBFOM Path considers procuring the re-imagined LACC expansion and modernization project under a DBFOM delivery model.

This development path proposes an expanded and modernized convention center meeting the City's facility program requirements, integrated with a private mixed-use real estate development project within the existing LACC campus. The scheme also identifies several potential sites for a convention hotel.

For the purpose of conducting the comparative analysis required for this report, Arup and HOK architects (the DBFOM Path design team) have developed a range of concept design schemes to assess, quantify, and illustrate the feasibility of this development path.

The concept design schemes considered are not intended to be prescriptive nor to limit the design solutions that could be developed by actual bidding teams through a DBFOM competitive procurement process, should the City select this path. In the DBFOM Path's procurement method the City would:

- Define its requirements and performance objectives for the initial expansion project and the long-term lifecycle maintenance of the LACC.
- Allow flexibility for the bidders to competitively propose designs, development concepts, and financial proposals.
- Evaluate and select the development team and proposal that best meets or exceeds its requirements and performance objectives.

The assessment of the DBFOM Path is based on an analysis of three concept designs or schemes:

- **Scheme A**: Considers the renovation of the West Hall, the replacement of the Concourse, and expansion of the South Hall by bridging over Pico Boulevard.

- **Scheme B**: Considers the replacement of the West Hall and the Concourse in order to reconfigure the site, as well as the expansion of the existing South Hall – which is the newest building on the site – by bridging over Pico Boulevard.
- **Scheme C**: Is similar to Scheme B but, with the program distributed in two distinct buildings on each side of Pico Boulevard connected with pedestrian bridges, leaving the majority of Pico Boulevard open.

These schemes result in a range of 7 to 14 acres of land being made available for private mixed-use development within the LACC site depending on which scheme is selected. An analysis of the real estate development potential of these sites has been conducted and is included in the assessment of the DBFOM Path, both in terms of its economic development impact as well as the land value generated.

The procurement method contemplates a mechanism to capture land value generated by development on City-owned land to cross-subsidize the LACC expansion project.

The DBFOM Path entails a higher initial construction cost than the Traditional Path because the older facilities such as the West Hall would be either replaced or renovated as part of the initial construction. Conversely, over the facility's lifecycle, future costs of needed renovations or replacement of older buildings is reduced.

Further details regarding the DBFOM Path are provided in Section 5 and Appendix A.

1.3.3 Development Options Not Considered

The idiosyncrasies of each design scheme mean that it was inappropriate to consider procuring each via both a CM/GC process *and* via a DBFOM process.

The Traditional Path design scheme entails a new build component (the expansion), while most of the existing facility remains intact and with minimal intervention (i.e., West Hall and South Hall). Inherent to this approach is a relatively higher likelihood of facing latent defects or unforeseen conditions from outdated facilities. The value for money from procuring such a project under a P3 method is likely to be limited, and therefore this type of procurement for the Traditional Path's design scheme was not considered in this report.

The re-imagined LACC project involves a larger new build program, while either replacing or renovating the West Hall and expanding the South Hall. The initial construction cost of this project is estimated to be higher than the Traditional Path's initial cost, however, it is expected to have lower ongoing lifecycle maintenance cost. Because a conventional procurement of such a scheme would further increase the impact of City-issued debt on the City's voter-approved debt service limit of 6% of the General Fund, this report focuses its evaluation of the re-imagined LACC project on a P3 DBFOM procurement method which avoids that impact altogether and optimizes the net cost of the project to the City.

Table 5: Development options considered

Procurement method	Refined 2015 competition design scheme	Re-imagined LACC scheme
CM/GC	Traditional Path option	Not considered
DBFOM	Not considered	DBFOM Path option

1.3.4 Comparison of Development Paths

This report provides a comparison of the two development paths outlined above, from technical and financial perspective in terms of the likely net cost to the City's General Fund. Consideration of the cost and financial impacts of each path are based on the technical work carried out independently by each design team (i.e., the Traditional Path and the DBFOM Path design teams).

The construction and lifecycle cost estimates, as well as construction schedules, produced by each team have been reviewed and validated by the Independent Cost and Schedule Estimator (ICSE). MGAC was retained by the City for this purpose. The work product of the ICSE has been used as the input for the financial analysis of each path in this report and for their comparison.[3]

1.4 Report Structure

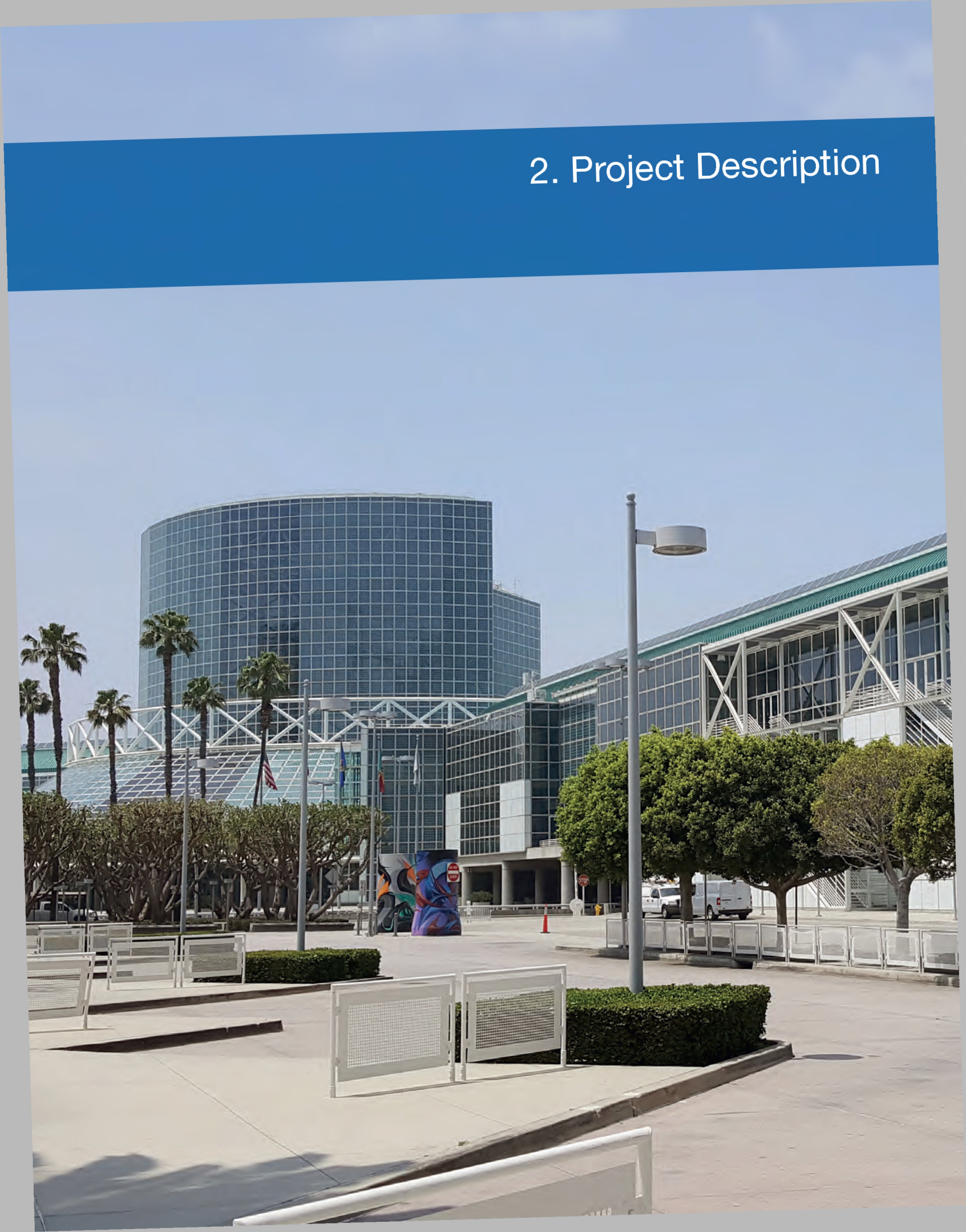
The report is organized into seven sections, described briefly in Table 6.

Table 6: Report structure

Section	Title	Description
1	Introduction	Outlines the objectives of the report and introduces the two development paths being considered.
2	Project Description	Provides context to the report by describing the existing conditions of the LACC facility, its current operations and funding mechanisms, the expansion program envisioned by the Department of Convention and Tourism Development (CTD), and summarizes the City's optimum project schedule.
3	Approach to the Dual Path Assessment	Outlines the methodology of how the two development paths are described and evaluated within this report.
4	Traditional Path Development Option	Describes and analyzes the Traditional Path with its CM/GC delivery method and assesses it from a quantitative and qualitative perspective in line with the process outlined in Section 3.
5	DBFOM Path Development Option	Describes and analyzes the DBFOM Path, including the DBFOM delivery method and the proposed real estate development and land value to be contributed towards the LACC project costs.
6	Comparison of Development Paths	Summarizes the evaluations of both paths undertaken in Sections 4 and 5 and quantifies the likely net cost to the City of each path, with further discussion on affordability considerations.
7	Conclusions and Next Steps	Recommends a development path and identifies the key next steps required to achieve a procurement process that maximizes value to the City and the Los Angeles community as a whole.
	Appendices	A number of technical Appendices have been attached to this report and provide greater details on the assumptions and analysis undertaken during the production of the report.

[3] For more information please see MGAC, *Los Angeles Convention Center Expansion Project - Independent Cost and Schedule Validation* (June 17, 2016).

2. Project Description



2 Project Description

This section of the report provides context to the project and identifies the current physical state and operations of the LACC.

2.1 About the Los Angeles Convention Center

The current LACC is in the South Park district of Los Angeles, situated east of Interstate 110, north of Interstate 10, and adjacent to the Staples Center and L.A. Live developments. The LACC is a 54 acre site and is composed of two primary facilities: the West Hall and the South Hall, built in 1971 and 1993, respectively. The Concourse was constructed concurrently with the South Hall. The facility's current space offering is detailed in Table 7, and a site plan is provided in Figure 2.[4] Furthermore, the LACC currently provides 5,504 parking spaces, with 1,655 parking spaces in the South Hall, 1,603 in the West Hall, and the remainder in various parking lots and structures within the campus.

Table 7: Existing LACC program

Space	Area (ft^2)
West Hall leasable space	276,588
South Hall leasable space	525,559
Concourse leasable space	66,229
Total leasable area	**868,376**
Non-leasable space	**1,201,124**
Total gross enclosed area (excl. parking)	2,069,500
Net-to-gross ratio	42%
Total parking spaces at the facility (number)	5,504

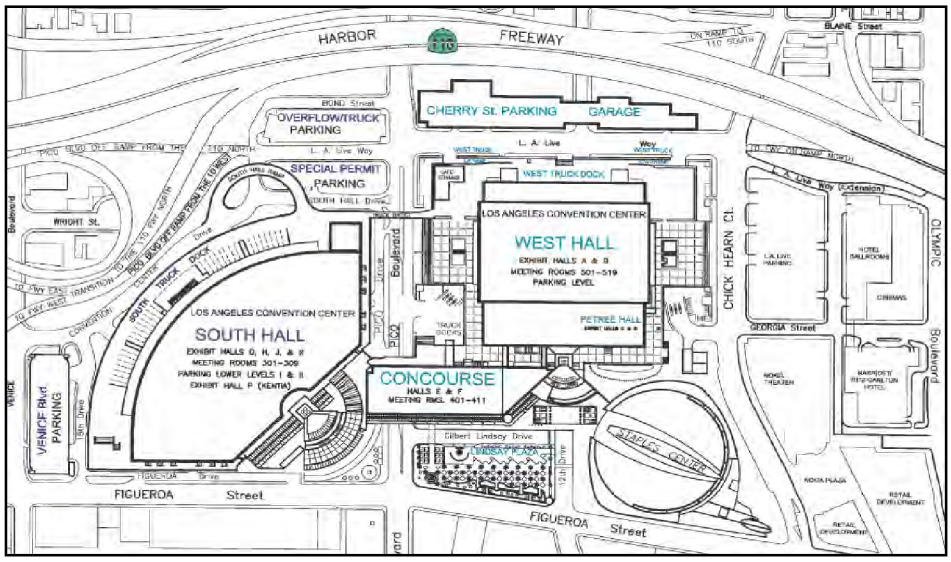


Figure 2: Current LACC site

[4] Leasable space includes exhibit space, meeting rooms, and junior ballrooms. Non-leasable space includes pre-function, circulation, and back of the house areas

2.2 Existing Conditions

2.2.1 The Los Angeles Convention Center and its Urban Environment

The West Hall and the South Hall buildings were built in the early 1970s and 1990s, respectively. At the time of their construction, Los Angeles's transportation system and dominant form of transportation centered on the private automobile. From an urban design perspective, the design of the existing buildings is focused on ease of access by automobile.



Figure 3: LACC provides a limited pedestrian-friendly environment

As noted by the Urban Land Institute LACC Technical Advisory Panel convened in 2013 to assess the future of the convention center, "There is a limited, and sometimes complete lack, of transparency between indoor and outdoor spaces, disconnecting the LACC from the surrounding neighborhood and street life, and creating a 'fortress' character to the campus."[5]

The development of a world-class public transportation system has significantly changed Los Angeles since the construction of the LACC. Transit access is now plentiful, with direct access from the light-rail stop on the Expo and Blue Lines at West Pico Boulevard and South Flower Street, as well as bus lines.

The recent completion of the Expo Line extension to Santa Monica, and future completion of the Regional Connector and the MyFigueroa streetscape project (which will implement the city's first separated cycle track between the University of Southern California and L.A. Live,) among other improvements, will enhance connectivity with alternative modes to the automobile.[6]

Other planned projects such as the Downtown Streetcar connecting South Park with downtown, would further enhance connectivity for the LACC.[7] The streetcar project includes a nearby stop at Figueroa and 11th Streets and could be extended with an additional stop closer to the LACC, should additional funding be available.

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[5] Urban Land Institute, LACC Technical Assistance Program, August 2013. See http://la.uli.org/wp-content/uploads/sites/26/2011/12/TAP-Los-Angeles-Convention-Center-Report-Final.pdf

[6] See https://www.metro.net/projects/connector/ and http://myfigueroa.com/.

[7] See http://streetcar.la/.

As recommended by the Urban Land Institute LACC Technical Advisory Panel, "A critical step in improving the LACC experience should be to improve the physical connections to the many environments, neighborhoods, attractions, and activities of the Los Angeles metropolitan area. The LACC should be a portal or a jumping off point to the neighborhoods, beaches, mountains, parks, cultural attractions, and other destinations that make Los Angeles great."

Modern conventions and trade shows center around meeting new people and networking. On-site amenities, such as restaurants and cafés, enable attendees to meet and share ideas. In recent years, various facilities, such as the Vancouver Center, have brought shopping, entertainment, and dining complexes on-site, to create more mixed-use and lively spaces. Others such as the San Francisco, San Diego, and Seattle convention centers benefit from having a variety of amenities either closely integrated due to their urban locations, or in very close proximity and with good wayfinding. Moreover, demand for food and beverages is shifting away from traditional cafeterias to more sophisticated kitchens offering fresh, healthy, and local food options.

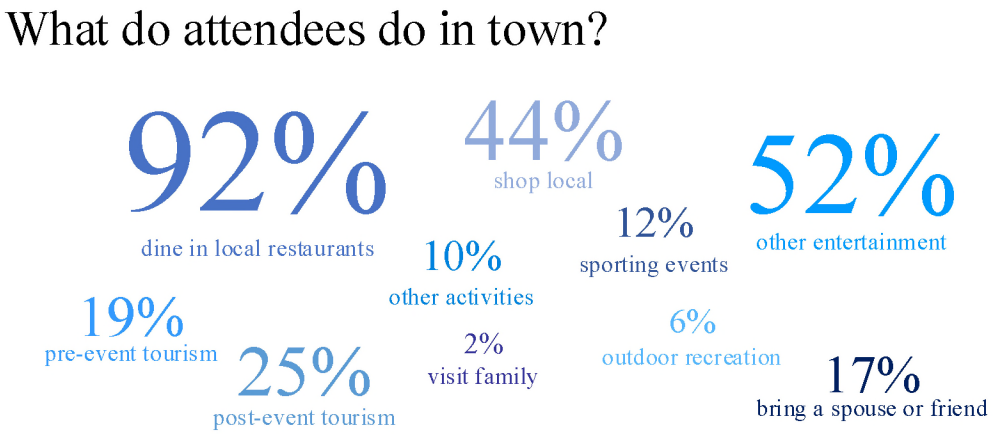


Figure 4: Convention center trends[8]

The South Park neighborhood is a major contributor to the ongoing revitalization of downtown Los Angeles. In the last two decades South Park has been experiencing a rapid transformation. In 1999, the opening of the Staples Center and the approval of the Adaptive Reuse Ordinance fostered change, showing that downtown was ready for reinvestment.

In 2007, the L.A. Live development opened to the public, turning South Park into one of Los Angeles's most active sports and entertainment districts.

Over the recent years, South Park has undergone an unprecedented real estate boom, with more than 23 mixed-use real estate projects currently in the pipeline. By 2020, 6,500 residential units are expected to be delivered in this neighborhood, bringing further liveliness and urban feel to the area.

Downtown Los Angeles is rapidly changing and generating an environment conducive to increasing the LACC's attractiveness and marketability to convert it into a convention-district destination.

[8] HOK architects analysis

The following identifies some of the key changes taking place:

- Downtown Los Angeles is undergoing a revitalization that will help increase the LACC's marketability. The mixed-used developments under construction in South Park will bring more services into the area, which in turn will enhance the neighborhood's amenities.
- Within walking distance of the LACC, there are 29 hotels existing, or at various stages of planning or construction. Currently the LACC is not served by an integrated convention hotel that is directly adjacent to or connected with the convention center buildings.
- With the opening of the Expo Line to Santa Monica in May 2016, LACC visitors are now within a five-minute walk of Pico Station and are able to take transit to the beach. The transit connection from downtown to the West will not only benefit tourists and convention center visitors, but also increase Angelinos' overall accessibility and mobility.

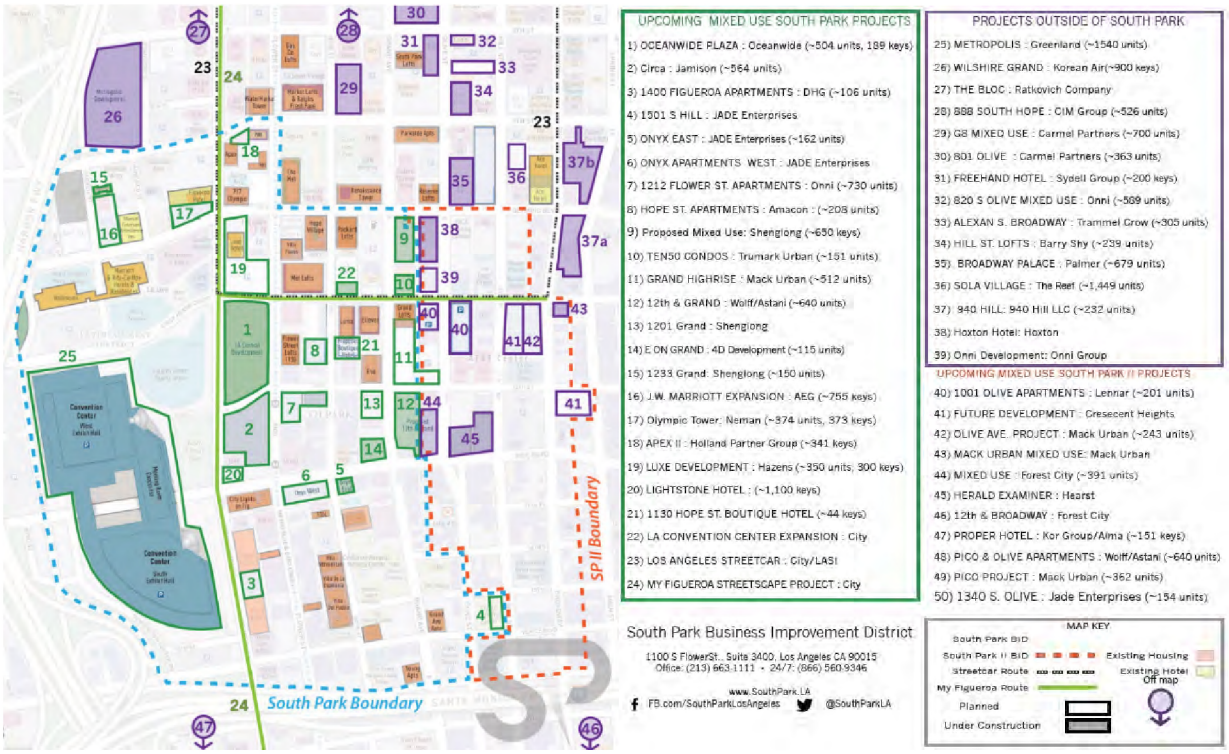


Figure 5: South Park area development map courtesy of the South Park Business Improvement District[9]

2.2.2 Technical Assessment

To support the assessment of what scope of work would be required for the LACC to become a top-tier facility, the Arup team developed an existing conditions assessment based on the following activities:

- Assessment of as-built plans
- Discussions with LACC staff knowledgeable about the facility
- Site visits with focus on specific attributes

[9] South Park Business Improvement District: http://southpark.la

This assessment did not involve formal and detailed technical investigations, but was based on Arup's technical specialists using their professional judgment to make informed observations regarding the current facilities.

2.2.2.1 Architectural

The architectural elements analyzed by the Arup team mostly relate to the finishes, fixtures, movable furniture, and equipment in the LACC facility. The assessment suggests that the finishes in the existing LACC do not satisfy the aspirations of the project as a top-tier facility. The existing finishes would not complement the modern architectural finishes of newly built facilities, and retaining some of the existing features may compromise the overall look and feel of the completed facility.

From the marketing and attendee experience perspectives, it is critical that the existing facilities and expansion be aesthetically and functionally seamless - they should be experienced as a single, unified project so that there is minimal distinction between old and new. Therefore, the Arup team recommends upgrades of finishes, furniture, fixtures, and equipment for the parts of the LACC that are to remain, regardless of the development path selected.

Additional elements such as vertical transportation (elevators, escalators, etc.), signage, and IT are not currently reliably implemented and would likely need either replacement or refurbishment to meet the standards of the new development.

Anecdotal evidence provided by staff at the facility indicated that the previous proposal for an NFL stadium on the West Hall site fell through, very little has been invested in upgrading the West Hall facilities. In contrast, the South Hall has received some capital maintenance and replacement investment since that time. Current plans include further capital improvements for the existing facilities.

2.2.2.2 Structural

The Arup team carried out a visual inspection of the LACC facility to determine the state of the structural systems in the existing buildings, with particular emphasis on the South and West Halls. The objective of these observations was to evaluate the level of damage that could potentially be experienced in a major seismic event. This brief review, which should be confirmed with a detailed seismic analysis, suggests that a major earthquake at the site could cause significant damage. The structural team noted the following:

- In the event of a major earthquake, the LACC could sustain significant damage that would likely render the facility inoperable for a period of months to more than one year, not only due to structural issues but also due to likely damage to non-structural components such as mechanical systems and architectural finishes.[10] More damage would be expected in the West Hall, to the point where major repairs or complete demolition may be required.
- Due to it being designed prior to the 1971 San Fernando earthquake, which resulted in major revisions to building codes, the West Hall contains potential life-safety risks. These risks include the lack of strength and ductility in the braced-frame walls and an uncertain

[10] In moderate to major earthquakes, on average, upwards of 80% of damage is to non-structural components. Mechanical systems and architectural components being inoperable after an earthquake is the largest and most common risk faced by owners whose business operations depend on continued use and access to their buildings.

load path between the upper roof (for the main-hall span) and the braced frames. A retrofit to address these risks is likely possible.

- Even in moderate earthquakes, damage to mechanical equipment alone could render the facility inoperable, particularly during warm weather.
- The glass entrance to the South Hall atrium could pose a life-safety risk for egress, which could be mitigated with a relatively minor retrofit.

The fact that little or no damage was sustained during the San Fernando (1971) and Northridge (1994) earthquakes is not indicative of future potential damage from large earthquakes. Regarding the West Hall, the review indicates that even though the building has endured a number of seismic events, it appears to be in a substandard condition for a potential future major earthquake near the site. While the San Fernando and Northridge earthquakes produced major damage in other areas of the Los Angeles region, earthquake shake-intensity maps show that their intensity at the LACC site was relatively small.

Possible retrofit activities for the West Hall could involve significant improvements to the braced frames and potentially involve reinforcement or replacement of the load paths between the main exhibition space upper roof diaphragm and braced frame walls. Additional bracing may also be applied in the parking structure below the main exhibit space.

The South Hall facility was completed in 1993, a year before the 1994 Northridge earthquake. The building sustained superficial damage, with no evident or reported damage to the structural components. It is anticipated that some moderate seismic retrofits may be required to bring the structure up to current engineering codes, but their extent would require a detailed investigation.

The remaining items assessed as a part of this study included mechanical equipment and suitability of egress areas to satisfy current seismic codes. Overall, the restraints on mechanical equipment, such as pipe supports and attachments, offer little to no flexibility to allow for seismic movement. In a seismic event it is possible that there would be prolonged disruption of service while the equipment was repaired.

2.2.2.3 Mechanical

The mechanical systems on the site were assessed in terms of their remaining lifecycle, capacities, and compatibility with current energy efficiency standards. Overall the systems on-site are well maintained and are likely to be operable until the end of their expected lifecycle. However, due to the fact that most equipment is either relatively old or obsolete, the following issues could arise:

- There is limited suitability for equipment refurbishment due to the lack of spare parts currently available on the market.
- The existing equipment consumes more energy than new equipment currently available on the market, resulting in higher operating costs.
- The central utility plant (CUP) would need to undergo a major overhaul or replacement to satisfy mandatory energy efficiency codes triggered by the construction of the new facility.

2.2.2.4 Electrical

The facility program for the LACC expansion project calls for replacing manual transfer electrical switches with automatic switches to allow for a more efficient operation of the facility. In the case of an outage, the automatic switches will enable the backup generator to start immediately and reduce the amount of downtime. The replacement of this infrastructure in the existing facilities (West Hall and South Hall) would be the responsibility of the Los Angeles Department of Water and Power (LADWP). Therefore, a strong coordination with LADWP will be required to ensure that its implementation schedule is aligned with the construction schedule. In the case of the new construction, the installation of the automatic transfer switch would be the contractor's responsibility.

The existing capacity of electrical service appears to be sufficient to serve the program needs of the LACC expansion. However, the West Hall would need significant upgrades to floor boxes and supporting equipment to meet the aspirations of the program.

2.2.2.5 Plumbing

The plumbing system was not specifically reviewed, but conversations with Los Angeles Department of Building and Safety suggest that plumbing components related to fire/life safety systems (sprinklers) would need specific investigations to ensure that the expansion demands are met.

Currently, the existing fire/life safety systems do not comply with the building code and, as specified by the expansion project, would need bracing.

Due to the greater occupancy anticipated for the future LACC facility, it is likely that there will be greater potable water demand and sanitary sewer flows generated on the site; therefore, sanitary and potable water systems would likely need to be upgraded.

2.2.2.6 Loading Docks

The loading docks on the LACC campus currently are served as follows:[11]

- West Hall – 9 docks (one dock per 23,000ft^2 of exhibition space)
- South Hall – 36 docks (one dock per 9,600ft^2 of exhibition space)

In addition, the South Hall can currently serve conventional articulated tractor-trailer vehicles (WB-62) but cannot accommodate larger vehicles (WB-67) that are increasingly common for shipping, including for convention center users. The existing loading dock drive aisle would need to be extended an extra 10ft to accommodate the larger sized vehicles.[12]

2.2.3 Current Governance and Operations

The LACC is currently managed by the City of Los Angeles, through the CTD (formerly known as the Los Angeles Convention Center Department). The CTD's mission is to drive economic development and job creation by increasing the competitiveness of Los Angeles as a convention

[11] See http://www.lacclink.com/assets/doc/10516_FA_LACC-Level-1-Brochure_v12_FNL_SP_HR.pdf.

[12] Alternatively the larger WB-67 vehicles can be accommodated with the current drive aisle of the South Hall if the neighboring spaces are not occupied, at the expense of limiting the number of loading docks available for use and limiting operational efficiency and capacity, especially for larger citywide events.

and tourist destination. In particular, a main priority of CTD is to attract new citywide conventions and retain returning business.

A related but distinct entity is the Los Angeles Tourism & Convention Board (LATCB), a nonprofit California corporation. The mission of the LATCB is to advance the prosperity of Los Angeles's visitor economy by sales and marketing to the principle segments of both the domestic and international travel trades and consumers. Among other activities, the LATCB promotes Los Angeles as a convention destination and is responsible for marketing the LACC and securing booking for events scheduled over one year in advance (long-term bookings). These long-term bookings include citywide conventions, which have been identified as a top priority for the City going forward. Indeed, citywide conventions have the largest economic impact for the City. CTD and LATCB define citywide conventions as events generating a minimum of 3,000 hotel room nights, with 1,500 hotel room nights at its peak, and utilizing no fewer than three hotels.

In October 2013, the City entered into a management agreement with a private operator, to staff, manage, operate, and maintain the LACC facilities for a period of 5 years. Under this agreement, the private operator is responsible for operating the LACC in exchange for a management fee.

The scope of the current agreement includes managing the day-to-day operations to maximize customer satisfaction, managing operating expenses within the annual operating budgets (as proposed by the private operator and as approved by CTD), collaborating with the CTD and LATCB to penetrate new markets and attract new events, managing routine maintenance of the facilities, and recommending capital improvements (expansion, renovation, and/or upgrades).

Furthermore, the private operator is responsible for booking events that are scheduled less than a year in advance (short-term booking). These local events and activities (including trade shows, consumer shows, meetings, filming, entertainment, and community events) constitute the City's second priority with regards to the LACC, as their economic impact for the City is smaller than citywide conventions and long-term bookings in general.

As summarized in Figure 6, LATCB is responsible for marketing and sales booked over one year in advance (i.e., long-term bookings), while the private operator event booking responsibilities include (a) supporting CTD and LATCB in their sales and marketing activities, and (b) sales and marketing of events booked up to one year in advance (i.e., short-term bookings).

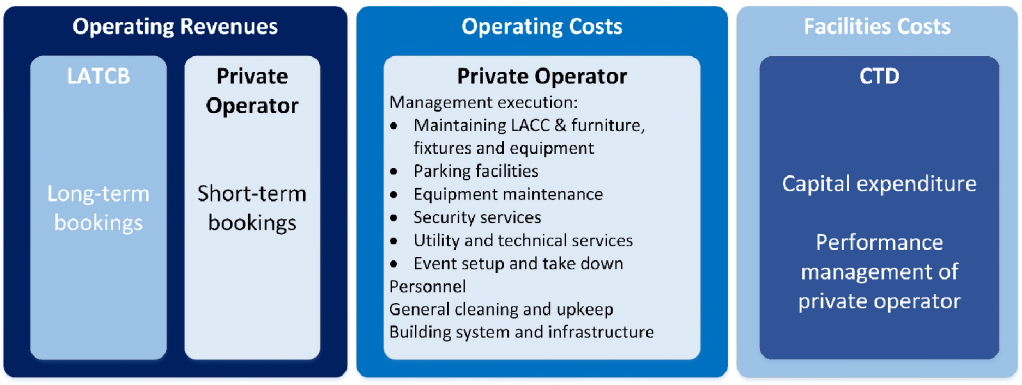


Figure 6: LACC current operating roles and responsibilities[13]

[13] Any operating surplus or deficits is covered by the City. The private operator is responsible for collection of the short term booking revenue, and payment of the costs, however they pass this onto the City's reserve account and accept a management fee for management of the facilities. The image provided identifies responsibilities as set out in the LACC private operator's management contract.

2.2.4 Funding Model

The LACC is funded from the City's General Fund. Traditionally, the LACC has funded all of its needed capital investments, whether for construction of new or expanded facilities or for capital maintenance and replacement of existing facilities, via debt issued by the City and repaid from General Fund revenues. Debt was first issued to build the convention center in 1968. The repayment of that debt was financed via an increase in the transient occupancy tax (TOT, also known as the hotel tax), which flows into the General Fund. During expansion efforts starting in 1985, the City increased the TOT to cover both expansion and construction costs.

Two rounds of lease revenue bonds used to finance the convention center were issued in 1998 and 2008. These bonds were refinanced in October 2015, when the City moved all the LACC-related debt into Municipal Improvement Corporation of Los Angeles lease revenue bonds to align all of the General Fund debt into one program.

As of December 2015, the outstanding principal for the LACC was $253m, which is projected to be fully repaid in late 2022.[14] In addition to the outstanding lease revenue bonds, the City has also approved a $110m commercial paper program that can be used for future capital maintenance improvements to the convention center.

2.2.5 Property Regulations

The LACC site is owned by the City of Los Angeles and is currently zoned for public facilities. The site is divided into a number of parcels reflecting the layout of the existing facilities and other considerations.

2.2.5.1 Zoning

The LACC site has a Public Facilities zoning designation (PF Zone), which is dealt with in the municipal code under Section 12.04.09. This section allows for many types of government facilities like the convention center (Article 4) and joint public and private development uses permitted in the most restrictive adjoining zones (Article 9).[15]

2.2.5.2 California Department of Transportation

The LACC site's western boundary is adjacent to highways I-10 and I-110, and is therefore adjacent to the current property line between the land owned by the City of Los Angeles and the California Department of Transportation (Caltrans) right-of-way (ROW). Caltrans holds authority and responsibility over statewide transportation facilities and land, monitoring ROW activities along the state highway system.

In the context of this report, the concept-level designs considered for the LACC for both the Traditional Path and the DBFOM Path remain within the boundaries of the City's land parcels and City-owned ROW; therefore, the proposed schemes are unlikely to affect Caltrans ROW or trigger existing regulation on sidewalk widths or building setbacks. During the environmental review process that will commence this year, traffic and traffic operation matters on City-owned streets and Caltrans facilities will need to be considered in detail.

[14] Information provided by the CAO.
[15] Los Angeles Municipal Code, Article 2: http://library.amlegal.com/



Figure 7: Public ROWs[16]

2.3 Expansion and Modernization Project

To position Los Angeles as a top-tier convention destination, the City developed a preliminary facility program for the LACC dated March 14, 2016. The facility program outlines the desired outcomes of the expansion and modernization project.

The project consists of the expansion, renovation, and modernization of the LACC including the addition of 368,000ft^2 of net new leasable space (exhibit space, grand ballroom, and meeting rooms) as indicated in Table 8 overleaf. The expansion project would also involve a renovation component, focused on updating and expanding circulation, pre-function and arrival areas, lobbies, back of house, corridors, storage space, support space, etc. required to support the main programmable space.

CTD developed additional program criteria expected to be achieved via the expansion project:

- **Top-tier:** The new facility should be considered top-tier in the convention industry.
- **Contiguous exhibition space:** All exhibit space shall be contiguous or result in a contiguous exhibit experience across the main level.
- **Future expansion:** The design should be flexible to accommodate future expansion (e.g., in the year 2035 or 2040), and therefore should identify areas for future expansion in

[16] Arup analysis

strategic locations which could enhance the space in a manner that allows the convention center to remain a top tier facility.

- **Business continuity during project construction:** Design and development must allow the LACC to continue operating at full, or very close to full, capacity via space inventory throughout the expansion construction process.
- **Sustainability:** LEED Gold certification or higher, and other requirements to achieve an acceptable level of sustainability consistent with City policies.

Furthermore, and most importantly, the City has specified that it requires a project with construction costs that do not exceed $350m.[17]

Based on a design workshop with CTD on March 30, 2016, the City's prioritization for the leasable area is as follows:

1. Contiguous space of exhibit hall. All exhibit space shall be contiguous, or at the very least, result in a contiguous exhibit experience.
2. Meeting rooms
3. Ballroom
4. Additional exhibition space

Table 8: LACC facility program expansion of leasable areas

Type of space	Leasable		
	Existing (ft^2)	Net new space (ft^2)	Total after expansion (ft^2)
Exhibit space	720,000	220,000*	940,000
Grand ballroom	0	70,000	70,000
Junior ballroom(s)	48,000	0	48,000
Meeting rooms	102,000	78,000	180,000
Total	**870,000**	**368,000**	**1,238,000**

**The City has acknowledged that this may be achieved by a combination of both indoor and outdoor exhibit space.*

The CTD's expansion program also includes the development of an on-site 1,000 room convention hotel. For the purposes of the dual path assessment and the analysis in this report, the LACC expansion planning under both the Traditional and DBFOM Paths identify suitable sites for the hotel within the LACC's campus and adjacent to the expanded facility. A detailed discussion of the market sounding, cost estimation, procurement process, and investment plan for the convention hotel are outside the scope of this report.

2.4 The Digital Convention Center

Modern convention centers around the world are considering ways to enhance operational efficiency and marketability of their facilities. The LACC has a unique opportunity to enhance

[17] CAO, *Financing Options for the Los Angeles Convention Center Expansion Project*, Reference C.F. 14-1383 (December 7, 2015)

the user experience by utilizing the latest available digital interfaces to allow the facility to gain a real-time understanding of how spaces are being used and how visitor spending patterns change over time and can be impacted.

Development and implementation of a digital strategy for the LACC would likely significantly enhance the marketability of the facility, regardless of which development path is pursued.

All the aspects described as follows would require connections to be made between digital interfaces for room booking, wireless or bluetooth tracking devices, building management systems, and other systems which would either need to be implemented as part of the expansion project, or may already in place. Subject to a more detailed study, currently the LACC appears to have limited digital integration but could implement a digital network as a part of the expansion to enrich the top-tier facility objective.

2.4.1 Data

All the systems described here would be constantly gathering information about the spaces within the facility, which can then be processed using data analytics techniques to build up a holistic picture of the operations of the facility. Understanding movements of people at different types of events over time would give deeper insight into the operations of the facility, enabling further optimizations to be made.

Overall, this is of benefit to the LACC as it enables tracking of visitors and works to reduce energy costs and increase information sharing with employees and vendors. The most impactful benefit is the visitor experience. Visitors to LACC will have their visit integrated into their personal device and will enable them to have a more informed and productive stay. All of these attributes is additive to the top-tier objective of the project.

2.4.2 Economic Benefits

Due to the large volume of visitors, systems can be implemented to collect customer spending information at restaurants and concession stands to enable real-time revenue tracking, which in turn enables detailed analytics of consumer spending patterns at different events within the venue.

Further study of the potential extent of real-time revenue tracking and data analytics may include developing an understanding of customer spending outside the venue. This would give the City and the LACC management team real-time data of which customers attending which types of events generate the greatest economic impact not only inside the venue but also in the community. This would, in turn, give the City the ability to continually improve decision-making to maximize the LACC's economic benefits and provide invaluable information for marketing of the facility in different market segments and to different customers

This enhances the marketability of the venue by ensuring availability of products at the time that consumers require them. It also functions as a way of understanding the supply and demand of concession stands and/or gift shops and if any modifications are needed to ensure the demands are met.

The digital interface may also be able to measure performance from economic impact and from operations (e.g., of parking facilities on the site) to identify enhancements that may be needed during large conventions.

2.4.3 Interactive Wayfinding

Wayfinding at conventions is one enhancement that allows the user to better manage their time by clearly understanding where their destinations are. Digital signage can be offered for visitors, potentially with branding for conventions, as well as interactive wayfinding mobile apps for visitors and convention staff to download on their smartphones.

This would enable attendees, for example, to find out where their next session is located, and to understand how to get to it. Also, this could be used for convention organizers with a means to locate their staff, which can be vital for the success of large events.

2.4.4 Building Management

Digital tools exist for all aspects of building management, including air conditioning, heating, lighting, and security. Automated comparison of air conditioning systems against room and event bookings would enable the facility to identify spaces which are not intended to be used for particular periods of time and therefore reduce energy by powering certain systems down, allowing more efficient running of the facility.

Knowing how many people are expected to enter a room would enable the temperature of the space to be set appropriately before the attendees arrived and actively control the temperature to adjust to the number of people in the room and average body heat emissions over the duration of a meeting or large convention.

2.4.5 Food and Beverage

Comparing actual room occupancy with planned room occupancy would enable kitchen staff to understand exactly how much food is required in which location, so meal preparation for large events could be managed more effectively, and cancellations could be made less impactful. This could be integrated into a seamless interactive panel that interfaces with the public and staff alike.

2.4.6 Procurement

As a part of a competitive bid, competition among developers will ensure that compatible premium digital network would be selected. A performance criteria can be devised to capture all the requirements and aspirations of the development related to food and beverage, wayfinding and any other attributes LACC deems as giving the facility a competitive advantage on other convention centers.

2.5 Expansion Project Economic Benefits and Tax Revenue

In 2015, the City retained Convention, Sports and Leisure International (CSL) to provide a preliminary market and economic impact analysis for the LACC expansion project.[18] In April 2016, Johnson Consulting was hired to update and expand CSL's economic impact study.[19] Both studies assume that the expansion program developed by CTD and the Bureau of Engineering

[18] CSL International, Preliminary Market and Economic Impact Analysis for Potential Los Angeles Convention Center Development (August 7, 2015)

[19] C.H. Johnson Consulting Inc., *Los Angeles Convention Center Expansion Market Impact Analysis Update* (April 25, 2016).

(BOE), which adds 368,000ft^2 of net new leasable space (as described in Table 8 above), constituted the basis of Johnson Consulting's analysis.

Johnson Consulting's study focused on assessing the additional spending, jobs, earnings, and taxes associated with the LACC expansion project in comparison to the year 2015. Their post-expansion projections are provided for the sixth year upon expansion, which is deemed to represent a typical business year. As a result, the differential between the 2015 figures and the estimations for the sixth year after expansion constitutes the economic and fiscal impacts of the LACC expansion project.

According to Johnson Consulting, in 2015 the LACC hosted 317 events (27 of which are citywide) attracting 2.1m attendees (both local and out of town). Their projections show that the LACC expansion project could boost bookings and attendance to 347 events (including 40 citywide events) and 2.5m attendees by the sixth year following completion of the expansion. As a result, Johnson Consulting expects the LACC expansion project to result in 30 additional events (including 13 citywide events), and attract approximately 432,000 additional convention guests and show managers per year.

Table 9: Summary of Johnson Consulting's economic and fiscal impact analysis for LACC[20]

		Updated estimates – all events		
		2015	Sixth year upon expansion	Increase after expansion
Events (number of events)	Citywide	27	40	13
	Non-citywide	290	307	17
	Total	**317**	**347**	**30**
Visitation (000s of people)	Events attendees	1,903.9	2,262.2	358.2
	Exhibitors and show managers	198.0	271.7	73.7
	Total	**2,101.9**	**2,533.9**	**432.0**
Room nights (000s of nights)	Citywide	365.0	548.3	183.3
	Non-citywide	100.2	107.9	7.7
	Total	**465.2**	**656.2**	**191.0**
Total spending ($m)*§	**Total spending**	**$410.0**	**$581.0**	**$171.0**
Earnings and employment based on total spending*	**Earnings ($m)**	**$272.0**	**$385.0**	**$113.0**
	Employment (FTE)	**7,200**	**10,200**	**3,000**
Tax revenue ($m) based on total spending*	L.A. sales tax	$1.6	$2.2	$0.6
	Hotel motel tax – L.A.	$20.7	$29.5	$8.8
	Sales tax – indirect spending	$0.5	$0.7	$0.2
	L.A. business tax	$0.02	$0.03	$0.01
	L.A. parking user tax	$0.5	$0.7	$0.2
	Total	**$23.4**	**$33.2**	**$9.8**

**Includes direct, indirect, and induced*
§Not including operations spending

[20] Ibid.

This increase in LACC activity is expected to boost total local spending from convention guests and organizers, and eventually translate into additional jobs, earnings, and tax revenue. Johnson Consulting estimates that the LACC expansion project could generate $171m of incremental total spending. This additional spending will translate into 3,000 full-time equivalent (FTE) additional jobs and $113m of additional earnings when compared to 2015. It would also generate $9.8m of additional tax revenue. Altogether, by the sixth year following the completion of the expansion, LACC is expected to generate $581.0m of total spending, and translate into a total of 10,200 jobs, $385m in earnings, and $33.2m in tax revenue. Johnson Consulting's results are summarized in Table 9.

2.6 Project Schedule

The City envisions completing the LACC expansion project in the fourth quarter of 2020, according to the schedule presented on the white paper entitled 'The Future of Los Angeles Convention Center', issued in September 2015.[21]

The critical path that governs the start of the LACC construction phase, regardless of the development path selected, is the CEQA review and approval. This process entails the following steps:

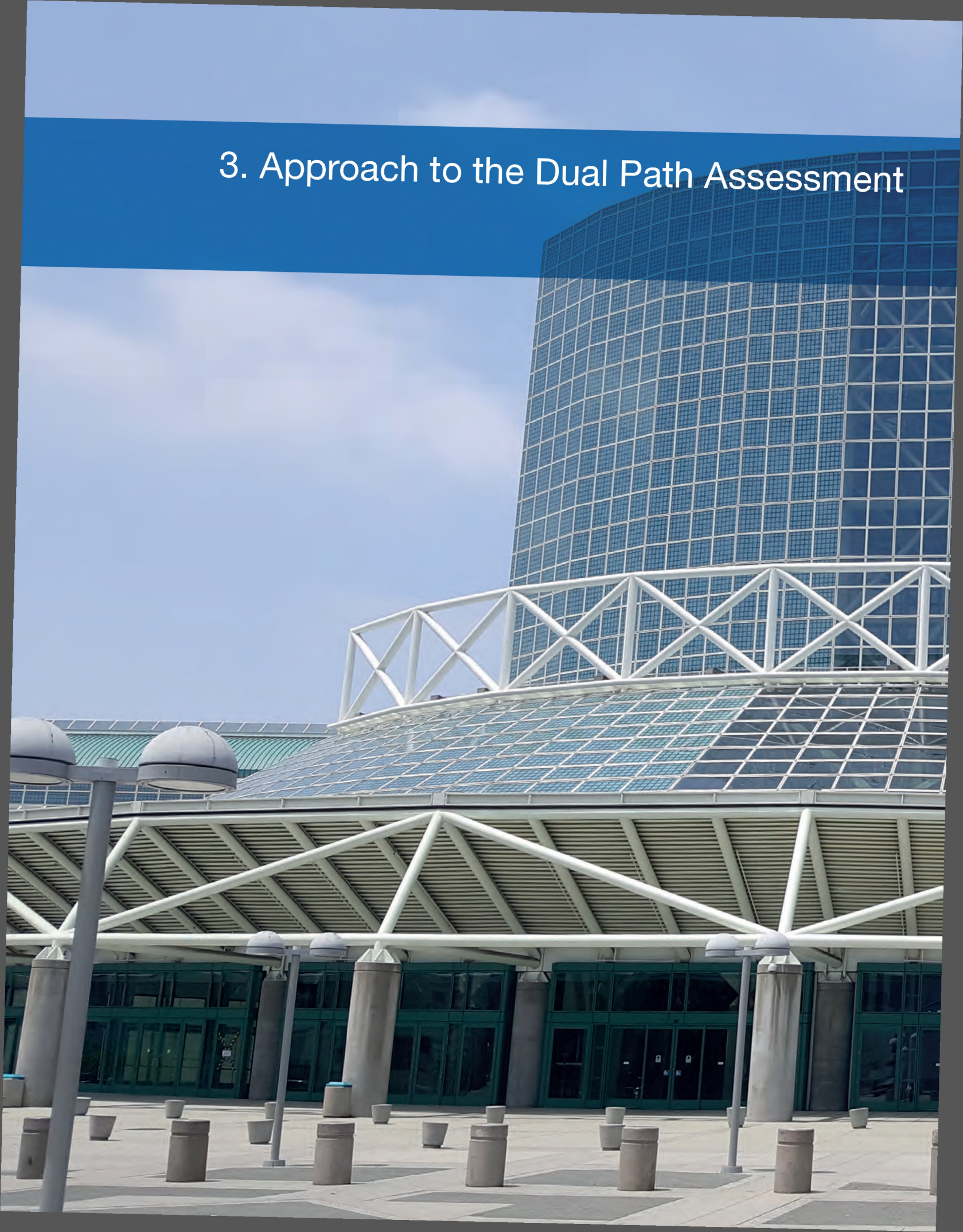
1. CEQA initial study and notice of preparation.
2. Draft Environmental Impact Report (EIR) and public comments.
3. Final EIR and public comments.
4. Final EIR certification.
5. Final EIR review and approval.

The entire CEQA process for a project of this scope typically involves an 18-24 month timeline. This means that the construction start of the LACC expansion for either the Traditional or DBFOM Paths would start after the CEQA approval.

The development schedule for the Traditional and DBFOM projects involve three groups of activities that govern the overall timeline: (1) the CEQA process; (2) the project procurement and design; and (3) the project construction. Sections 4.1.2 and 5.1.3 present a description of the project schedule for each development path that specifically addresses these activities.

[21] Available online at http://www.lacclink.com/assets/doc/The-Future-of-the-LACC-White-Paper.pdf

3. Approach to the Dual Path Assessment



3 Approach to the Dual Path Assessment

The approach taken to the dual path assessment involved four key steps. These are depicted in Figure 8 below.

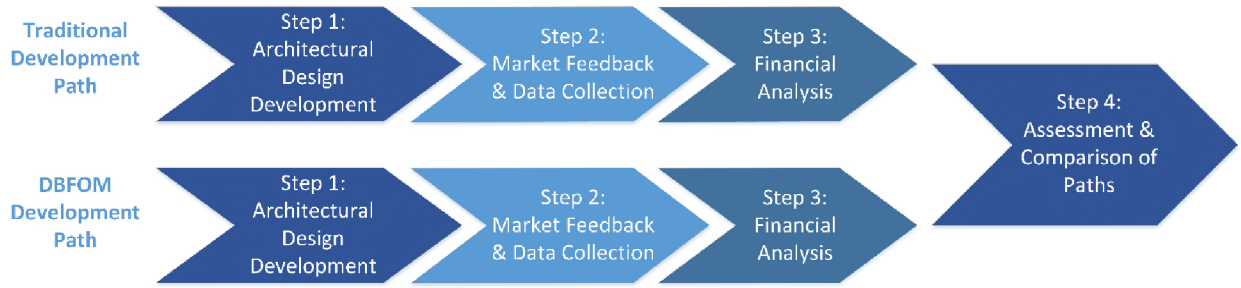


Figure 8: Process for the dual path assessment

Steps 1 and 2 have been carried out concurrently and independently by the different teams progressing each development path. The construction cost, schedule, and lifecycle maintenance cost work from the two teams for these steps have been reviewed by the City's ICSE. The financial analysis in steps 3 and 4 is based on using the ICSE's verified construction cost, schedule and lifecycle maintenance cost estimates as inputs to the analysis and assessment.

3.1 Architectural Design Development

To develop the design schemes for the LACC project the Traditional and the DBFOM Paths used the LACC facility expansion program developed by the CTD, as a framework. In addition, as part of the design process, both paths interacted with the CTD and BOE to obtain feedback, and held public meetings with the following stakeholders:

- Hotel developers
- Client advisory committee
- Service contractors
- The community

The design schemes developed for each development path served as the basis to develop cost estimates at NIST Uniformat Level II.[22] As previously stated, the cost estimates presented in this report were validated by the ICSE, as described above.

3.2 Market Feedback and Data Collection

The market feedback and data collection step involved assembly of relevant data for each development path and stakeholder engagement to determine:

[22] As defined by the National Institute of Standards and Technology (NIST) Uniformat structure. This is a standard widely accepted in the industry to classify and conduct building specifications, cost estimating, and cost analysis in the US and Canada.

- Market opinions via market sounding using a Request for Information (RFI) and interviews with infrastructure and real estate investors and developers - summarized in Appendix G.
- City and current operator operating budgets and historic spending for the LACC.
- Capital cost and lifecycle cost data (reviewed by the ICSE)[23].
- Potential commercial structures.
- Likely economic benefits (from studies developed by CSL and Johnson Consulting).
- Benchmarking data from other similar Traditional and DBFOM transactions.

The information collected was of both a qualitative and quantitative nature, and was used to inform the analysis and assessment of the two development paths.

3.3 Financial Analysis

The analysis in step 3 involves the development of a financial model that quantifies the net annual cost to the City for each development path via a metric called labeled the net City payment (NCP) in this report. This involved the creation of a financial analysis tool with the elements illustrated in Figure 9. As noted above, the construction cost and schedule inputs, as well as the lifecycle cost inputs, are all taken from the ICSE.

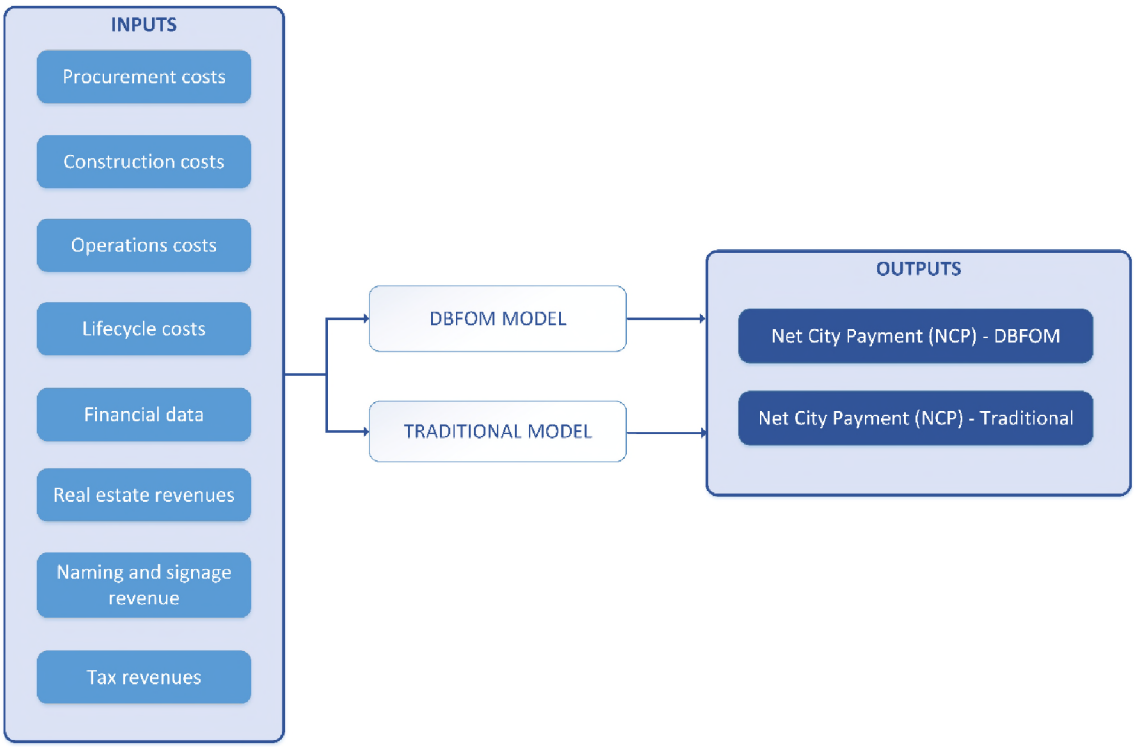


Figure 9: Model structure for analysis

[23] For more information please see MGAC, *Los Angeles Convention Center Expansion Project – Independent Cost and Schedule Validation* (June 17, 2016).

The analysis horizon for the financial model spans from the 2016 to 2060. The time horizon of analysis needs to be the same for both development paths. The choice is driven primarily by consideration of lifecycle maintenance and renewal considerations.

Experience indicates that significant lifecycle investments are required for major buildings system and components every approximately 20 years. On the other hand, the industry standard for design useful life is 50 years. This assumes that two major lifecycle renewal interventions are performed in order for the building to attain the useful life. It is important to ensure that those lifecycle investments are captured within the analysis period.

Using the existing LACC as an example, the South Hall was built approximately 20 years after West Hall was completed, at which time the West Hall was updated. The current expansion and modernization project is being undertaken at approximately another approximately 20 year after that. Current capital maintenance planning includes major renewals, as does the expansion project.

For the purpose of this analysis, Arup has selected a 40 year operations period, which is in addition to the procurement and construction time period:

- Using a 40 year operating period captures two expected renewal cycles, with the second one occurring before the end of the period.
- This approach appropriately captures the costs to ensure that the design useful life is attained.
- The ICSE has allowed for those costs in its estimates for both paths.
- In the case of a DBFOM model lifecycle investments would be the responsibility of the DBFOM developer and the final renewal would be performed to meet the DBFOM agreement hand back requirements.
- In the Traditional Path lifecycle investments would be the responsibility of the City.
- For a major investment such as the LACC, amortizing its capital costs related to both construction and lifecycle over 40 years more closely matches the expected design useful life of the facility.

Consistent with the above observations, in the DBFOM market the usual terms of contracts are either 25 to 30 years to capture the first major renewal cycle, or 35 to 40 years to also capture the second major renewal cycle as a hand back investment. DBFOM financing is made on the basis of the cash flows generated by the asset, and those cash flows are subject to deductions for any shortfall in the performance of maintenance. Consequently the capital structure of a DBFOM financing includes funding for ongoing maintenance and major renewal cycles. In our experience, best practice indicates that either a 25 or 40 year term would be optimal for a DBFOM contract. For the reasons stated above, the latter has been selected for this analysis.

Conversely, in the municipal financing market debt terms are not linked to asset renewal cycles because these obligations are by definition secured by revenue streams that are not linked to the asset's maintenance performance. The 30 year bond is a market standard for other reasons.

The financial analysis in this report calculates the project's annual costs and revenues year-by-year. These costs and revenues vary annually according to what is happening with the project: procurement, construction, operation, new revenue generation, lifecycle interventions, and

financing. More information regarding the specifics of the financial analysis and the model (including NCPs) can be found in Appendix I.

A pattern of what is happening with the project has been identified across three distinct time periods. These periods are useful to understand the corresponding pattern of the annual outputs from the financial analysis. A description for the three time periods selected is presented in Table 10 below.

Table 10: Financial model time periods of analysis

Period	Key activities	Description – DBFOM Path	Description – Traditional Path
2016 - 2033	Procurement, construction, and ramp-up	This period is characterized by significant annual cost and revenue variations from year to year due to procurement, then construction, and then the ramp-up both of operations of the expanded LACC as well as of the new revenues from real estate as well as naming rights and signage.	This period is characterized by significant annual cost and revenue variations from year to year due to procurement, then construction, and then the ramp-up both of operations of the expanded LACC as well as of the new revenues from naming rights and signage. Renovation of the West Hall would be undertaken within the first ten years following the end of construction, per the ICSE.
2034 - 2047	Stabilization of operations and revenues, first major renewal	This period is characterized by the stabilization of revenues from operation of the LACC and from real estate. Within this period the first major asset renewal is expected, as discussed above. The financing of initial and ongoing capital costs is amortized annually.	This period is characterized by the stabilization of revenues from operation of the LACC. Within this period the first major asset renewal is expected, as discussed above. The financing of initial and ongoing capital costs is amortized annually.
2048 - 2060	Traditional Path debt retired, second major renewal, and DBFOM hand back	Within this period the second major asset renewal is expected, as discussed above. In the last five years of this period these investments are made for the DBFOM developer to ensure that it meets the hand back requirements of the agreement. The financing of initial and ongoing capital costs is amortized annually.	By the start of this period the debt issued for the financing of the LACC expansion project would be retired. The financing of ongoing capital costs is amortized annually.

3.3.1 Sources and Uses of Funds

Each development path will impose technical, legal, financial, commercial, and operational obligations on the City as the owner of the LACC assets. Some of these obligations are quantifiable, whereas other obligations can be better assessed on a qualitative basis.

For each development path these obligations will generate cash flows that will affect the City's annual budget and long term assets and liabilities in a different way during construction and operations. The length of time and the likelihood of occurrence of each obligation will vary as well. All three factors – how much, for how long, and when – are important for the City to consider in terms of its goals for:

- Appropriate performance and operation of the convention center, considering the City's current and upcoming policies to position Los Angeles within local, regional, national, and/or international markets as a convention center destination.
- Improved budgeting, planning, and forecasting of the General Fund in line with the City's financial guidelines, while complying with financial management best practices.

3.3.1.1 Sources

For comparative analysis purposes, this report assumes that both development paths will benefit from the same revenue streams generated by the convention center itself from its normal, current operations. These existing revenues streams include the following and are considered to be the same for both development paths since they are based on delivery of the City's facility program:

- Facility rental, both for short-term and long-term bookings
- Food and beverage
- Parking
- Event-related revenues (utilities, events services, etc.)
- Other revenues (advertising, sponsorship, cell phone towers, etc.)

In addition to these revenues, this report considers two new revenue streams that the City could develop for the benefit of either development path. These new revenue streams are considered to be the same for both development paths since the City has the option to develop them irrespective of the procurement method or the specific design scheme finally selected. The estimates for these new revenues are net of operating and capital expenses and therefore represent the potential net revenue that would be received by the City.

- Naming rights
- Signage

Finally, this report considers two additional revenue streams that the City could receive from the real estate development contemplated as part of the DBFOM Path. These revenue streams estimates are based on a residual land value analysis approach, and are consequently net of development costs that would be incurred by the private developers. These additional revenue streams for the City include:

- Real estate development revenues in the form of ground lease(s) or other form of income stream for the City.
- Net tax revenue for the City from the real estate development (property tax, sales tax etc. net of City service costs).

For the Traditional Path, capital maintenance and construction related costs are funded from General Fund allocations, either as direct payments from the General Fund or as debt service payments for City financing obligations related to the convention center. Similarly, for the DBFOM Path the availability payments (APs) by the City would come as direct payments from the General Fund.

3.3.1.2 Uses

The LACC incurs certain expenses which can be broadly grouped as either operating or capital expenses. For comparative analysis purposes, this report assumes that both development paths will incur the same expenses for general operations of the convention center related to events and related services.[24]

Capital expenses include the costs associated with construction of the expansion project as well as ongoing major and replacement maintenance. The cost estimates in this report for capital expenses for both development paths have been verified and provided by the ICSE.

3.4 Assessment and Comparison of the Development Paths

The fourth and final step of the dual path assessment involves a qualitative and quantitative appraisal of the two development paths to compare their attributes relative to the City's goals, which formed the basis of analysis of City's December 23rd, 2016 report and prevail for this report. The qualitative assessment considers:

- **Project features:** Arup evaluates each development path's design with respect to CTD and BOE's LACC facility program. We also analyze the impact of each development path's design on the facility's performance and functionality, business continuity during construction, and capacity to accommodate future LACC expansion. In addition, we perform a qualitative assessment of each development path's urban design and place-making features to assess the development path's ability to create a vibrant convention district.
- **Project economic benefits:** Arup quantifies each development path's economic and fiscal impacts in terms of local jobs captured on-site for the City. Greater economic benefits will lessen the project's net cost to the City.
- **Project revenue**: Arup quantifies both existing revenue sources (operations) as well as additional revenue sources (signage, naming rights, and real estate). Maximizing these revenue sources will help offset the project costs.
- **Project cost of ownership:** For each development path, Arup quantifies the project's cost to the City over its useful life. The costs evaluated include: construction costs, lifecycle cost, routine maintenance costs, operational expenditures, and soft costs. The construction and lifecycle costs have been audited by the ICSE.
- **Business continuity during construction:** One of the key requirements from the City is to minimize LACC's disruption of operations during the construction phase and to provide continuity to scheduled event operations during construction. Each path's ability to achieve business continuity is assessed.
- **Sponsor risk exposure:** The project's net cost to the City will also depend on the City's exposure to two main risks during the useful life of the project. During the construction period, cost and schedule risks overrun could increase the project's cost and the City will need to manage the procurement and construction processes. During the operations phase, risks relative to the facility's lifecycle maintenance can also drive up the project's

[24] These include soft services such as operations related to events, parking operations, food and beverage, and ancillary ongoing operations (telecommunications, advertising, sponsorships, etc.).

major maintenance and routine maintenance costs. The project's exposure to risk is evaluated as part of the assessment process.

The evaluation criteria for these goals are summarized in Table 11.

Table 11: Evaluation criteria for the dual path assessment

Parameter	Evaluation criteria
Project features	Achieves the City's program specifications
	Identifies sites for a convention hotel
	Delivers a high-performing top-tier facility
	Provides business continuity during construction activities
	Makes provision for future expansion
	Provides a vibrant urban experience
Project economic benefits	Maximizes job capture on site
Project revenue	Grows existing revenue sources
	Creates additional revenue sources (naming rights and signage)
	Creates additional revenue sources (real estate)
Project cost of ownership	Meets the City's total budget of $470m
	Reduces lifecycle costs
	Reduces operations and maintenance (O&M) costs
Sponsor risk exposure	Reduces the risk of cost and schedule overruns
	Reduces the risks related to procurement process
	Reduces lifecycle risk

Each development path has been assessed against the evaluation criteria to determine how strongly they achieve that criteria. The following explains the rating scheme that has been used.

Table 12: Evaluation criteria rating scheme

Rating	Description
●	Achieves or strongly achieves the stated criteria
●	Partially achieves the stated criteria
●	Only minimally or does not achieve the stated criteria

After evaluating each parameter within the qualitative analysis, Arup assesses the quantitative impact of each development path's net cost from the City's perspective. The LACC's net cost of ownership from the City's perspective is assessed by subtracting the following revenues associated with the project from the project's total cost of ownership.[25]

For the purpose of estimating the net cost to the City, the analysis considers the following revenues, consistent with the development concepts of each path:

[25] The total cost of ownership includes the construction-related costs of the expansion and modernization project and the capital costs for needed major maintenance and renewals of the LACC over its useful life.

- Naming rights: Traditional and DBFOM Paths
- Signage: Traditional and DBFOM Paths
- Real Estate: DBFOM Path only

The analysis of the net cost to the City does not include the LACC's normal operating revenues[26] and expenses – as discussed above, the analysis assumes that these are consistent with current operations and for the purposes of this report they are the same for both development paths.[27]

Due to the dual path nature of the evaluation process, each development path is described within this report in a structured and consistent manner. Once the Traditional and DBFOM Paths have been assessed, in Sections 4 and 5 respectively, the report summarizes the comparison of the two development paths in Section 6 and provides a recommended path in Section 7, highlighting the key implementation issues and steps which the City should consider as it moves into the next phase of the LACC expansion and modernization project.

Arup's overall methodology for this report is illustrated in Figure 10.

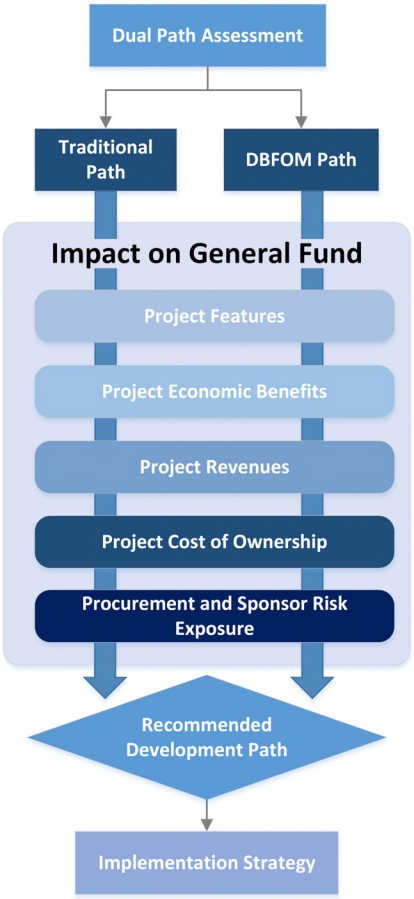


Figure 10: Report methodology

[26] See Section 3.3.1.1 of this report.

[27] As further described in Sections 4 and 5 of this report, the LACC currently produces an operating surplus from its normal operations that has varied in the order of $1m to $2m annually since the City entered into a management agreement with a private operator. This net operating result from normal operations, which is currently a surplus and can reasonably be expected to continue to result in an annual surplus going forward, is not included in the analysis of the net cost of the project to the General Fund for either development path.

4. Traditional Path Development Option



4 Traditional Path Development Option

Arup was not involved in the development or evaluation of the design for the Traditional Path. Our analysis is limited to design materials available in the public record and cost and schedule estimates provided by the ICSE.[28] This section of the report presents the key information related to the Traditional Path that has informed the evaluation and modeling activities.

4.1 Project Description

The design scheme for the Traditional Path was developed by a team comprising four architecture firms: Populous, HMC, Olin, and Chu + Gooding (the Traditional Path design team), with Populous architects leading that team. Between March and June 2016, the Traditional Path design team performed a concept refinement and validation for the project, working from its 2015 Design Competition concept design and the City's BOE facility program dated October 21, 2015. The goal of this exercise was to confirm the construction cost and schedule of the newly refined concept design, subject to validation by the ICSE.

The preferred option for the Traditional Path retains and retrofits the current South and West Halls and the Concourse, while adding additional space in the form of a new grand ballroom, meeting space, and outdoor exhibit space. It places the new grand ballroom to the east of the existing Concourse on the site of the current Gilbert Lindsay Plaza, along with meeting rooms and other program spaces. The new exhibit space is added in between the South and West Halls, stretching over Pico Boulevard and providing appropriate connectivity for visitors to transition from one hall to the next.

One feature of the Traditional Path's preferred option is the reconfiguration of the existing entrance to the West Hall and of Petree Hall in the West Hall, in order to accommodate a new entrance. This space, which wraps around the south and west sides of the Staples Center, would be enlarged and redeveloped as a public open space, providing pedestrian and vehicular access to the convention center. The scheme envisions that this space could also be programmed with outdoor exhibits and other events.

4.1.1 The City's Role under the CM/GC Procurement

In the Traditional Path, the City would lead the development of the design for the convention center and its site master plan. As such, the City would perform two key activities:

- Specifying the basis of design - this includes specifying the facility program, quality and performance requirements, and the concept of operations.
- Leading the design - working with a design team and a construction manager which it hires, the City will make all the design decisions for the expansion and modernization project.

[28] More detailed information can be found in Council File 14-1383 at the following link: https://cityclerk.lacity.org/lacityclerkconnect/index.cfm?fa=ccfi.viewrecord&cfnumber=14-1383

4.1.2 Private Real Estate Development Component

The preferred option for the Traditional Path proposes to locate the LACC convention hotel at the intersection of Chick Hearn Court and Georgia Street. During the stakeholder meetings, hotel developers confirmed the desirability of the location due to its proximity to L.A. Live and the rest of downtown. The hotel lobby could be directly connected to the convention center's lobby, creating a seamless convention experience between the hotel and the venue as highlighted by the client advisory board. The Traditional Path design team has also identified other viable sites for the convention hotel, should the Chick Hearn site be unavailable.

4.1.3 Traditional Path Project Schedule

As explained in Section 2.5, the City's aim for the LACC expansion project is to complete the CEQA process by the fourth quarter of 2017, start construction shortly thereafter, and achieve project completion by the end of 2020.

According to the ICSE's review of the project schedule, the Traditional Path is expected to last for 52 months from the start of the CEQA process, which is planned for July 2017, to final construction. The fundamental elements of the schedule provided by the ICSE are described in Table 13 and depicted in Figure 11.

Table 13: Project schedule for the Traditional Path[29]

Phase	Dates	Duration
CEQA and Council approval	07/2016 – 11/2017	18 months
Design	09/2016 – 12/2018	16 months[30]
Construction	07/2018 – 10/2020	28 months
Overall duration of all phases	**06/2016 – 10/2020**	**52 months**

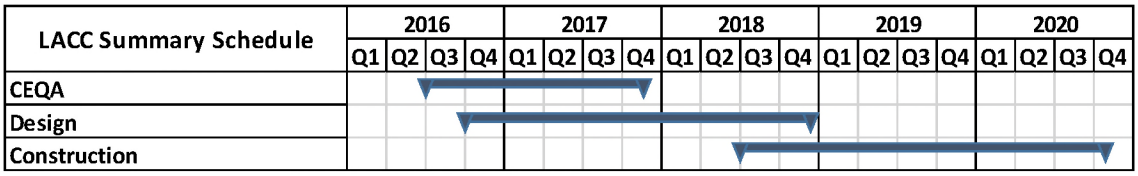


Figure 11: Project schedule for the Traditional Path

The ICSE has highlighted the key risks relating to this schedule as including:

- The risks related to planning for the start of construction before the completion of the design phase
- The risks associated with the regulatory and approvals process lasting longer than expected.

[29] For more information please see MGAC, *Los Angeles Convention Center Expansion Project - Independent Cost and Schedule Validation* (June 17, 2016).

[30] As reported on page 37 of MGAC, *Los Angeles Convention Center Expansion Project - Independent Cost and Schedule Validation* (June 17, 2016). Arup notes that this time span corresponds to a 26-months period.

4.2 Project Features

4.2.1 Program Specifications

The Traditional Path's expansion scheme proposes adding a total net new 329,000ft^2 of enclosed exhibit, ballroom, and meeting space to the facility. It diversifies the facility's room inventory by adding a 70,000ft^2 grand ballroom, 78,000ft^2 of net new meeting rooms, and 40,000ft^2 of outdoor exhibit space. These new programmatic elements would be added by building three new extensions to the existing facility:

- A new exhibit hall over Pico Boulevard, connecting the South and West Halls, and thus achieving a contiguous exhibit hall of 737,000ft^2
- A new ballroom and additional meeting rooms on the site of the existing Gilbert Lindsay Plaza
- New meeting rooms adjacent to the new exhibit space

Table 14 details the expansion program envisioned for the Traditional Path's preferred option

Table 14: Traditional Path expansion program

	CTD/BOE facility program requirement (ft^2)	Traditional Path preferred option program (ft^2)
Indoor new exhibit space	220,000	180,000
Outdoor new exhibit space	-	40,000
New exhibit space	**220,000**	**220,000**
Ballroom	70,000	70,000
Meeting rooms	78,000	78,000[31]
Total net new leasable space	**N/A**	**368,000**
Total new leasable space	**368,000**	**389,000**
Total contiguous indoor exhibit space	N/A	737,000

The preferred option will provide a total 349,000ft^2 of new indoor leasable area, while the new gross enclosed area would supply 693,000ft^2, resulting in a leasable-to-gross space ratio of 51%.[32]

Table 15: Ratio of net leasable area to gross enclosed area

	Existing LACC	Traditional Path new build
Leasable-to-gross space ratio	42%	51%
Enclosed leasable area (ft^2)	868,376	350,000
Gross enclosed area (ft^2)	2,069,500	693,000

[31] 21,000ft^2 of junior ballroom is demolished and replaced, in addition to the 78,000ft^2 of new meeting rooms..
[32] For more information please see MGAC, *Los Angeles Convention Center Expansion Project - Independent Cost and Schedule Validation* (June 17, 2016).

Figure 12 through Figure 16 provide aerial and street views of the Traditional Path's preferred option. All images are courtesy of Populous.

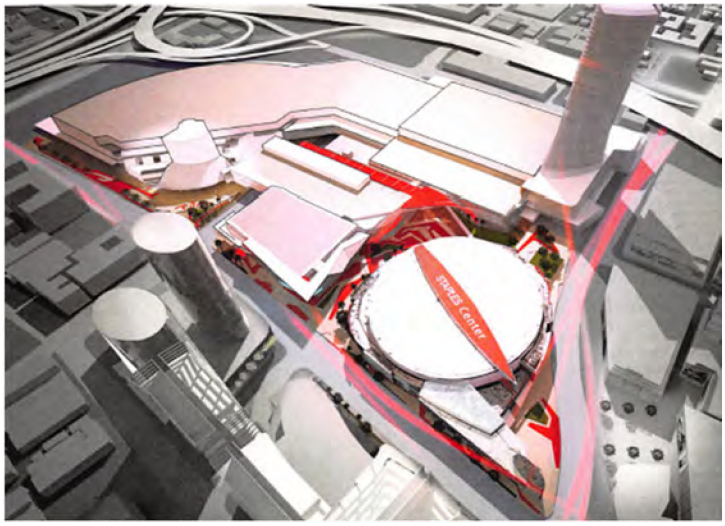


Figure 12: Traditional Path preferred option - aerial view © Populous



Figure 13: Traditional Path preferred option - Georgia Street entry © Populous



Figure 14: Traditional Path preferred option - ballroom balcony view © Populous

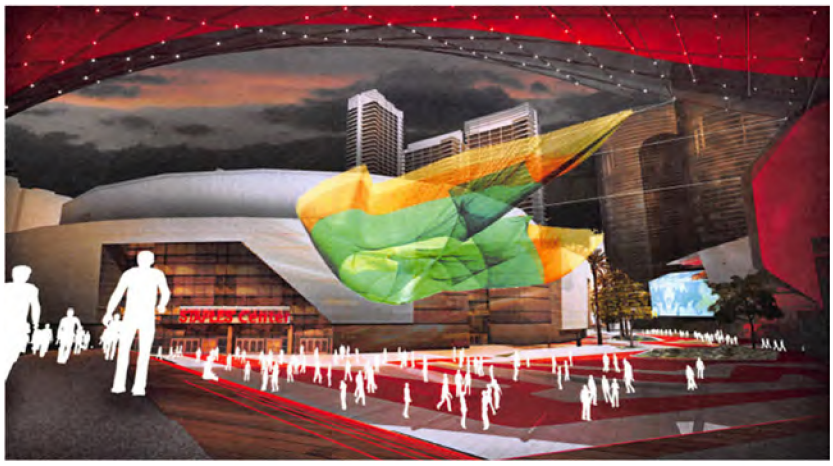


Figure 15: Traditional Path preferred option - Zocalo view from exterior exhibit hall © Populous



Figure 16: Traditional Path preferred option - ballroom facility from Figueroa © Populous

4.2.2 Remaining Facility Needs

The Traditional Path does not consider fully refurbishing the South Hall, Concourse, and West Hall. Consequently, considerations related to the physical condition and appearance of these facilities – especially the older West Hall completed in 1971, with its approximately 210,000ft^2 exhibition hall and a net 44,000ft^2 of meeting rooms that would remain – would need to be addressed as part of ongoing lifecycle maintenance and/or replacement interventions after the expansion project is completed.

In order to secure returning business, attract new business, and ensure business continuity, the City will need to make future investments to address those existing conditions. Examples of issues that need to be addressed include:

- Visitor experience in relation to existing facilities such as, but not limited to, “obsolescence and poor condition of the current facilities” and lack of a “sufficient number of meeting rooms outfitted with the latest in meeting and collaboration

technology", as noted by the Urban Land Institute's technical expert panel in its analysis and recommendations for the expansion and modernization project[33]

- Lack of modern, floor-mounted utility floor boxes in the main exhibit space of the West Hall to better support exhibitors compared to the current through-the-floor-slab system; limited number and size of truck docks; and limitations to accommodate larger trucks which are becoming increasingly common in the industry
- Deferred maintenance of multiple building components, a CUP with outdated controls and systems, accessibility compliance with the Americans with Disabilities Act, and seismic vulnerabilities in the event of a major earthquake

4.2.3 Construction Phasing and Business Continuity

The construction phasing plan for the Traditional Path design scheme was developed by the ICSE and has been generated in response to and in compliance with the City's business continuity requirements.

4.2.4 Future Expansion

The Traditional Path design team developed a conceptual plan in response to the City's requirement for the design to allow for future expansion. Conceptually this plan allows for the following:

- Expansion of the West Hall over and to the west side of L.A. Live Way
- Relocation of the loading docks over the existing parking structures between L.A. Live Way and I-110

4.2.5 Urban Experience

Creating a vibrant landmark district is key to positioning Los Angeles as a top convention destination. To do so, the Traditional Path design team focused on integrating the expanded LACC program with the surrounding neighborhood, while building on the massing and layout of the existing facility.

The preferred option for the Traditional Path revamps the entrance to the West Hall. The proposal is to relocate the West Hall entrance to reorient it toward L.A. Live. This is achieved by relocating it to the northeast corner of the West Hall. The new entry lobby is designed to be able to host simultaneous events. This new entrance also faces the new outdoor open space that wraps around the back of the Staples Center. This space provides a connection from Figueroa Street to Chick Hearn Court for the new entrance, the stairs leading up to the new outdoor exhibit space, and the ground floor meeting rooms and entrance to the ballroom.

The design also reimagines Gilbert Lindsay Plaza as a pedestrian-friendly promenade wrapping around the west and south sides of the Staples Center. This promenade will foster walkability and offer vehicular access to the convention center, while also functioning as a fire lane.

The preferred option also suggests remodeling the outdoor open space outside of the South Hall's iconic tower, by adding new pavements, landscaping, and seating. These elements will

[33] Urban Land Institute, *Technical Assistance Panel for the LACC* (August 2013).

contribute to activating the facility's street-level frontage at the corner of Pico Boulevard and Figueroa Street, and provide a unified design.

4.3 Project Economic Benefits

As noted in Section 2.4, CSL performed an economic and fiscal impact analysis for the LACC expansion project in August 2015, which was updated and expanded by Johnson Consulting's analysis in April 2016. Johnson Consulting's report indicates that the LACC expansion project can be expected to generate $171m of incremental total spending annually and translate into 3,000 additional jobs and $113m of additional earnings. Johnson Consulting's estimations for the LACC expansion project in terms of spending, earnings, and jobs are summarized in Table 16.

Table 16: Economic impact analysis for the LACC expansion project

Estimations – all events*	2015	Sixth year after expansion	Increase after expansion
Total spending($m)[§]	$410	$581	$171
Total employment (FTE jobs)	7,200	10,200	3,000
Total earnings ($m)	$272	$385	$113

**Includes direct, indirect, and induced*
[§]Not including operations spending

4.4 Project Revenues

This section provides information about the operating revenues expected under the Traditional Path, as well as the new revenue sources likely to occur as a result of the expansion project.

4.4.1 Operational Revenue

The LACC operating revenue has traditionally come from a variety of sources including the following:

- Convention and trade show space rental
- Food and beverage sales
- Commission on the sale of utility services to exhibitors
- Parking
- Event services
- Commission on the sale of telecommunications services to exhibitors
- Cell towers on site
- Advertising and sponsorship, etc.

An increase in revenue is forecast after completion of the expansion project due to the predicted increase in events and services per Johnson Consulting's assessment, which would be supported by the increased leasable space. This increase has been included in the forecasts and is treated equivalently in both development paths.

The most recent periods of operation were analyzed to determine the typical operating surplus, over and above the operating costs, that has been achieved and is predicted to be achieved by the LACC.[34] The surplus is forecast to be slightly less than $2m per year based on analysis of financial year (FY) 2016 to FY 2019 budgets. Since both development paths essentially meet the requirements of the same facility program, the analysis in this report assumes they are both likely to generate similar annual operating surplus going forward.

Continuity of operations is an important issue to consider during the construction phase of the project. The degree to which construction disruptions impact business continuity should be further investigated during later design phases for the project to determine the magnitude of the impact expected for operations.

4.4.2 New Revenues

Arup identified two potential new revenue sources for the project under the Traditional Path: naming rights and signage. Tapping into these revenue sources could enhance the value of the expansion project while taking advantage of market opportunities. These revenue sources are independent of the delivery method, and thus apply to both development paths.

4.4.2.1 Naming Rights

Naming rights constitute a common revenue source for stadia and arenas that convention centers are increasingly exploring. To estimate the annual revenue drawn from naming rights for LACC, Arup's sub-consultant HR&A Advisors benchmarked naming rights revenues from five comparable deals, with sponsorship terms ranging from 10 to 20 years.

Their analysis shows that the annual revenue potential of naming rights for the City under the LACC expansion project is in the range of $0.4m to $1.0m annually (expressed in 2016 dollars).[35] See Appendix J for the details and the basis of this estimate.

4.4.2.2 Signage

The LACC is adjacent to two major highways, and provides an ideal location for billboard advertising. It is estimated that 600,000 cars pass by the LACC every weekday. To estimate the annual revenue potential, Arup's sub-consultant HR&A Advisors relied on a 2011 CSL study entitled *Fiscal Analysis of Proposed Downtown Stadium and Convention Center Project*, and used 2015 prevailing ad sale prices, and finally incorporated a higher proportion of L.A. Live type digital signage and super graphics.

Their analysis revealed that signage bears an annual revenue potential for the City in the range of $6.2m to $9.2m annually (expressed in 2016 dollars).[36] See Appendix J for the details and the basis of this estimate.

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[34] Based on the CTD's and private operators' actual and budgeted forecasts. More information is provided in Appendix D.

[35] HR&A's original figures were presented in 2015 dollars and they were updated to reflect 2016 figures.

[36] Ibid.

4.4.2.3 Tax Revenue

As mentioned in Section 2.4, CSL performed an economic and fiscal impact analysis for the LACC expansion project in August 2015, which was updated and expanded by Johnson Consulting in April 2016.

According to Johnson Consulting, the LACC generated $23.4m of tax revenue for the City in 2015, with the majority of this coming from the TOT. It is estimated that the total spending associated with the LACC expansion project could bring an additional $9.8m in tax revenue to the City in a typical business year. Tax revenue includes five different taxes: Los Angeles sales tax, sales tax (indirect spending), TOT, Los Angeles business tax, and Los Angeles parking user tax. Table 17 summarizes the LACC expansion project's expected gross fiscal impact. These figures apply for both development paths.

Table 17: Tax revenue for the Traditional Path development option[37]

	2015 ($m)	Sixth year after expansion ($m)	Increase after expansion ($m)
L.A. sales tax revenue	$1.6	$2.2	$0.6
Sales tax (indirect spending) revenue	$0.5	$0.7	$0.2
TOT revenue	$20.7	$29.5	$8.8
Los Angeles business tax revenue	$0.02	$0.03	$0.01
Los Angeles parking user tax revenue	$0.5	$0.7	$0.2
Total tax revenue from LACC expansion project	**$23.4**	**$33.2**	**$9.8**

4.5 Project Cost of Ownership

4.5.1 Construction Costs

The construction cost estimates for the Traditional Path design scheme were reviewed and audited by the ICSE. The cost items and pricings presented below correspond to the audited figures for the project, as presented by ICSE to the City on June 14, 2016. These estimates have been used for the financial analysis in this report.

Table 18: ICSE Traditional Path cost estimates

Cost item	ICSE cost estimate (YOE $m)
Total construction budget	$515.4
Soft costs and other items	$133.1
Total cost excluding contingency	**$648.5**
Project risk based contingency	$72.2
Total project budget	**$720.7**

YOE: Year of expenditure[38]

[37] C.H. Johnson Consulting Inc., *Los Angeles Convention Center Expansion Market Impact Analysis Update* (April 25, 2016).

[38] For more information please see MGAC, *Los Angeles Convention Center Expansion Project – Independent Cost and Schedule Validation* (June 17, 2016).

4.5.2 Lifecycle Costs

Lifecycle costs for the Traditional Path scheme have been developed by the ICSE based on the corresponding construction cost estimates and plans, and taking into consideration existing conditions. The ICSE estimated the initial refurbishment cost for the West Hall, as well as lifecycle costs for the existing facility (West and South Halls) and the new construction. This assumes that the facility is maintained at a quality level comparable with a new facility.

The audited figures for the lifecycle costs of the Traditional Path are summarized in Table 19. Since these are estimates over an analysis time horizon of 40 years, the costs are presented in 2016 dollars.

The estimates from the ICSE suggest that in the short term, over the next 5 years, the West Hall requires a $105.9m investment to upgrade the facility.

Table 19: Initial West Hall refurbishment and lifecycle costs for the Traditional Path

	40 year cost (2016 $m)
West Hall initial refurbishment within the next 5 years	$105.9
Existing facility lifecycle (West Hall and South Hall) over 40 year period	$485.7
New build lifecycle (new facilities constructed as part of the current LACC expansion project) over 40 year period	$188.1
Total costs over 40 year period	**$779.7**

4.5.3 Operations and Maintenance Costs

Prior to December 2013, the LACC was operated by the City. In 2013, however, the City contracted the majority of the operations of the convention center to a private third-party for a five-year term. The new private operator has successfully managed the facility since that time. Section 2.2.3 provides an outline of the operational activities undertaken by the private operator compared to those undertaken by the City.

While the operations of the facility are likely to remain largely the same following any expansion effort, the allocation of certain responsibilities (namely, those related to routine maintenance) will be different under the DBFOM Path and Traditional Path.

Analysis of the historic LACC operations has considered three broad costs: general operations, routine maintenance, and energy consumption expenses. The latter two cost items are likely to differ under the different development paths, and thus the analysis has focused on identifying the cost of these two elements relative to the historic and projected operating expenses. The three broad costs are defined as follows:

- **General operations** relate to salaries and benefits for most staff (excluding the operations department), food and beverage expenses, contracted services, parking-related expenses, administration- and office-related expenses, insurance, staff uniforms, recruitment, etc. In the first year of operation post expansion (FY 2020), general operating expenses are anticipated to reach approximately $28m. This increase in expense is driven by the increase in events resulting from the expansion project as forecast by Johnson Consulting. The number of events drives the general operating expenses up as more staff and more activities are required to service the larger number of

events and visitors in the expanded facility, while maintaining the same level of quality of experience that currently exists.

- **Routine maintenance** relates to the staff time, consumables, and equipment that is involved in the day-to-day maintenance and upkeep of the facility. This involves salary and benefits for the staff within the operations department, as well as field equipment, modifications/repairs, maintenance materials and supplies, operating supplies, and any alteration and repairs allowances. These figures have been forecast in the model and are expected to be approximately $7.3m per year in FY 2020, when the LACC expansion project is likely to be completed.
- **Energy consumption expenses** relate only to electricity and power and were historically roughly 93% of the total utilities expenses of the convention center. Approximately 88% of the energy used relates to the baseline operation of the building, while 12% is driven by the specific events at the venue. An increase in the LACC building area due to the expansion project is expected to lead to a corresponding increase in the energy costs, which are expected to reach $6.6m during FY 2020 when the LACC expansion is completed.

These estimates are based on the assumption that the floor area for the expansion project will increase by approximately 33% under the Traditional Path, while the number of events is expected to increase by 16% by FY 2026, with particular growth in the citywide events.[39]

More detail regarding the calculation and assumptions associated with operations and maintenance calculations can be found in Appendix D.

4.5.4 Soft Costs

The procurement of the LACC expansion and modernization project under the Traditional Path will involve a series of costs related to the City's management of the design, bidding, and construction process for the project. Construction management fees are accounted for within the soft costs reported in Table 18 on page 40. For the selected contractor(s) and subcontractor(s) there are also transaction costs associated with the preparation and submission of their offer(s) which are accounted for within construction costs.

The soft costs include reasonable fees and expenses of employees, attorneys, architects, engineers, expert witnesses, contractors, consultants and other persons; costs of communications, transcripts, printing, copying, and other reimbursed expenses; and expenses reasonably incurred in connection with preparing the bidding process.

Separate from soft costs, there are financing costs associated with managing the process to issue the debt to pay for the construction project, which are accounted for within financing costs. These financing costs involve up-front finance structuring costs payable at financial close (advisors; legal fees; rating agencies; trusts, if necessary), underwriters' fees, and up-front fees.

4.6 Procurement and Sponsor Risk Exposure

CM/GC is a two-stage project delivery method. In the design phase, the City hires a design team to develop the design for the project. The City also hires a construction manager or general

[39] C.H. Johnson Consulting Inc., *Los Angeles Convention Center Expansion Market Impact Analysis Update* (April 25, 2016).

contractor to provide feedback on the design before construction starts. This allows the CM/GC to work with the City and the design team to identify risks that may materially impact budget and schedule, and develop the project's cost and schedule projections.

The project construction starts after the design is completed and the City and the CM/GC negotiate and agree on a price for the construction contract. Usually when the price is agreed upon, a guaranteed maximum price (GMP) construction contract is put in place between the owner and the general contractor. The GMP, however, is subject to the risk allocation provisions of the construction contract, which are usually similar to those in a conventional design-bid-build construction contract. This means that the GMP is subject to price adjustments and the construction schedule to time adjustments, in line with the provisions of the construction contract that is finally negotiated and agreed between the parties.

4.6.1 Payment Structure and Incentives

Under a CM/GC delivery, the City finances the project issuing new debt to be repaid from the General Fund. The City is therefore obligated to make debt service payments on the debt irrespective of the performance or progress of the construction project and would have to make additional funding or debt issuance available in the case that additional costs or delays are incurred. Disbursements take place as per the payment schedule featured in the construction contract, which is normally based on monthly progress payments. The City, through its contract management staff, reviews the progress of the work, certifies progress and achievement of quality control and quality assurance metrics, and then makes the monthly payments.

A CM/GC delivery model, if well executed from an early stage, can reduce the impact of certain risks that are typically experienced in a more conventional design-bid-build delivery project. However, it does not optimally mitigate cost overruns and schedule delays during construction. In Arup's experience, the owner's and the contractor's financial incentives are often misaligned, which leads to the actual construction cost frequently exceeding the original budget at the early stages of design, and exceeding the GMP at later stages during subcontract bidding and construction.

A competitive selection process is held to select the CM/GC, typically based on qualifications and on past performance, and the CM/GC is able to competitively bid the construction subcontracts. At the core of the issue of cost and schedule overruns risk, is the contractual relationship among the owner, designer, and CM/GC.

- During the design phase, the CM/GC and design team can work to identify risk mitigations for issues such as constructability and phasing of construction. However, neither party has a strong, financially-driven incentive to drive down the overall price because there is no competitive pressure from a construction bidding process. Neither party has financial downside exposure if the price increases. If the owner does not have an experienced project manager with a very fine-grain understanding of local construction costs and subcontractor pricing dynamics, and with superior negotiating skills for both price and contract risk allocation, then there is a greater likelihood that the final negotiated GMP will be higher than what would otherwise result from a price set through a competitive bidding process.
- When the GMP is set, the CM/GC has solicited quotes from subcontractors and vendors but will typically have none or very few construction subcontracts contractually committed to the project. As the CM/GC starts to finalize these subcontracts and if the

bids come in higher than previously quoted because market conditions or other factors were not well anticipated, the pressure will tend to be either to pass back up to the owner the increased costs or to implement scope- and cost-cutting measures so that the project stays within the GMP. Experience suggests that both are common occurrences. Neither result is in the best interest of the owner.

- Once the GMP is determined, the CM/GC switches from an advisory role during the design role to the contractual role of a general contractor. During the construction phase, tensions over construction quality, the completeness of the design, and impacts to schedule and budget can arise. In this phase, stakeholder relationships can and often do become similar to the design-bid-build model, and adversarial relationships may result. For example, while the established GMP is supposed to address the remaining unfinished aspects of the design, this can in fact increase disputes over assumptions of what remaining design features could have been anticipated at the time of the negotiated bid.
- Finally, issues such as unforeseen conditions or errors and omissions in the design are the owner's responsibility, given that site- and design-related risks are retained by the owner. This may incur additional cost overruns, schedule delays, and/or scope reductions.

4.6.2 Debt Service

The taxable debt that the City will issue under the Traditional Path will rely on the General Fund as the main source of repayment. This would generate a debt service obligation over the full term of the debt. Additionally, the City will also be responsible for paying the debt service incurred for any future LACC lifecycle maintenance investments.

Currently, the City has a 6% voter-approved debt service cap, which means that it cannot issue more than 6% of the General Fund as debt without voter approval.

4.6.3 Cost and Schedule Performance

Under the delivery method proposed for the Traditional Path, the owner is responsible for the facility's ongoing routine and capital maintenance. The CM/GC does not have a long-term commitment to the project (i.e., its liability is limited by the construction contract and the legal framework applicable to the project). The key implications for the owner are as follows:

- Whereas it is in principle possible for the owner to pursue the contractor for deficiencies that may manifest themselves after the last payment is made, in practice the contractor has a strong legal defense because throughout construction the owner conducted quality control inspections and made progress payments against those inspections, which carry the legal implication that the owner accepted the work incrementally throughout the construction process.
- Warranties and latent defect responsibilities are enforceable, but in practice as time passes after the end of construction the practical level of recovery diminishes considerably – even assuming that the owner is able to adequately document its case and establish causality.
- In practical terms, with the passage of time it becomes increasingly difficult to determine whether an issue was caused by a design and/or construction defect, normal wear, inadequate maintenance by the owner, or a combination of the above. This increases the

cost of pursuing and resolving disputes while decreasing the value of what can potentially be recovered.

- In the medium-to-long term, any such issues that developed during the design and construction phases become ongoing maintenance, renewal, and in some cases, replacement issues that the owner has to address mostly at the owner's cost.

As the party responsible for lifecycle maintenance investments, the owner needs to resort to additional debt issuances to cover the costs associated with the project's major maintenance. The owner also needs to enter into separate lifecycle contracts, which incur additional transaction costs.

The following summary identifies the benefits to and limitations of addressing some of the major construction risk factors:

- **Differing site conditions** - to mitigate the risk, the City should perform extensive geotechnical and material testing prior to moving into construction. The customary approach is that risks resulting from deviations between the actual site conditions and those specified on the project plans are allocated to the owner.
- **Design omissions** - Although the CM/GC model has the contractor involved earlier in the project, the owner retains the risks for design errors and omissions. Therefore, the general contractor is able to negotiate such change orders with the owner in a non-competitive environment, notwithstanding that the owner may have recourse to the designer.
- **Changes in bid quantities** - The CM/GC model would require the City's design consultant to provide finalized or nearly finalized plan details and quantities of items necessary to construct the project. While the delivery method attempts to establish a GMP, an interim GMP with unit price, lump sum, and allowance items is typically established. Therefore, the owner is customarily responsible for the original contract quantities and would compensate the contractor for modifications to those quantities.
- **Phasing and constructability issues** - Since the CM/GC model involves the contractor earlier in the project development phase, it provides the opportunity to address construction phasing and constructability issues. This is an improvement upon the traditional design-bid-build delivery model.
- **Schedule delays** - The CM/GC model typically requires the design stage of the project to be nearly finalized or finalized prior to moving into construction. This reduces the opportunity to fast-track construction work with the development of the remaining design work.
- **Level of collaboration** - The CM/GC model's utilization of the contractor in the project development phase improves collaboration compared to the traditional design-bid-build method, notwithstanding that the general contractor and design consultant are each independently contracted by the owner and have different incentives and liabilities. This lack of alignment can become a major barrier to collaboration when issues arise during the project.

The cost associated with the risk allocations to the public and private sectors should be considered in the evaluation of the project. The ICSE conducted its own risk analysis to quantify

this risk and determine the required project contingency for each path. Refer to Appendix F for a discussion of the risk register created by Arup and further risk analysis.

4.7 Framework of City Obligations

The Traditional Path will entail a series of technical, commercial, legal, and financial obligations for the City. Some of these obligations are generated by the convention center itself, while the majority are associated with the procurement model adopted to deliver the expansion and modernization project.

To pay for the expansion and modernization project, the Traditional Path requires that the City issue debt with the General Fund as the source of repayment. This would generate a debt service obligation over the term of the debt, typically, a term of 30 years for a project of this nature. In addition to the debt service for the initial expansion project, the City will also have to pay the debt service from other future obligations, such as lifecycle maintenance investments. These investments are associated with capital maintenance, refurbishment, renewal, and replacement needs of the facility.

The obligations related to O&M of the facility (including energy and utilities costs) will continue to be funded from the LACC normal operating revenue streams, as has been the case historically and is discussed in Section 4.5.3.

Table 20 summarizes the City's scope of obligations and the corresponding sources of funding considered in this report in relation to the LACC.

Table 20: Summary matrix of City obligations for funding of the Traditional Path

Scope	Description	Source of Funding
Facility O&M	• Events • Routine maintenance • Energy and utilities	• Revenue from facility operations • Shortfalls, if any, covered by the General Fund • Surpluses, if any, directed to facility maintenance needs
Capital projects: expansion, modernization, and ongoing lifecycle maintenance	• Design and construction of the expansion and modernization project • Ongoing assessment of lifecycle maintenance requirements	• Pay-as-you-go costs associated with the procurement process paid from the General Fund • Debt service paid from the General Fund

4.8 Net City Payment

Based on the work conducted by the Traditional Path design team and the review by the ICSE, the capital funding requirements for the Traditional Path are summarized in Table 21.

Table 21: Traditional Path capital funding requirements

Item	Amount (over 40 years)
Total construction costs (YOE $m)	$720.7
Lifecycle costs (2016 $m)	$779.7

The financial model described in more detail in Appendix I takes these inputs, together with estimates of financing costs benchmarked to current market conditions, to estimate the annual debt service payment obligations over time for the Traditional Path. The standard term and amortization of municipal debt, including taxable and lease revenue bonds, is up to 30 years assuming level amortization. This has been factored into the modeling for the Traditional Path. As described in Section 3.3, the analysis time period extends to 2060, which matches the time period of analysis for the DBFOM Path.

The net cost to the City for the Traditional Path considers the annual debt service payment obligations for the capital components of the expansion project, aggregates this with the lifecycle and soft costs, and nets out any new revenue streams from naming rights and signage. On this basis, the annual stream of NCPs for the Traditional Path is estimated. This estimate is then used to compare the costs of the two development paths, as further discussed in Section 6. The average results for the NCP over the three key time periods of analysis for the Traditional Path are presented in Table 22.

Table 22: Traditional Path average annual net City payments

Components of net City payment	Traditional Path cost (2016 $m)		
	2018 - 2033	2034 - 2047	2048 - 2060
	Expansion project construction & renovation of West Hall, ramp up new revenues and operations	*Stabilization of new revenues*	*Expansion project debt retired (Traditional)*
Debt service	$38.1	$26.1	--
Plus: lifecycle maintenance and replacement	$18.3	$21.8	$18.4
Less: new revenues (naming rights and signage)	($8.8)	($10.3)	($10.1)
Average annual NCP	**$47.6**	**$37.7**	**$8.2**

The City's average debt service under the Traditional Path declines over time across the three periods. The average lifecycle maintenance and replacement costs remain fairly consistent, and ranges between $18.3m and $21.8m across the three periods. Likewise, the gain from new revenue sources is forecast to on average, remain fairly similar (ranging between $8.8m and $10.3m). Combined, these results lead to an annual NCP which declines over time from an average of $47.6m in the first period, to an average of $8.2m in the final period of analysis.

When considering the impact of each of these NCP components over time, net present value (NPV) of all the NCPs over the analysis period is $845.1m. This is presented in Table 23 and can be used to compare the Traditional and DBFOM Paths in Section 6.

Table 23: Traditional Path net present value of net City payments

Components of net City payment, discounted at 5. 75%	All years (2016 $m)
Debt service	$631.5
Plus: lifecycle maintenance and replacement	$420.8
Less: new revenues (naming rights and signage)	($207.1)
NPV of NCP	**$845.1**

4.9 Summary of Analysis

The qualitative analysis of the Traditional Path is summarized in Table 25. It utilizes the approach outlined in Section 3.4 to identify how the Traditional Path achieves the City's goals against each of the selected evaluation criteria. The rating scheme used is re-created in Table 24.

The profile of the annual NCP for the Traditional Path suggests that the net cost to the City will range between $38m and $48m, expressed in 2016 dollars, from 2018 through 2047. When the bonds for the expansion project are retired in 2047, the annual cost is expected to drop to the level needed to fund its ongoing lifecycle. These figures are net of the ongoing naming rights and signage revenues.

In December 2015, the CAO analyzed the likely impacts on the city's 6% debt-service limit under a LACC expansion and modernization construction project assumed to cost a total of $470m. That report investigated three different financing scenarios and found that each scenario led to the City exceeding its 6% debt-service limit in the years 2019 to 2022. The results summarized in Table 22 suggest that the Traditional Path is likely to involve higher capital and lifecycle costs than those considered in the CAO paper, which may further impact the assessment of the potential impacts on the 6% debt-service limit.

Table 24: Evaluation criteria rating scheme

Rating	Description
●	Achieves or strongly achieves the stated criteria
●	Partially achieves the stated criteria
●	Only minimally or does not achieve the stated criteria

Table 25: Evaluation of the Traditional Path

Parameter	Evaluation Criteria	Rating	Discussion
Project features	Achieves the City's program specifications	●	As outlined in 4.2.1, the Traditional Path achieves most of the program; however, it delivers slightly under the program requirements in terms of contiguous indoor exhibit space. Including exterior exhibit space, the scheme is considered to achieve the program.
	Identifies sites for a convention hotel	●	The Traditional Path provides potential locations for the establishment of a convention hotel.
	Delivers a high-performing top-tier facility	●	The Traditional Path largely involves adding new elements to expand the total facility offering. As Section 4.2.2 outlines, the facility needs for the Traditional Path following completion remain high. In the context of this report, so long as the lifecycle investments identified by the ICSE are made, including West Hall renovation, then the LACC can be considered to be a high performing top-tier facility.
	Provides business continuity during construction activities	●	The Traditional Path is expected to deliver business continuity during the construction period.

Parameter	Evaluation Criteria	Rating	Discussion
	Makes provision for future expansion	●	The Traditional Path includes a plan for expansion of the facility.
	Provides a vibrant urban experience	●	As outlined in Section 4.2.5, the Traditional Path provides an enhanced urban experience for the local community. However, the extent of the additional urban realm and retail uses provided to activate the space could be greater. Additionally, a greater extent of pedestrian connectivity and street-level activation could be provided.
Project economic benefits	Maximizes job capture on site	●	Section 2.4 outlines the likely jobs created as part of the expansion activities from the Traditional Path. The local job capture for this is evaluated as less than the DBFOM.
Project revenue	Grows existing revenue sources	●	As discussed in Section 4.4.1, the Traditional Path provides an enhancement of contiguous exhibit space and will likely lead to a significant increase in revenue.
	Creates additional revenue sources (naming rights and signage)	●	Section 4.4.2 outlines the likely increase in revenue for the LACC as a result of naming rights and signage from the expansion project.
	Creates additional revenue sources (real estate)	●	The Traditional Path does not include a significant real estate development. The scheme identifies a potential ground-level retail space at the site of Gilbert Lindsay Plaza.
Project cost of ownership	Meets the City's total budget of $470m	●	The Traditional Path total project costs are estimated to exceed the identified budget, as outlined in Section 4.5.1.
	Reduces lifecycle costs	●	As presented in Section 4.5.2, the Traditional Path will require significant lifecycle investments over a 40 year period following construction.
	Reduces O&M costs	●	As outlined in in Section 4.5.3, the O&M costs predicted for the Traditional Path are based on forecasts from current results, which reflect an efficient operation within the constraints of the existing facilities.
Sponsor risk exposure	Reduces the risk of cost and schedule overruns	●	As highlighted in Section 4.6, the possibility of cost and schedule overruns under a CM/GC procurement method is significant due to the nature of the contractual structure where the City retains most of the risks. The incentive structures are not aligned to optimally mitigate these risks.
	Reduces the risks related to the procurement process	●	The Traditional Path's procurement process is known for the City. Nevertheless, in order to mitigate cost and schedule overrun risks it necessitates appropriate staffing for proactive management.
	Reduces lifecycle risk	●	Under the Traditional Path model, the risk of lifecycle costs increasing is significant because

Parameter	Evaluation Criteria	Rating	Discussion
			the funding of these investments would be subject to the vagaries of future business and budget cycles, which tends to result in deferred maintenance and increased costs on a lifecycle basis and reduced facility performance.

As Table 25 suggests, the Traditional Path presents an attractive project in terms of delivering the City of Los Angeles with an expanded and modernized convention center. The project does not keep within the City's $470m total project budget.

It achieves many of the City's criteria in relation to identifying a suitable site for a convention hotel, identifying space for expansion, and planning for business continuity during construction. It would also help drive economic growth by delivering the City's convention center space program, while providing jobs and some mixed use retail to the LACC campus.

Under the Traditional Path the City would develop new revenue sources for the LACC from naming rights and signage. The procurement method proposed does present risks associated with construction cost and schedule overruns, and does not mitigate the risks associated with lifecycle repairs and maintenance. The ICSE's cost estimates make allowances for these costs and their associated risks. The proposed CM/GC model is a procurement method with which the City has had experience.

5. DBFOM Path Development Option



5 DBFOM Path Development Option

This section of the report outlines the key information about the DBFOM Path that has been used to inform the evaluation and modeling activities.

5.1 Project Description

The DBFOM Path offers an alternative financing and project delivery approach which involves two core characteristics:

- A competitive procurement to select a development partner to privately finance the expansion and assume the responsibility to design, build, operate, and maintain the LACC under a long-term agreement.
- The development of a master plan that modifies the convention center's footprint and allocates land for a private real estate development.

The revenues generated from the private development on the LACC campus would cross-subsidize the convention center expansion and thus reduce the impact on the General Fund.

5.1.1 City's Role Under the DBFOM Procurement

In the DBFOM Path the City would lead the procurement process for the convention center. In the context of the design related activities, the City will perform three key activities:

- Specify the Basis of Design: This includes the facility program, quality and performance requirements, and the concept of operations that these requirements are intended to respond to – this is the same as for the Traditional Path
- Develop the procurement criteria: The City will prequalify a certain number of bidding teams that meet or exceed its minimum qualification requirements and then manage a competitive DBFOM procurement process through which the bidding teams will each develop their own designs that comply with the City's Basis of Design
- Select the preferred bidder: The City will select among the bids received a project proposal that meets or exceeds its bid selection criteria – the competing project proposals will include designs, as well as date-certain, fixed-price construction and lifecycle maintenance plans and financing plans

The goal of this process is for the City to select a design that meets or exceeds all of the City's stated objectives and requirements while minimizing the project's net cost to the General Fund. Bidders will be given the performance-based Basis of Design that they must meet and will be given the flexibility to develop alternative design proposals. Throughout this process the City retains the responsibility and the right to review, reject, and approve these design proposals for compliance with the Basis of Design.

The intent of this procurement process is to maximize competition and innovation in the development of multiple design proposals that the City can select from, with full knowledge of the cost and revenue-generation implications of these competing schemes. Further details regarding the City's role and the commercial structure likely under a DBFOM Path is included in Appendix H.

For the purpose of this report, Arup and its team member HOK architects have developed, at a feasibility level of analysis, **three possible design schemes** to assist with quantification of the potential range of outcomes of the eventual procurement process. Each of these schemes contains different assumptions regarding construction costs, lifecycle costs, real estate revenues and fiscal impacts.

The DBFOM design schemes are not intended to be prescriptive nor limiting of the potential range of design solutions that could be developed by actual bidding teams through the DBFOM competitive procurement process. They are intended to demonstrate the feasibility of certain solutions in order to adequately inform the financial analysis of this report. The expectation is that through this procurement process, other solutions will be developed that provide better value for the City.

Appendix A outlines the three schemes in detail, however in order to inform the decision making process, only one of the schemes has been used to develop detailed cost and program estimates for the purposes of this report. Section 5.1.1.1 below provides detail of the design development process for the three schemes.

5.1.1.1 Development of DBFOM Schemes

The design schemes for the DBFOM Path were developed by HOK architects in collaboration with Arup (the DBFOM Path design team) between March and June 2016. The objective of the DBFOM Path design team has been to demonstrate the flexibility and versatility of different design options and how the City's over-arching financial goals could be met.

The DBFOM Path design team led a visioning session on April 18th during which the City outlined the following objectives for the development option:

- Achieve the expansion program defined by CTD and BOE, with the following order of prioritization:
    - Create a single, contiguous exhibition space
    - Build new meeting room space of 78,000ft^2 over and above existing inventory
    - Build a new grand ballroom of 70,000ft^2
    - Add new exhibition space of 220,000ft^2 over and above existing inventory
- Design a world-class, top-tier, marketable, and flexible venue
- Identify a suitable site for the development of a 1,000 room convention hotel adjacent to the LACC facilities
- Improve connectivity within the LACC campus and to L.A. Live and downtown by promoting walkability
- Reconfigure the LACC master plan to support an on-site, mixed-use real estate development

The DBFOM Path design team first identified case studies of competitive convention centers that also are integrated in the urban fabric while achieving state-of-the-art and top-tier goals. The feedback from the City regarding these case studies enabled the DBFOM Path design team to create master plan strategies for the LACC campus. The Team developed three concepts for the

LACC expansion project labelled Schemes A, B, and C. All of these options have been developed to meet the facility expansion program by CTD and BOE, replace in kind any leasable space that is demolished, and include additional programmatic features such as outdoor event space. All three concepts also focus on creating an active district that integrates the expanded and modernized convention center with a new mixed-use real estate development, L.A. Live, and the surrounding neighborhoods. This is achieved by emphasizing place-making and pedestrian connections within the campus and with adjacent areas.

In May 2016, the DBFOM Path design team and the City organized outreach sessions with three groups of stakeholders: hoteliers, client advisory board, and the community. The objective of these meetings was to get feedback on the three preliminary schemes. During these outreach sessions, the stakeholders appreciated the opportunity to activate the site by re-connecting the street grid, promoting walkability, and diversifying land uses.

Under the DBFOM Path the aim was to optimize new revenue sources from real estate development. This was done in a manner consistent with achievement of the City's facility program and overall objectives for the convention center expansion and modernization. The strategy adopted was to reconfigure the site by demolishing different portions of the existing facilities north of Pico Boulevard and re-building that space in addition to the new space required. The application of this strategy is different across the three schemes in terms of the extent of re-build of existing space and the amount of land created for the real estate development. The schemes illustrate the range of outcomes that the DBFOM procurement process would be expected to produce.

5.1.2 Real Estate Development Component

There is a unique opportunity to capitalize on the tremendous change that has occurred in downtown Los Angeles and the South Park sub-district over the past 15 years as well as the future change of pipeline projects like Fig Central that will add significant housing and retail in the neighborhood. A reconfigured and modernized convention center could also make available between 7 to 14 acres for private real estate development including location of a new convention hotel.

This new development could be one of the largest sites to become available in downtown Los Angeles in years; it is twice as large as the Metropolis site and three times as large as Fig Central. As a mixed use site, it could enhance the profile of South Park and downtown L.A., and could also enrich the experience of convention attendees, tourists, and the local community.

Table 26 shows Arup's indicative land use phasing plan for the real estate development.

Table 26: Indicative land use for the real estate component of the DBFOM Path

Land use (ft^2)	Near term (2020-2025)	Future (2025-2040)	Total
Retail	160,000	45,000	205,000
Branded residential	250,000 (250 keys)	-	250,000
Hotel	175,000 (200 keys)	-	175,000
Office	375,000	750,000	1,125,000
Total	**1,135,000**	**550,000**	**1,755,000**

Appendix B provides more detail about the possible real estate development on site and its likely financial and economic impact.

5.1.3 DBFOM Path Project Schedule

Arup's indicative CEQA and P3 procurement schedule, which has been revised based on the ICSE's comments and recommendations, suggests that the overall timeline under the DBFOM Path is comparable to the project schedule under the Traditional Path. A comparable timeline can be achieved by managing the DBFOM's request for quotation (RFQ)/RFP process in parallel with the development of the CEQA process.

Arup's original schedule was revised based on the ICSE's comments with regards to:

- Insufficient time for design development and completion at 10 months
- Regulatory and approval process to be reflected in the schedule

The revised indicative schedule shows an overall duration of all phases of 48 months.

Table 27: DBFOM Path project schedule[40]

Phase	Arup revised schedule addressing ICSE comments		Arup original schedule reviewed by ICSE	
	Dates	Duration	Dates	Duration
CEQA	07/2016 - 11/2017	17 months	03/2016 - 10/2017	19 months
P3 procurement	11/2016 - 04/2018	17 months	10/2016 - 11/2017	15 months
Design	05/2017 - 10/2018	18 months	08/2017 - 05/2018	10 months
Approval and permits	01/2018 - 12/2018	11 months	N/A	N/A
Construction phase 1A – 92% of expansion program complete	04/2018 - 09/2020	29 months	12/2017 - 04/2020	29 months
Construction phase 1B – remaining expansion program complete	09/2020 - 07/2021	10 months	05/2020 - 01/2021	6 months
Overall duration of all phases	**07/2016 - 07/2021**	**60 months**	**03/2016 - 01/2021**	**57 months**

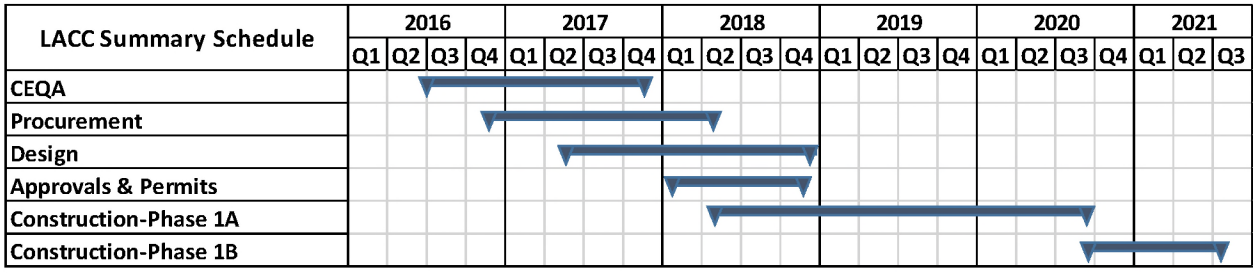


Figure 17: Indicative schedule for the DBFOM Path

[40] For more information please see MGAC, *Los Angeles Convention Center Expansion Project – Independent Cost and Schedule Validation* (June 17, 2016).

5.2 Project Features

5.2.1 Program Specification

The three design concepts drafted for the DBFOM Path's expansion project propose adding a net new 368,000ft^2 to the facility. All three concepts meet the expansion program developed jointly by CTD and BOE, add a 70,000ft^2 ballroom and 78,000ft^2 of meeting rooms and achieve space contiguity along a range of 631,000ft^2 to 777,000ft^2 of exhibit hall. Table 28 details the expansion program proposed in all three concept design schemes.

Table 28: DBFOM Path expansion program

	CTD/BOE expansion program (ft^2)	DBFOM Path schemes program§ (ft^2)
Indoor new exhibit space	220,000	180,000-220,000 *
Outdoor exhibit space	-	20,000
Total new exhibit space	**220,000**	**200,000 – 220,000**
Ballroom	70,000	70,000
Meeting rooms	78,000	78,000
Total new leasable space	**368,000**	**348,000 – 368,000**
Largest contiguous indoor exhibit space	778,000	631,000 - 738,000 §

** Schemes B and C considered can achieve the full CTD exhibit space program. However, for scope and cost comparison purposes the enclosed new exhibit space considered here has been matched with that provided in the preferred option in the Traditional Path. Scheme A does fulfill CTD's exhibit space program.*
§ Scheme B achieves the same contiguous exhibit space as the preferred option in the Traditional Path (the larger figure noted here) and has the ability to achieve the full CTD program. Scheme C can achieve the smaller figure noted here. Scheme A achieves the full CTD program.

All three concept design schemes provide a total 672,000ft^2 of new indoor leasable area, while the new gross enclosed area attain 1,600,000ft^2. This results in a leasable to gross ratio of 42%, which is similar to the current facility's ratio.

Table 29: Ratio of net leasable area to gross enclosed area

	Existing LACC	DBFOM Path new build – scheme B[41]
Leasable-to-gross space ratio	42%	42%
Enclosed leasable area (ft^2)	868,376	672,000
Gross enclosed area (ft^2)	2,069,500	1,600,000

Schemes B and C envision demolishing the West Hall and the Concourse, and re-building that space by integrating it with the new program space. Scheme A envisions demolishing the meeting rooms of the West Hall and the Concourse, and, as with the other two schemes, re-building that space by integrating it with the new program space.

To make an apples-to-apples comparison of scope and cost between the Traditional and DBFOM Paths, in all three DBFOM Path schemes the enclosed additional net exhibit space was capped at the same floor area as in the Traditional Path. The difference of 40,000ft^2 between the floor area

[41] Schemes A and C provide 42% net leasable to gross space ratio also.

included for costing purposes and the program could be included in all three DBFOM Path schemes, should the City wish to make that additional investment under either Path.

Figure 18 through Figure 20 provide floor plans of the DBFOM Path concept design schemes.

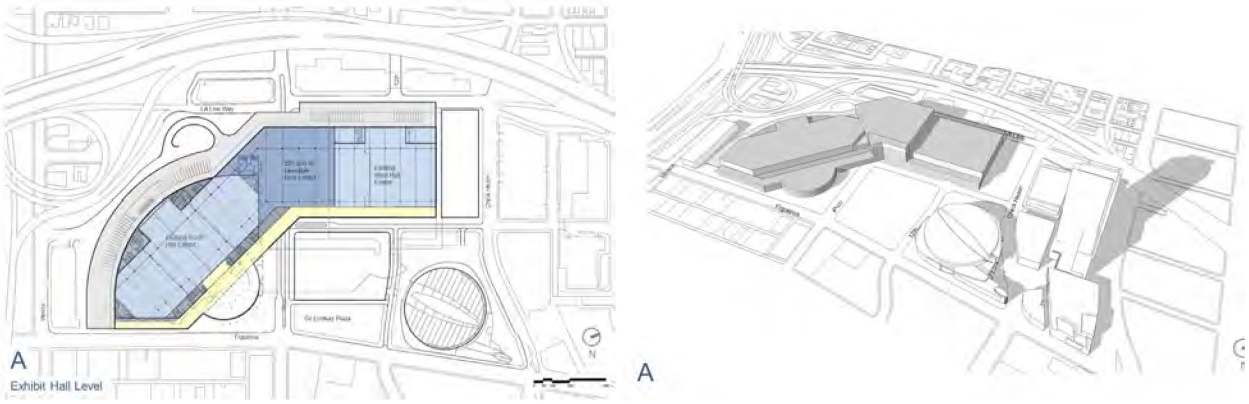


Figure 18: Exhibit level floor plan and massing – concept design scheme A
(220,000ft^2 of net new indoor exhibit space)

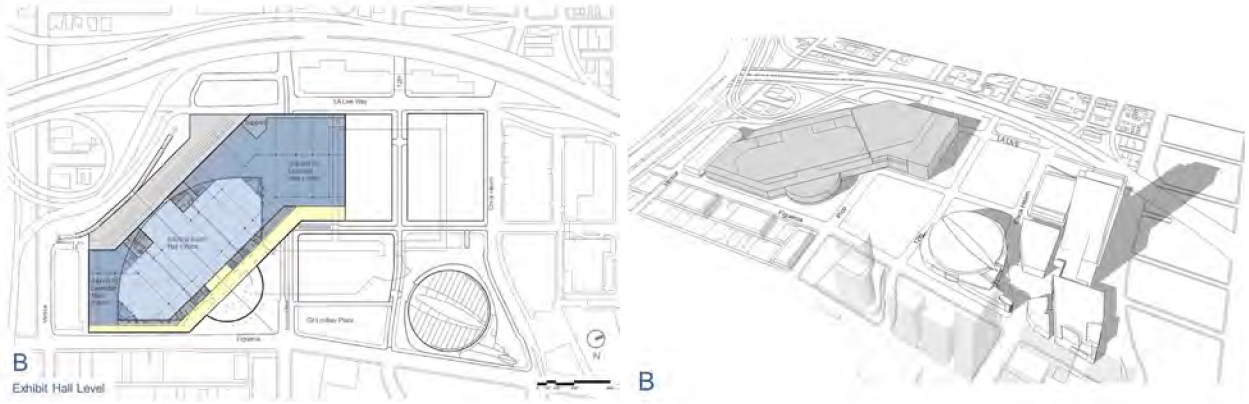


Figure 19: Exhibit level floor plan and massing – concept design scheme B
(180,000ft^2 of net new exhibit space)

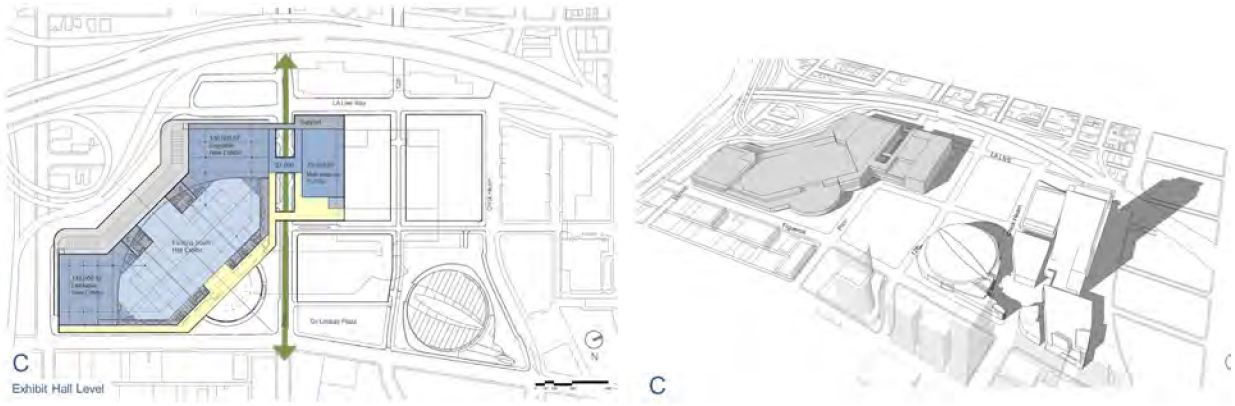


Figure 20: Exhibit level floor plan and massing – concept design scheme C
(180,000ft^2 of net new exhibit space)

The DBFOM design team considered suitable siting options for the convention hotel. The siting options are provided within the parcels for the real estate development and provide flexibility for the location of the convention hotel to optimize its integration and connectivity with the LACC

and the surrounding developments. Figure 21 below illustrates potential siting options. Appendix A provides further details and discussion in relation to the convention hotel sites.

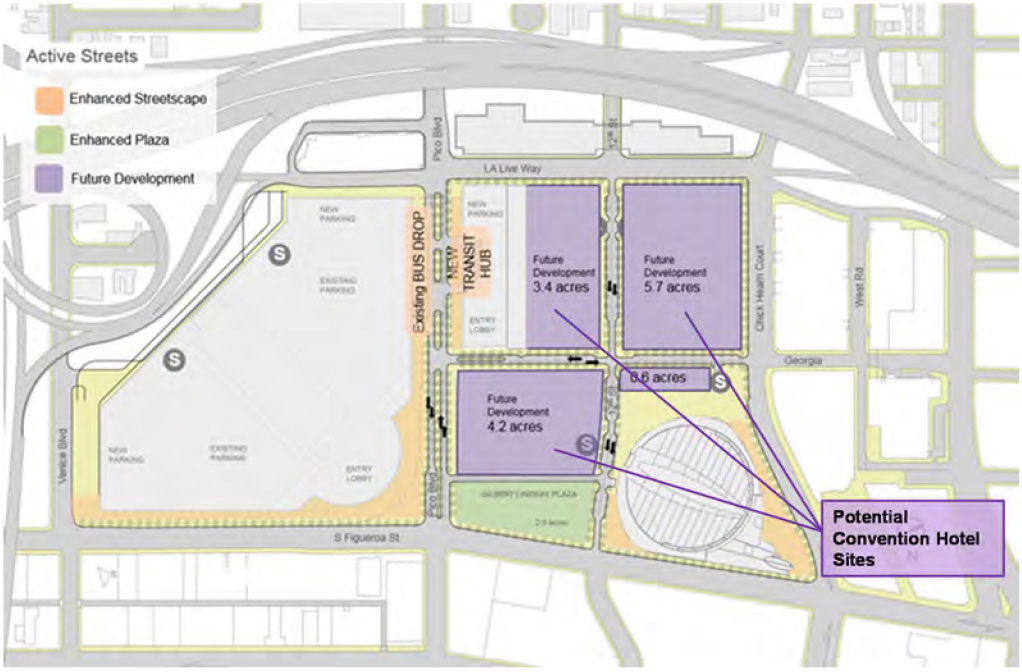


Figure 21: Potential sites for the convention hotel in the DBFOM Path

5.2.2 Remaining Facility Needs

Regardless of the expansion design proposed by eventual bidders through the procurement process, the DBFOM Path envisions either the refurbishment of the West Hall (Scheme A) or its replacement (Schemes B and C). The South Hall has benefited in recent years from a renewed capital maintenance program, with further investments addressing deferred maintenance planned for next fiscal year. As a result, the approach taken in the DBFOM Path is that the completed facility at the completion of the expansion project will be state-of-the-art. This overhaul of the facility will competitively position LACC as a top-tier convention venue.

5.2.3 Construction Phasing and Business Continuity

The construction phasing plan was developed with thorough understanding of the requirements of the stakeholders. Business continuity and minimum impact to operations and event schedule are considered to be of the highest priority while developing this phasing plan. In addition, the following points were taken into consideration to develop the phasing plan:

- Keep parking spaces in service for as long as possible
- Keep as many loading docks in service as possible for smooth operations
- Build new access ramps before demolishing old ramp
- Integrate the new built facility with the old one during opening available in the event calendar, whenever possible
- Overlap in construction to reduce the total construction duration

- Minimum disruption of traffic
- Strengthen existing South Hall before constructing on top of it

Construction for schemes B or C is planned in two phases (1A and 1B). The first phase (1A), comprises of six construction stages and delivers approximately 92% of the expansion space program, which needs to be completed for the new extended facility to be fully functional and operational. The second phase (1B), comprises of demolition of ancillary structures and addition of 26,000ft^2 of additional contiguous exhibit space to complete the program.

Phasing was developed to keep construction duration to a minimum with optimal overlap between phases for maximum loading docks operational. Since the CUP at existing West Hall serves the South Hall, relocation of utilities needs to be completed before demolition of the bridge connecting two halls. Arup has developed a 4D model to graphically explain the construction stages. Figure 22 shows a summary schedule of construction phasing. Details of the schedule and snapshots from the model explaining construction sequence are shown in Appendix C.

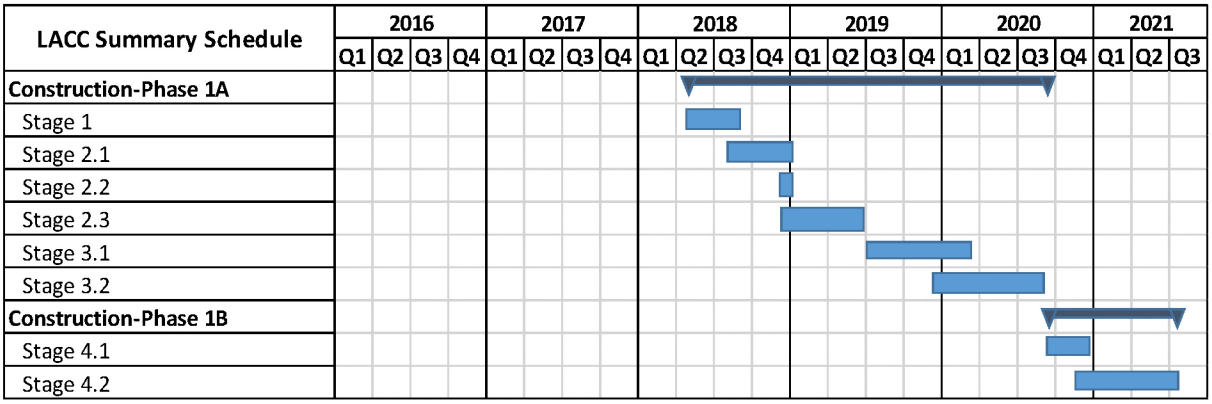


Figure 22: Summary schedule for the DBFOM Path

5.2.4 Future Expansion

All three concept design schemes for the DBFOM Path have been developed to allow flexibility for the future expansion of the LACC. The DBFOM Path design team has identified, that, be re-aligning L.A. Live Way to the West. In scheme B for example, the facility could be expanded by 115,000ft^2. Figure 23 highlights the room for future expansion envisioned in concept design scheme B.

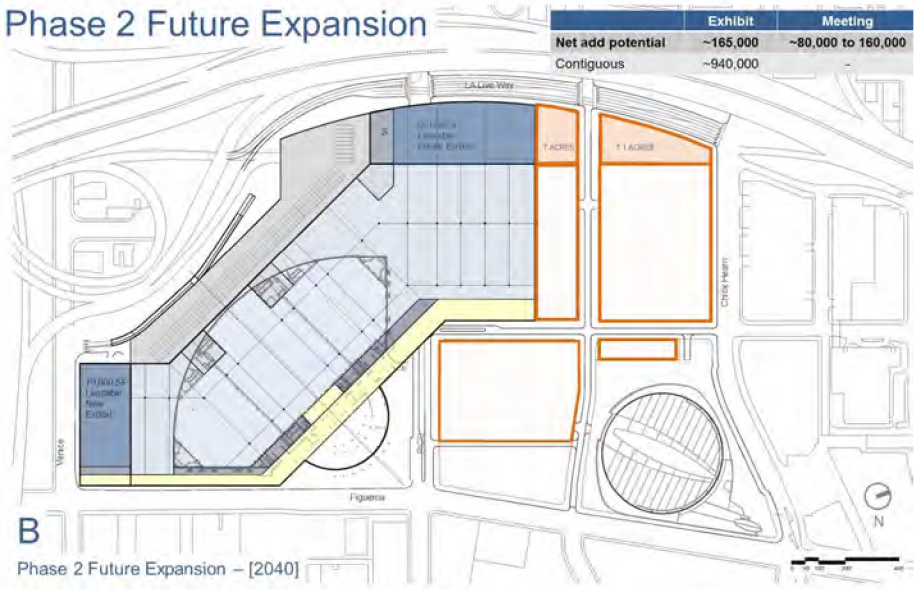


Figure 23: Plans for future expansion – concept design scheme B

If the City moves forward with the DBFOM Path, the City would include future expansion as a requirement for the proponents' design in the RFP. This could ensure that the proposals received allow for future additional expansion projects for the LACC.

5.2.5 Urban Experience

Creating a vibrant convention district is a key driver for re-positioning LACC in the convention market. As highlighted in the analysis of the trends of the convention industry, destination quality is an important selling point for convention guests and exhibitors.

One of the DBFOM Path design team's objectives for the campus was to re-establish the historic street grid to foster connectivity and accessibility, especially for pedestrian traffic. For instance, Schemes B and C propose to break up the LACC's existing super-block north of Pico Boulevard by extending 12th Street from Figueroa to L.A. Live Way, and to extend Georgia Avenue from Chick Hearn Court to Pico Boulevard.

Under this approach, the 12th Street extension would be designed as a one-way service street from L.A. Live Way to Figueroa in order to service the new development sites and to prevent cut-through traffic into the Pico Union neighborhood. Georgia Avenue would act as a linear, active, and pedestrian spine connecting the convention center with L.A. Live.

Designing wide sidewalks and adding ground retail to the active promenade on the Georgia Avenue extension will promote the district's liveliness day and night. The new Pico Boulevard will be enhanced to make it more pedestrian-friendly. Transforming Pico Boulevard into a Civic Boulevard will mitigate the negative effects of bridging over a section of the street.

The new rights of way are to be used as streets, public gathering spaces, and places for public activities during non-peak traffic periods, with limited use for vehicular traffic. Reconfiguring the street grid around the LACC campus enables to integrate the convention center with and capitalize on the surrounding public and private investments (L.A. Live, Staples Center, Avenue of the Angels, Los Angeles Streetcar, MyFigueroa streetscape, Oceanwide, FigCentral, etc.).

Under the three schemes, a promenade as part of Gilbert Lindsay Plaza can promote better connectivity between this community asset and the LACC. Improving the accessibility to the Plaza can enhance its use as outdoor programmable space. The schemes envision activation of Gilbert Lindsay plaza by increasing food service offerings, supporting community events, and hosting pop-up retail.

The DBFOM Path schemes propose to revamp the LACC campus by activating the site with new land uses that would provide needed amenities for visitors and area residents alike, increase activity and use of the site, and enhance the streetscape to improve connectivity and accessibility. These improvements will help create a vibrant 24/7 convention district. Figure 24 illustrates the DBFOM Path design team's vision for the LACC campus.

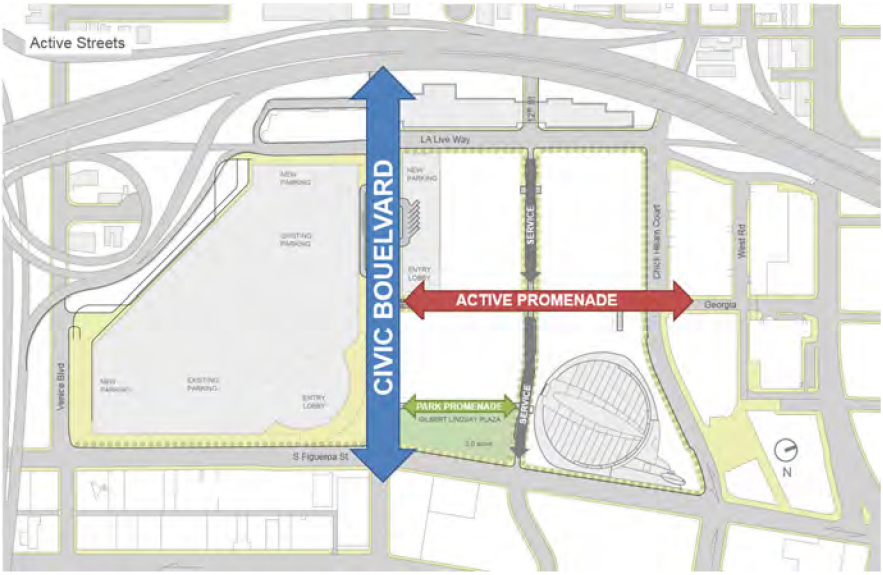


Figure 24: Urban streetscape for the LACC campus

5.3 Project Economic Benefits

As mentioned in Section 2.4 above, CSL performed an economic and fiscal impact analysis for the LACC expansion project in August 2015, which was updated and completed by Johnson Consulting in April 2016. This economic and fiscal analysis applies to both schemes, regardless of the development path selected by the City.

The real estate component of the DBFOM Path will create economic and fiscal benefits beyond the Traditional Path. Arup performed a complementary analysis to build on Johnson Consulting's figures, and thus to estimate the economic and fiscal benefits of the LACC and real estate components of the DBFOM Path. Altogether, the real estate development could represent a total private investment ranging between $1.4b and $1.8b, in addition to a convention hotel.

The real estate component will boost economic development by capturing a portion of Los Angeles's job growth on-site. Based on the projected demand for the real estate program developed for this report and presented in Section 5.1.2, Arup estimated jobs and earnings relative to the real estate development, once the retail, offices, and hotel products are fully serviced. Our analysis shows that a total of 4,600 jobs could be captured on-site and generate approximately $250m of additional earnings. Summary results of our analysis are provided in Appendix E.

Table 30: Employment and earnings drawn by on-site real estate development[42]

Land Uses	Employment (FTE)	Earnings ($m)
Retail	844	$18.1
Office	3,520	$223.5
Hotel	200	$5.0
Total	**4,564**	**$246.6**

Moreover, Arup estimated the direct spending fostered locally by office workers. According to our consumption pattern analysis for office workers, local expenditures represent approximately $6m per year.

Combining these figures with Johnson Consulting's economic impact analysis, we find that total spending from both the LACC expansion and modernization project and the real estate development could represent $177m. Moreover, the expansion and real estate components of the DBFOM Path would capture approximately 8,000 jobs on-site, with associated earnings of $360m. Table 31 summarizes the results of the DBFOM Path's economic impact.

Table 31: Economic impact analysis for the DBFOM Path[43]

		2015	Sixth year after expansion	Increase after expansion
Spending ($m)	LACC expansion-related spending*	$410	$581	**$171**
	Real estate-related spending	-	$6	**$6**
	Total spending	$410	$587	**$177**
Employment (FTE jobs)	LACC expansion-related employment*	7,200	10,200	**3,000**
	Real estate-related employment	-	4,564	**4,564**
	Total employment	7,200	14,764	**7,564**
Earnings ($m)	LACC expansion-related earnings*	$272	$385	**$113**
	Real estate-related earnings	-	$247	**$247**
	Total earnings	$272	$632	**$360**

**Includes direct, indirect, and induced spending effects*

Altogether, the economic benefits associated with the real estate development will foster urban revitalization in South Park and downtown Los Angeles. Diversifying land uses on the LACC campus and incorporating a convention hotel, offices, and ground retail will turn the neighborhood into a magnet for economic development. A mixed-use development on the LACC campus would help create a vibrant convention district around-the-clock.

Trend analyses for the convention industry have shown that the destination quality is an increasingly important factor for both show managers and convention guests. Under such premises, improving urban amenities in the LACC campus and expanding the convention experience beyond the bricks and mortar will transform South Park in a lively 24/7 convention district. The DBFOM Path will capitalize on South Park's redevelopment while competitively re-positioning Los Angeles in the convention industry.

[42] Arup analysis

[43] C.H. Johnson Consulting Inc., *Los Angeles Convention Center Expansion Market Impact Analysis Update* (April 25, 2016).

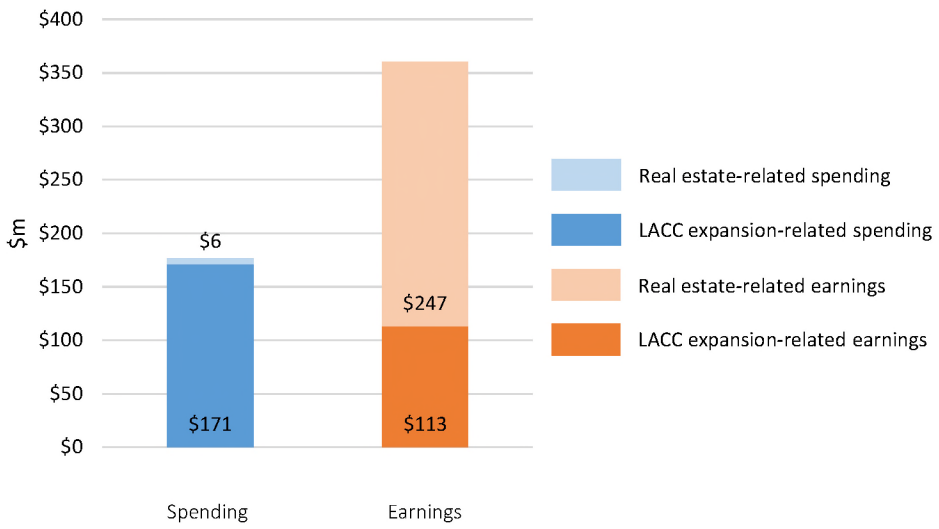


Figure 25: Spending and earnings for the DBFOM Path

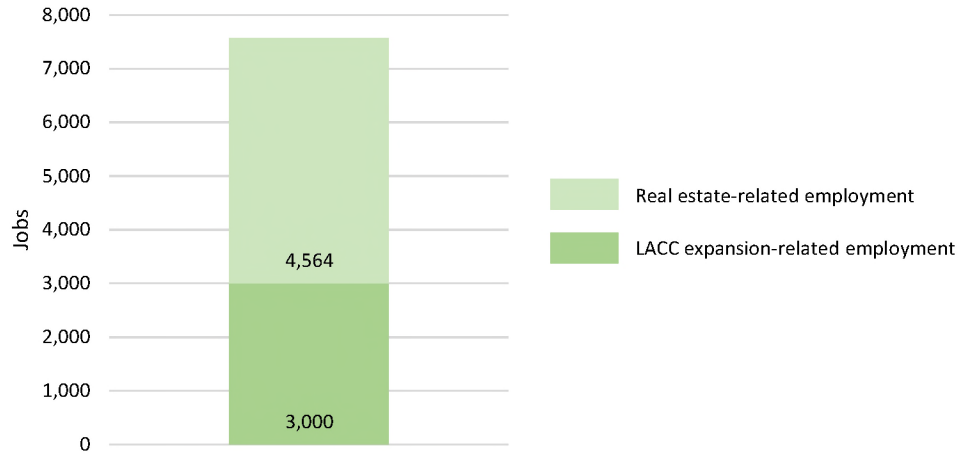


Figure 26: Employment for the DBFOM Path

5.4 Project Revenues

5.4.1 Operational Revenue

Section 4.4.1 above highlighted the key revenue drivers generated historically by the LACC itself and over the forecast period. Following expansion of the LACC, operating revenue is anticipated to increase as the number of events that can be hosted at the venue increases (due to the expansion in floor area). This increase in revenue, however, is likely to be similar under the DBFOM and Traditional development paths, as both involve similar increases in gross floor area. For this reason, the likely increase in operational revenue is not considered a significant factor for the purpose of comparing the two paths.

5.4.2 New Revenues

As detailed in Section 4.4.2, signage and naming rights constitute new revenue sources for both development paths. The real estate development associated with the DBFOM Path represents another significant new revenue-generating opportunity specific to it.

5.4.2.1 Naming Rights

As detailed in Section 4.4.2.1, the annual revenue potential from naming rights to the City is estimated at a range of $0.4m to $1.0m.

5.4.2.2 Signage

As detailed in Section 4.4.2.2, the annual revenue potential from signage to the City is estimated the range of $6.0m to $9.0m.

5.4.2.3 Real Estate Revenue

Arup worked alongside its sub-consultant HR&A to determine the likely real estate revenue for the DBFOM Path. Under the DBFOM Path, 7 to 14 acres of real estate development land is made available. Arup estimates that 2 of these 14 acres of land will be dedicated to the convention hotel. Scheme A can provide up to 7 acres, while schemes B and C can provide up to 14 acres. This real estate development land will be made available via a reconfigured and modernized convention center would not only create a revenue stream for the City, but also leverage significant private investment to create jobs, drive economic improvement, and enhance the ambience and popularity of Los Angeles and the local South Park area. The land development could make the LACC modernization project a much larger economic development strategy for the City than just improving the facility itself.

Figure 27 and Figure 28 illustrate how the real estate development could be integrated on-site. Note that these are diagrammatic massing models and are not illustrative of a specific development scenario, nor of the development scenarios evaluated financially in this report. It should be noted that after inclusion of a convention hotel, schemes B and C are likely to provide 12 acres of real estate development land.



Figure 27: Private real estate development – concept design scheme B

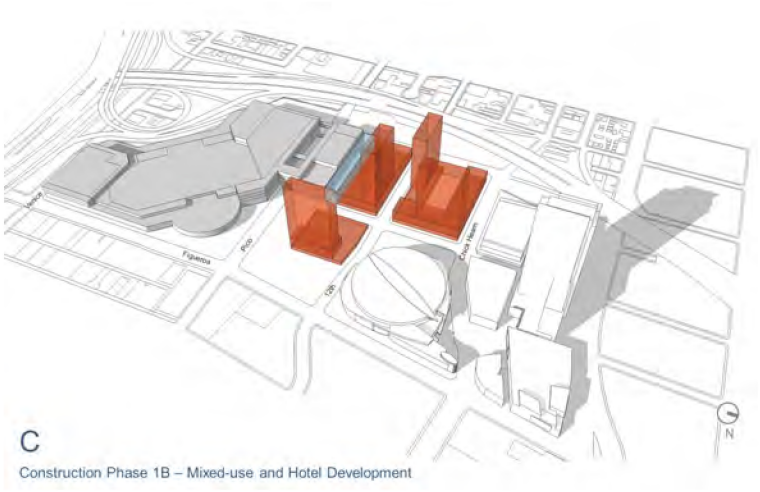


Figure 28: Private real estate development – concept design scheme C

Through one or more ground leases the City has the opportunity to not only capture revenues from lease payments but also create ongoing tax revenues. See Section 2.4 for a discussion on economic development expected from the LACC expansion project and Section 5.4.2.4 below about tax revenues that are based on the Arup and HR&A's real estate analysis.

Our analysis suggests that under a ground lease, the potential land value for 7 to 12 acres of land development (excluding the convention hotel) could generate between $127m and $175m in ground lease revenue and $119m and $160m in net tax receipts (in present value terms).[44] These values were arrived at using a residual land value analysis that takes into account an illustrative development program based on market demand, development costs, net operating income, and cap rates. Please refer to Appendix B for more details on the land valuation.

5.4.2.4 Tax Revenue

When fully stabilized – approximately 12 years after the convention center expansion is complete for the 12 acre scenario – estimates suggest that the real estate development could generate $9m in gross tax revenue annually (2016 dollars). Table 32 summarizes the tax revenue the City would receive based on the build out of the development program included in the financial analysis and further detailed in Appendices B and E.

Table 32: Gross tax revenue for the real estate component of the DBFOM Path

	(2016 $m)
Property tax / Possessory interest tax	$3.8
Motor vehicle licensing fee (in lieu)	$1.0
Sales tax	$0.5
TOT	$2.0
Parking tax	$0.5
Gross receipts	$1.3
Gross tax revenue	**$9.0**

[44] Residential (except for branded residential, which are condominiums co-located with and serviced by a hotel brand) was excluded from this study at the request of the City.

As mentioned in Section 2.4, Johnson Consulting estimated the LACC expansion project to increase the City's tax revenue by $9.8m six years after the completion of the expansion project. The City's tax revenue for the DBFOM Path consists of the tax revenue associated with the LACC expansion and the real estate development, and thus represents $18.8m annually.

Table 33: Total tax revenue for the DBFOM Path[45]

Item	Tax revenue ($m)
LACC expansion project related tax revenue	$9.8
Real estate gross tax revenue	$9.0
Total tax revenue	**$18.8**

For the purposes of estimating the net cost of the project to the City, the project's financial analysis considers the net tax income. The net tax income is equal to the above gross tax receipts less an approximation of the cost of the services provided by the City, which have been assumed at 50% the gross tax revenue in line with typical analyses of other City projects. This is considered a conservative assessment because the City's actual incremental cost of providing public services for an urban infill development with no residential land use would tend to be lower than this assumption.

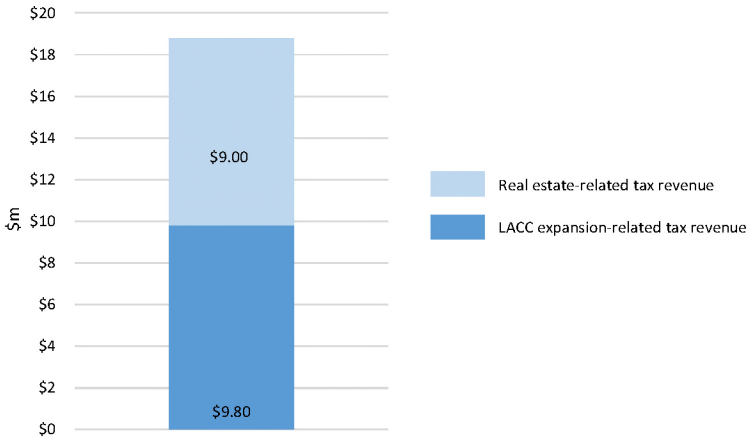


Figure 29: Total gross tax revenue for the DBFOM Path, six years after expansion

5.5 Project Cost of Ownership

5.5.1 Construction Costs

Arup developed a cost model estimate for the design schemes to provide a range of the possible costs for the DBFOM Path. Scheme B, which was validated in detail by the ICSE, was used as a baseline to develop the estimate for Scheme A on the same basis. Scheme A cost estimate was reviewed by the ICSE. The results are presented in the table below.

[45] C.H. Johnson Consulting Inc., *Los Angeles Convention Center Expansion Market Impact Analysis Update* (April 25, 2016).

Table 34: Construction cost for the DBFOM Path Development Option[46]

Cost item	Range of possible costs (2016 $m)	
	Lower end, Scheme A	Upper end, Scheme B
Total construction budget	$721.7	$890.2
Soft costs and other items	$122.0	$155.1
Total cost excluding contingency	**$843.7**	**$1,045.3**
Project risk based contingency	$67.5	$83.6
Total project budget	**$911.2**	**$1,128.9**

The above estimates are based on a preliminary program and concept design for the three concept design schemes, and are thus not intended to be used for budgeting potential work.

5.5.2 Lifecycle Costs

From a lifecycle perspective, the strategy to replace the West Hall provides a number of benefits, including energy optimization by completely replacing the distribution network and equipment in a new CUP, enhanced ability to use technology to control the building operations, and improved maintainability through consistent use of finishes.

Another benefit from this strategy is to extend the life of the overall complex by replacing the portions that are near or beyond their useful life. Under a scenario where the West Hall continues to be used, a full replacement of the majority of the facility would be required within the next 5 to 10 years. In the case of scheme A, which keeps the main exhibit space of the West Hall but demolishes its meeting spaces and the Concourse, the cost estimate provides for an extensive renovation as part of the expansion project construction work. This minimizes operational disruption later and takes advantage of economies of scale with the rest of the construction project and the site mobilization of the construction contractors.

Investments will be required in the existing South Hall during the term under both the Traditional and DBFOM Paths. Under a DBFOM model, the private developer may choose to invest earlier into maintained elements that could disrupt operations, which further reduces the operational risk.

One of the benefits of the DBFOM Path is the value retention over time. Using this delivery method the DBFOM developer is typically held to a high maintenance and lifecycle renewal standard in order to achieve at a minimum an 85% facility condition index over the term and at hand back. This is further supported by a performance management regime where the failure of equipment or poor services leads to financial deductions and remedial action. As a result, the DBFOM developer is highly motivated to perform proper maintenance so that the facility has a significant residual value at the end of the term, thus avoiding a requirement for significant re-investment in or replacement of the facility by the City.

By transferring the accountability for the full life of the maintained elements to the DBFOM developer, the DBFOM model ensures that the developer will adopt a more integrated approach, balancing the initial investment against the cost of maintaining and replacing the elements over the term. Furthermore, without the funding restrictions imposed by having significant

[46] For more information please see MGAC, *Los Angeles Convention Center Expansion Project – Independent Cost and Schedule Validation* (June 17, 2016).

competition for capital budgets, the DBFOM developer can invest more up-front or during the term to achieve sustainable operating savings.

From the City's perspective, this model also offers the following quantifiable risk transfer to the private sector: integration issues between the new and existing facilities; design coordination (between design & construction); transition, commissioning and operational start-up (between construction and operations); deficiencies; latent defects; performance of maintained elements; operational continuity; and retention of residual value.

The ICSE audited figures for the lifecycle costs of the DBFOM Path are summarized in Table 35. The results suggest that the total lifecycle expenditure for the entire facility would reach $490m. These costs are presented in 2016 dollars over the analysis' 40 year time horizon.

Table 35: Lifecycle costs for the DBFOM Path Scheme B[47]

Cost item	40 year cost (2016 $m)
Existing facility lifecycle (40 year)	$221.3
New build lifecycle (40 year)	$268.5
Total lifecycle cost over 40 year period	**$490.0**

Based on the ICSE's validated numbers for lifecycle cost for Scheme B, Arup generated lifecycle cost estimates for Scheme A, as shown in the table below.

Table 36: Range of Lifecycle costs for the DBFOM Path

Cost item	Range of possible 40 year costs (2016 $m)	
	Scheme A	Scheme B
Total lifecycle cost over 40 years	$505.8	$490.0

5.5.3 Operations and Maintenance Costs

As discussed in Section 4.5.3, the three key elements of operations and maintenance costs forecast as part of this study included general operations, routine maintenance and energy costs. Definitions for those cost items are include in Section 4.5.3, which also identifies the likely difference between the routine maintenance costs and energy costs under the DBFOM development path.

The DBFOM routine maintenance costs include an efficiency savings compared to the Traditional Path, due to the fact that newer facilities usually cost less to maintain. At the end of construction approximately 25% of the completed facility will be new construction in the Traditional Path scheme, versus close to 60% new construction for the DBFOM Path schemes considered in this report. A 10% reduction in cost was utilized to account for this based on a conservative approach to industry benchmarks – research suggests that differences in routine maintenance and repairs associated with older buildings can be higher.

Accounting for the efficiency savings, the annual routine maintenance costs under a DBFOM development path are estimated at $6.7m in 2020 when the facility opens. The regime of

[47] For more information please see MGAC, *Los Angeles Convention Center Expansion Project – Independent Cost and Schedule Validation* (June 17, 2016).

lifecycle investment and in particular the ring-fenced budgeting for lifecycle maintenance and upgrades under the DBFOM structure, are consistent with the routine maintenance projection.

The construction of a new CUP in the DBFOM Path enables energy savings. The energy saving estimated for the base building component of the energy costs is estimated at 30% compared to the existing building's baseline energy consumption and cost rate, leading to a net reduction in annual energy expenses of $1.6m in 2020 relative to the projected baseline for the existing facilities.

Further details regarding the operation and maintenance costs are provided in Appendix D.

5.5.4 Soft Costs

The procurement of the LACC expansion and modernization project under the DBFOM Path would entail costs related to the management by the City of the procurement process and the management of the contract during construction, as well as permitting and other fees. These costs are accounted for in the construction cost estimates shown in Table 34 above.

Soft costs include reasonable fees and expenses of employees, attorneys, architects, engineers, expert witnesses, contractors, consultants and other persons, and costs communications, of transcripts, printing, copying and other reimbursed expenses. The City retains the flexibility to either fund these costs from pay-as-you-go funds or to finance all or part of them with its own financing or to capitalize them within the DBFOM developer's financing.

5.6 Procurement and Sponsor Risk Exposure

DBFOM is an alternative delivery method that enables material risk transfer to the private sector. A DBFOM contract awards the construction, modernization, upgrade and/or expansion of an infrastructure asset, as well as its operation and maintenance, to a private party. DBFOM contracts are typically granted for a concession period of 25 to 45 years depending on the nature of the assets and other factors. Throughout this period, the public agency retains full ownership of the facility while the private sector assumes the design, build, financing, and the operations and maintenance of the asset in exchange for an AP. At the end of the DBFOM contract term, the asset is handed back to the owner at a contractually pre-specified condition.

5.6.1 Payment Structure and Incentives

The payment provisions of the DBFOM model align the incentives of the private partner to:

- Minimize the cost of the APs at the time of bid through a competitive procurement process.
- Complete the construction on time and within budget.
- Deliver the operations and maintenance performance and quality requirements defined by the City in the contract.

For the City, this has the benefits of transferring risk, creating a predictable and optimized cost profile, and getting a high quality facility from the day that construction is finished through the last day of the contract term.

To compensate the private partner for the services relative to the facility's design, construction, financing, operation, and maintenance, the City would make APs to the private partner based on the project's availability.

For the DBFOM Path the City would start making APs to the DBFOM developer once the LACC expansion project has been completed and is ready for use. Once they start, the APs include the remuneration of the capital invested by the DBFOM developer for the construction of the facility. Since lifecycle would be the responsibility of the DBFOM developer, the APs also include the remuneration for lifecycle investments needed for the following 40 years of operation.

For the LACC project, the analysis incorporates:

- A capped or fixed indexation of the capital portion of the APs to follow the growth rate of the sources of revenue affecting the NCPs
- Indexation at the rate of general inflation to recognize inflation on cost for the portion of the APs associated with maintenance costs

The APs are typically one of the main bid selection variables during the bidding process. They are defined at the time of the bid and become contractually scheduled according to a formula in the DBFOM agreement, as described above.

For the term of the contract, as long as the private partner makes the facility available to the City it would have a contractual right to receive the corresponding time period's AP. The APs, often also known as performance payments, are linked to operations and maintenance performance metrics. In any given time period if the private partner does not meet some or all of the performance requirements and does not cure those conditions within specified time periods, then the City has the contractual right to deduct money from the corresponding AP.

Finally, if the facility is not available for use and/or those performance shortfalls persist according to the specific requirements of the contract, then under the strict terms of the DBFOM contract the private partner would be considered in default and the City would have the right to terminate the contract. Termination carries severe financial consequences to the private investors because the only security they have are the contractual rights defined in the DBFOM agreement. Typically in such cases the equity investors lose part or all of their investment.

5.6.2 Debt Service

Since the AP's are considered contractual obligations and not financial obligations of the City, they are not subject to the City's 6% limitation on non-voter approved debt.

5.6.3 Cost and Schedule Performance

Empirical experience shows that projects procured as DBFOM are delivered on time and on budget in most cases. One of the main advantages of DBFOM contracts is that they are awarded in a fixed-price fashion. As a consequence, the owner's exposure to cost overruns and project delays is mitigated. The competitive bidding process for the selection of the private partner through an RFQ/RFP process enables the owner to shortlist and eventually select bidders on their ability to meet output-driven performance requirements at a fixed bid price with a fixed schedule, thus granting bidders the flexibility to deliver competitively.

To arrive at fixed-price, date-certain proposals, which have to be backed with committed financing packages, the bidders and their design-build contractor team have to secure and take the risk of pricing of inputs to their bids. The alternative technical concepts (ATC) process can also be effectively used to encourage innovation and competition among the designs and the bids.

Moreover, a DBFOM procurement would entail significant risk transfer to the private sector for routine and major maintenance. By transferring each of the project's risks to the party best able to manage it, the owner is no longer responsible for lifecycle investments over the concession period. The P3 contract specifies performance indicators and associated penalties to ensure a good upkeep and adequate lifecycle funding for the facility by the private sector throughout the concession. To minimize costs, the private developer is incentivized to find solutions to efficiently design, build, and maintain the facility. Financial incentives between the private developer and its various contractors – including the O&M service provider(s) – are embedded in the project's subcontracts. As a consequence, the contractors' interests are aligned with the special purpose vehicle's (SPV) to ensure compliance with the concession contract's performance requirements. Below are this model's benefits and limitations in addressing some of the major construction risk factors:

- **Differing Site Conditions**: The DBFOM delivery method would typically have the concessionaire perform its own geotechnical and material testing prior to moving into construction. This would allow the material risks to be transferred to the construction company that is most capable of mitigating it, and the City would not be responsible for site conditions that are different from those previously encountered by the concessionaire.
- **Design Omissions**: The DBFOM method would inherently require the designer and contractor to be a part of the same developer. Therefore any design errors or omissions that maybe later found out in the project are the responsibility of the developer. This transfer of risk provides an environment where minimizing errors is in the interest of both construction and design staff. Moreover, any issues that arise throughout the project would need to be addressed by the same developer and not the City.
- **Changes in Bid Quantities**: Rigid establishment of bid quantities are not required in the DBFOM model, since the designer and contractor are both part of the same developer team. The risk of developer bid quantitates is transferred from the City to the developer.
- **Constructability Issues**: Similar to the CM/GC method, the DBFOM method involves the developer earlier in the to the project development phase. This would allow constructability issues to be addressed when they are least costly to the project. These risks are transferred from the City to the developer.
- **Schedule Delays**: Under the DBFOM delivery method, some of the construction work could be performed while design is still being completed. This fast track delivery allows for a shorter overall schedule. Moreover, the developer's involvement with the project does not finish at the end of the construction phase, and the developer has every incentive to finish the project on, or ahead of schedule, in order for APs to start. Schedule risks are transferred from the City to the developer.
- **Level of Collaboration**: The DBFOM establishes an agreement with designers, construction contractors and O&M contractors involved from the early stages of the project. This early involvement enables better communication channels between all

parties which are not typically encountered under other models. Most importantly, it enables faster decision making as issues are encountered during construction. This mitigates cost and schedule risks, which in any case are not the City's responsibility.

5.7 Framework of City Obligations

The LACC expansion and modernization project will demand the City to bear a series of obligations of a technical, commercial, legal, and financial nature. When the project is procured under a DBFOM Path most of these obligations are associated with the procurement model itself and become contractual obligations for the City, while retaining secondary technical obligations related to the convention center itself, specifically during the construction period.

To pay for the expansion and modernization of the LACC procured under a DBFOM model the City contractually commits to make annual APs to the DBFOM Developer once the facility has been completed and its occupancy readiness has been certified, as described in Section 5.6.1 above.

The City will rely on the General Fund as the primary source of funds to pay the APs. This payment commitment will be documented in the DBFOM agreement between the City and the DBFOM developer that will comprise each party's obligations over the term of the agreement:

- Construction period: The City would specify a no-later-than date for substantial completion and occupancy readiness
- Operations: The City would specify a certain number of years for the operations, which would start when the DBFOM developer has successfully reached substantial completion and occupancy readiness

For the purposes of this report, the financial analysis assumes a construction period consistent with the schedule reviewed by the ICSE and a term of operations of 40 years.

The City would not have additional payment obligations for capital costs or for routine maintenance costs. These obligations and their costs are captured in the indexed APs. The capital investments over the term of the agreement include the initial construction costs lifecycle maintenance, refurbishment, or replacement that may be necessary not only to preserve normal functional facility of the facility, as specified by the performance standards specified in the agreement, but also to upkeep the facility so that it meets the hand back requirements.

A customary provision is for energy and utility costs to be either the direct responsibility of the owner, or to be treated as pass-through costs. The agreement would have specific provisions to incentivize and/or require the incorporation of energy and water saving investments during the design and construction stage, as well as ongoing over the lifecycle.

Other obligations that the City would have include:

- Management of the procurement process prior to award, including CEQA clearance and obtaining governmental approvals
- Management of the contract and oversight during construction and operations
- Continuing its management of the general operations of the LACC, consistent with the current governance and operational approach described in Section 2.2.3 above

The following table summarizes the City's scope of obligations and the corresponding sources of funding considered in this report in relation to the LACC.

Table 37: Summary matrix of City obligations for funding of the DBFOM Path

Scope	Description	Source of Funding
Facility operations and maintenance	• Events and general operations • Energy and utilities costs	• Revenue from facility operations • Shortfalls, if any, are covered by the General Fund • Surpluses, if any, are directed to facility maintenance needs
Capital Investments, including expansion, modernization, and ongoing lifecycle maintenance	• Design and construction of the expansion and modernization project • Ongoing lifecycle maintenance requirements	• Soft costs prior to construction associated with the City's procurement process and monitoring and contract management post award, which are paid from the General Fund • Availability Payments paid from the General Fund • New revenues from signage, naming rights, and real estate to reduce the net cost of the project to the City

5.8 Net City Payment

Based on the work conducted by the DBFOM Path design team and the ICSE's review and assessment, the total capital funding requirements for the DBFOM Path can be summarized as follows.

Table 38: DBFOM Path capital funding requirements

Item	Low case, scheme A (over 40 years)	High case, scheme B (over 40 years)
Total construction costs (YOE $m)	$911.2	$1,128.9
Lifecycle costs (2016 $m)	$505.8	$490.0

The financial model described in more detail in Appendix I takes these inputs, together with estimates of financing costs benchmarked to current market conditions, to estimate a possible range of annual AP obligations over time for the DBFOM Path. The analysis time period extends until 2060, which is 40 years after the end of construction of the expansion project in the DBFOM Path and matches the time period of analysis for the Traditional Path.

The net cost to the City of the DBFOM Path (in terms of an annual NCP) considers the annual AP obligations of the City to the DBFOM Project Company which would account for the cost of the project is construction, routine maintenance and lifecycle maintenance. The annual AP obligations net out new revenue streams. In the case of the DBFOM Path, these include revenue from naming rights and signage, as well as the real estate development related revenues from ground leases and net tax receipts. Once calculated, the stream of NCP payments can be used to compare the costs of the two development paths, as further discussed in Section 6.

As projected in Table 39, under the upper range for the DBFOM Path, the average net annual NCP in 2016 dollars is expected to range from $45m to approximately $40m. While there is a slight reduction in the average NCP over time (as expressed in 2016 dollars), the average figure across the three periods remains fairly constant, due to the level spreading of the cost of the

project over the 40 year term of DBFOM agreement. A similar trend exists in the low range scenario for the DBFOM Path. A comparison of this profile of NCPs to the Traditional Path is presented in Section 6.

Table 39: DBFOM Path average annual net City payments – High range projections (scheme B)

Components of net City payment	DBFOM high end of the range (2016 $m)		
	2018 - 2133	2034 - 2047	2048 - 2060
	Expansion project construction, ramp up new revenues and operations	*Stabilization of new revenues*	*Hand back of facility (DBFOM)*
Availability payment (net)*	$60.5	$62.9	$62.1
Less: new revenues (naming rights and signage)	($8.8)	($10.3)	($10.1)
Less: real estate revenue	($3.3)	($6.1)	($6.0)
Less: real estate net tax revenue§	($3.4)	($6.4)	($6.3)
Annual NCP	**$45.0**	**$40.1**	**$39.6**

Table 40: DBFOM Path average annual net City payments – Low range projections (scheme A)

Components of net City payment	DBFOM low-end of the range (2016 $m)		
	2018 - 2033	2034 - 2047	2048 - 2060
	Expansion project construction & renovation of West Hall, ramp up new revenues and operations	*Stabilization of new revenues*	*Hand back of facility (DBFOM)*
Availability payment (net)*	$52.6	$54.8	$54.1
Less: new revenues (naming rights and signage)	($8.8)	($10.3)	($10.1)
Less: real estate revenue	($3.1)	($4.2)	($4.1)
Less: real estate net tax revenue§	($3.2)	($4.4)	($4.3)
Annual NCP	**$37.4**	**$36.0**	**$35.5**

** Routine maintenance and energy costs are included in the LACC's current and future operating accounts. The calculation of the APs nets out these costs in order to permit an apples-to-apples comparison of the two developments paths.*

§ City service costs are deducted from gross tax receipts to estimate net tax receipts, with reduction of 30%.

While the profile of average annual NCPs over time helps the City to understand the profile of its net payment obligations, the present value of the likely payment obligations is also useful when comparing the development paths, as it enables a like-for-like comparison in current 2016 dollars. The net present value of annual NCPs for the DBFOM Path under both the high and low projections associated with the variety of design schemes considered is presented in Table 41. As the table below shows, under a DBFOM Path, the likely range of present values associated with the expansion project is between $824.4m and $734.2m. Section 6 compares and contrasts this range to that identified for the Traditional Path.

Table 41: DBFOM Path net present value of net City payments from 2016 to 2060 (2016 $m) – High and low range projections

Components of net City payment, discounted at 5.75%	DBFOM high end of the range - All years	DBFOM low end of the range - All years
Availability payment (net)	$1,366.2	$1,187.2
Less: new revenues (naming rights and signage)	($207.1)	($207.1)
Less: real estate revenue	($175.0)	($126.7)
Less: real estate net tax revenue	($159.7)	($119.2)
NPV of NCP 2016 to 2060	**$824.4**	**$734.2**

5.9 Summary of Analysis

The analysis of the DBFOM Path is summarized in Table 43 below. It utilizes the approach outlined in Section 3.4 to identify how the DBFOM Path achieves the City's goals against each of the selected evaluation criteria. The rating scheme used is recreated in Table 42.

The present value of the NCPs for the DBFOM Path from 2018 through 2060 suggests that the net present value of NCPS from 2016 to 2060 to the City will range between:

- $824.4m in the high case, expressed in 2016 dollars
- $734.2m for the low case, expressed in 2016 dollars

In summary, we note that unlike debt service in the, the figures above are projected based on the payment of APs by the City to the DBFOM Project Company. Due to their contractual nature, APs are not subject to the City's debt limits. As explained in Section 5.6.1, APs made periodically after substantial completion of construction, and may be adjusted downwards based on facility's unavailability (e.g., unpermitted closures of the facility, in part or in whole, or shortfalls against contractually-prescribed asset performance standards). As a result, any failure of the operator to meet expected standards of operation will lead to a lower overall cost to the City. Furthermore, the City's obligation to make APs is subject to the appropriation of funds needed to make these payments.

In addition to the financial considerations of the DBFOM Path, the qualitative nature of the project must be evaluated in line with the City's goals and objectives. The DBFOM Path is likely to achieve the majority of the City's objectives as outlined in the evaluation criteria from Section 3.4. This analysis is presented below in Table 43. The rating scheme used to evaluate the compliance of the path with the criteria is replicated in Table 42.

Table 42: Evaluation criteria rating scheme

Rating	Description
●	Achieves or strongly achieves the stated criteria
●	Partially achieves the stated criteria
●	Only minimally or does not achieve the stated criteria

Table 43: Evaluation matrix for the DBFOM Path

Parameter	Evaluation Criteria	Rating	Discussion
Project features	Achieves the City's program specifications	●	As outlined in Section 5.2.1, the DBFOM Path schemes considered in this report are able to deliver the program requirements in terms of contiguous indoor exhibit space. In order to make an apples-to-apples comparison of costs with the Traditional Path scheme, the cost estimate for scheme B is based on a similar indoor exhibit space program while the estimate for scheme A delivers the full City program.
	Identifies sites for a convention hotel	●	The DBFOM Path design schemes identify several suitable sited within the LACC campus for a convention hotel development.
	Delivers a high-performing top-tier facility	●	Section 5.2 discusses how the DBFOM Path achieves a state-of-the-art facility that will have high performance and functionality.
	Provides business continuity during construction activities	●	The schemes considered for the DBFOM Path have been analyzed to ensure that business continuity during construction activities is maintained, as outlined in Section 5.2.3. The DBFOM contract would include appropriate scheduling and performance requirements to ensure that the contractor delivers business continuity, with financial deductions to incentivize performance.
	Makes provision for future expansion	●	The schemes considered for the DBFOM Path have been developed to allow for appropriate future expansion space, as discussed in Section 5.2.4.
	Provides a vibrant urban experience	●	As discussed in Section 5.2.5, the DBFOM Path proposes to maximize the mixed-use development of the site, reconnects the street grid with pedestrian-oriented rights of way, activates street-level frontages, and enhances the neighborhood with a new mix of amenities and 24/7 use of the site.
Project economic benefits	Maximizes job capture on site	●	Section 5.3 highlights the added economic impact, over and above the benefits from the LACC itself, which is likely to be generated with the approach proposed under the DBFOM Path based on the real estate development integrated with the expansion project.
Project revenue	Grows existing revenue sources	●	As outlined in Section 5.4.1, the DBFOM Path assumes a similar operating revenue forecast to that in the Traditional Path, in line with the convention market projections by others and the delivery of the City's facility program.

Parameter	Evaluation Criteria	Rating	Discussion
	Creates additional revenue sources (naming rights and signage)	🟢	As with the Traditional Path, the DBFOM Path outlines the likely increase in revenue for the LACC as a result of naming rights and signage from the expansion project. This is discussed in more detail in Section 5.4.2.
	Creates additional revenue sources (real estate)	🟢	The DBFOM Path includes a significant component of revenue that is provided via the real estate development. These include both ground lease revenues and net tax income for the City, and are presented in Section 5.4.2.3.
Project cost of ownership	Meets the City's total budget of $470m	🔴	Section 5.5.1 outlines the construction costs for the DBFOM Path, which are estimated to exceed the identified budget and are higher than in the Traditional Path due to the greater extent of demolition and new build activity proposed in order to accommodate the real estate development component of the project.
	Reduces lifecycle costs	🟢	The lifecycle costs associated with the DBFOM Path are discussed in Section 5.5.2. They are lower than the Traditional Path due to the extent of new build present in the DBFOM proposal.
	Reduces O&M costs	🟢	Section 5.5.3 outlines the O&M costs for the DBFOM Path which are lower than the Traditional Path due to reduced routine maintenance and energy costs given the greater extent of new buildings and a new CUP.
Sponsor risk exposure	Reduces the risk of cost and schedule overruns	🟢	Due to the nature of the P3 procurement and the allocation of risks proposed under the DBFOM Path, the risk of cost and schedule overrun for the City is significantly lower. This is discussed in Section 5.6.
	Reduces risks related to the procurement process	🟡	The DBFOM procurement process can be complex for owners who have not undertaken one before and has a learning curve that necessitates appropriate staffing for proactive management. Conversely, the greater complexity is a result of the extent by which risks are identified, priced, and contractually structured and allocated in order to transfer and mitigate construction and lifecycle maintenance risks.
	Reduces lifecycle risk	🟢	As discussed in Section 5.5.2, lifecycle cost is expected to be lower in the DBFOM Path due to the nature of the design involving a greater degree of new build.

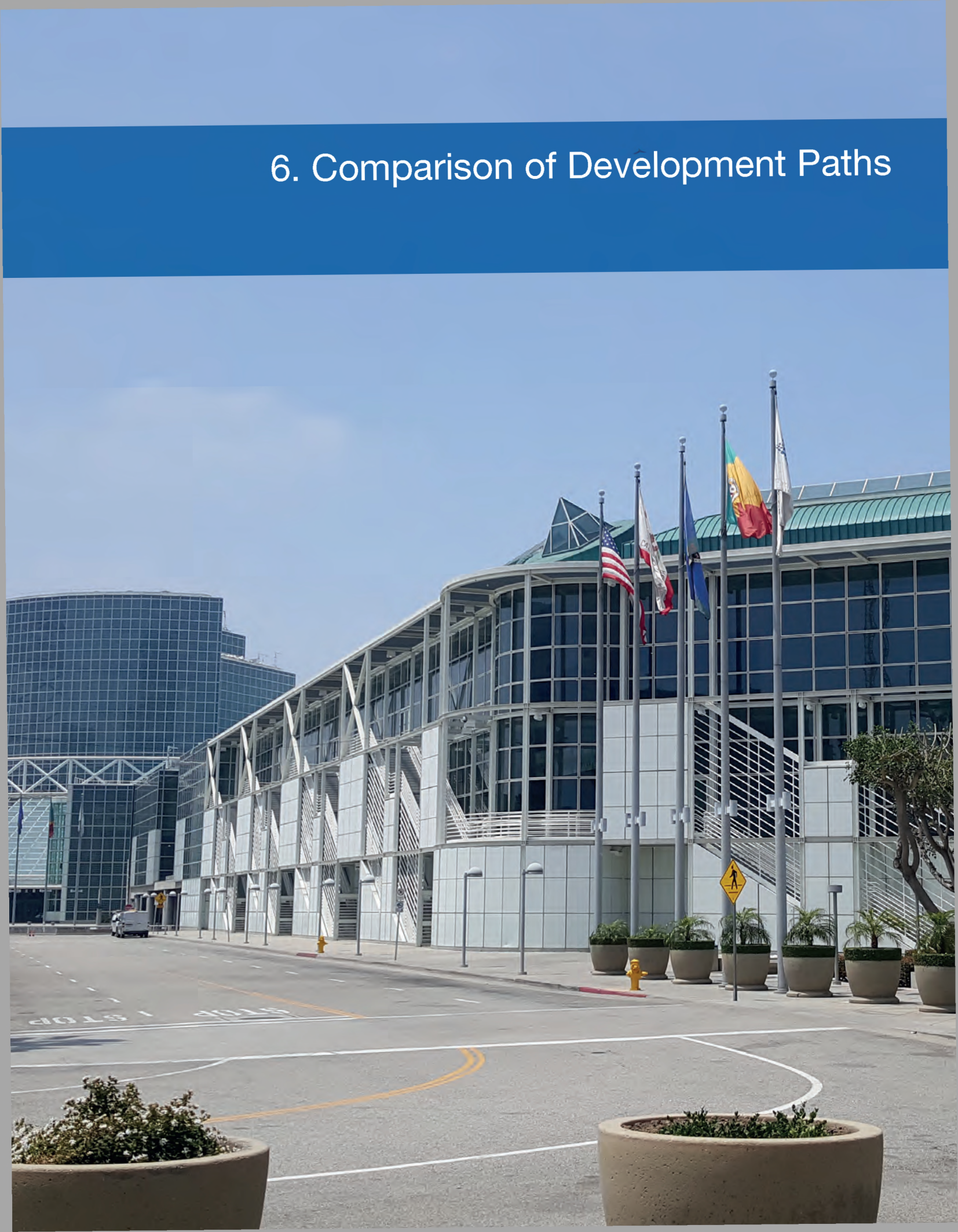
As can be seen from the results presented in Table 43, the DBFOM Path presents an attractive project in terms of delivering to the City of Los Angeles with a new, state-of-the-art convention center, and mixed-use development which is likely to act as an economic driver and engine for growth.

While the project's construction cost exceeds the $470m budget, it presents an innovative approach that will allow the City flexibility and control while guaranteeing quality of the assets in the long term.

Although it may involve a procurement process which is relatively new to the City of Los Angeles, evidence from other DBFOM projects, including convention centers suggests that it is a viable procurement option to consider.[48] Furthermore, in the context of the City's current program of planned DBFOM procurement, including most notably Los Angeles World Airport's (LAWA's) two major project currently in procurement, it can develop and enhance its in-house DBFOM capability to efficiently deliver this program.

[48] The CAO Phase I report published in December 2015 identified a variety of other facilities which were procured under DBFOM processes.

6. Comparison of Development Paths



6 Comparison of Development Paths

This section of the report summarizes the information presented in Sections 4 and 5 to present a clear comparison of the Traditional Path and the DBFOM Path from the perspective of the City. The focus of the comparison is on the City's goals for the project as outlined in Section 3.4 and involves both a qualitative and quantitative component.

It is important for the City to fully understand the implications of selecting one of the development paths presented in this report.

- Selecting the Traditional Path entails a choice of both a procurement method, and a specific concept design. This provides the City with the opportunity to further develop the concept design and the corresponding construction and lifecycle budgets.
- Selecting the DBFOM Path entails a choice of procurement method, yet does not involve the selection of a specific concept design at this time. It requires instead, that the City define clear objectives and requirements for the project and its procurement. Bidders in competition with each other will then develop their best tenders, packaging both their designs and their financial proposals together. The bidders' financial proposals would include firm construction, financing, and lifecycle maintenance proposals. The City would make its selection among the proposals by selecting that which best fits with its clearly-defined objectives.

  As such, the selection of the DBFOM Path at this time is not a decision to support one of the three DBFOM concept designs evaluated in this report, nor does it require a decision on financial commitment, but rather it involves the selection of a process which will pave the way for the market to deliver, in that context, the best possible solution for the LACC expansion and modernization project.

The analysis in this report is intended to provide a conservative benchmark, within the constraints identified, to judge whether the market can deliver a DBFOM solution that has higher or lower value and cost than the Traditional Path.

6.1 Qualitative Comparison

Table 45 summarizes and compares the main parameters that characterize the two development paths in line with the City's objectives. This is a summary of the information presented in Sections 4.9 and 5.9. The rating scheme used is summarized in Table 44.

Table 44: Evaluation criteria rating scheme

Rating	Description
●	Achieves or strongly achieves the stated criteria
●	Partially achieves the stated criteria
●	Only minimally or does not achieve the stated criteria

Table 45: Comparison of development paths' fit with the evaluation criteria

Parameter	Evaluation Criteria	Traditional Path	DBFOM Path
Project features	Achieves the City's program specifications	🟢	🟢
	Identifies sites for a convention hotel	🟢	🟢
	Delivers a high-performing top-tier facility	🟢	🟢
	Provides business continuity during construction	🟢	🟢
	Makes provisions for future expansion	🟢	🟢
	Creates a vibrant urban experience	🟡	🟢
Project economic benefits	Maximizes job capture on site	🟡	🟢
Project revenue	Grows existing revenue sources	🟢	🟢
	Creates new revenue sources (naming rights and signage)	🟢	🟢
	Creates new revenue sources (real estate)	🔴	🟢
Project cost of ownership	Meets the City's total budget of $470m	🔴	🔴
	Reduces lifecycle costs	🟡	🟢
	Reduces operations and maintenance costs	🟡	🟢
Sponsor risk exposure	Reduces the risk of cost and schedule overruns	🔴	🟢
	Reduces risks related to the procurement process	🟢	🟡
	Reduces lifecycle risk	🟡	🟢

6.1.1 Project Features

As is illustrated in Table 45, both paths analyzed in this report are able to meet the City's expansion program - they both propose adding a minimum of 180,000ft^2 of net new indoor exhibit space and supplement this with available outdoor space to achieve the expansion program which calls for 220,000ft^2. One of the DBFOM schemes, labeled Scheme A, has been presented and cost estimated with the full 220,000ft^2 of new indoor exhibit space.

Both the Traditional Path and the DBFOM Path identify suitable sites for the convention hotel, deliver a high performing top-tier facility, and make allowances for future expansion. They also have comparable procurement and construction schedules, including working with the current CEQA approval schedule.

While the Traditional Path proposes a design that would significantly enhance the connectivity of the LACC with its surroundings, especially along Figueroa Street and with L.A. Live, the DBFOM Path creates a more vibrant convention district, by diversifying land uses on the LACC campus and activating the site with an integrated mixed-use real estate development.

6.1.2 Project Fiscal / Economic Benefit

Regardless of the development path selected, the LACC expansion project itself is expected to translate into $171m of additional spending, 3,000 new jobs and $113m in additional earnings when compared to the 2015 baseline.

6.1.3 Project Revenues

Under the DBFOM Path, the 7 to 14 acre real estate development would be transformative for the neighborhood and drive economic development even further. It would create a vibrant campus anchored by the LACC, a destination in itself which is an important factor in event planner's and convention visitor's decision-making. Estimates indicate that the real estate development could generate 4,600 jobs on-site and $248m in earnings, over and above the figures projected for the LACC expansion project itself.

Diversifying land uses on the LACC campus will help to create a vibrant, 24/7 convention district in sync with the developments of L.A. Live and in the South Park neighborhood. Together with the LACC expansion, it would re-position Los Angeles as a more competitive convention destination.

The City has the opportunity to leverage the public investment in the LACC expansion to generate a real estate development with an estimated $1.4b to $1.8b total private investment value in addition to a convention hotel development. The analysis in this report estimates the revenues which the City would receive as a result of the private development in the form of ground leases and taxes, as well as the quantifiable economic impacts that can be attributed to this development. Beyond these quantifiable metrics, a development of this nature and scale generally is likely to provide wider, indirect economic benefits for Los Angeles, consistent with the experience seen with prior successful developments such as L.A. Live and other large-scale projects such as the nearby Metropolis development.

The real estate development component of the DBFOM Path would also generate between $127m and $175m in contracted ground lease revenue, and between $119m and $160m in net tax receipts in present value terms. These ranges are linked to the 7 to 14 acre real estate development scenarios associated with the different master plan schemes considered under the DBFOM Path.

Arup's analysis assumes that both development paths would perform equally well in growing existing LACC operating revenue sources and in maximizing new revenue sources from signage and naming rights.

6.1.4 Project Cost of Ownership

In terms of the City's cost of ownership for the project, the qualitative comparison provides a mixed picture. According to the ICSE's evaluation, neither path is able to deliver the expansion project with a total project cost within the City's budget of $470m.

The ICSE's analysis also shows that the DBFOM Path would have lower lifecycle and maintenance costs. Under the DBFOM Path, savings in energy consumption and routine maintenance expenditures are expected, since the DBFOM developer would be maintaining a facility with a significantly higher proportion of new buildings, including a new CUP, albeit small compared with lifecycle costs.

As comparison of each of these parameters individually is not sufficient to provide an assessment of which path provides the lowest net cost to the City's General Fund, a quantitative comparison of the paths is also necessary. Because of the importance of this criterion regarding the cost impact of the project to the City, the quantitative assessment summarized in Section 6.2 below is of primary importance when considering the choice of path for the City to pursue.

6.1.5 Sponsor Risk Exposure

The City's cost of ownership for the project is also intrinsically linked to its risk exposure as the project sponsor. Under the Traditional Path, the City would face cost and schedule overruns risks throughout the project's construction phase. Since the City would also be responsible for ongoing routine and capital maintenance in that scenario, it would be exposed to lifecycle risks during the project's operating phase.

Since these capital costs are financed with City-issued debt repaid from its General Fund, these risks may create financial exposure in terms of:

- The project's cost to the General Fund
- Statutory debt-service limits

A third potential area of risk is the City's credit rating.[49]

Empirical evidence indicates that the alignment of incentives and transferring of risk lead DBFOM projects to deliver on-time and within-budget. The proposed DBFOM Path transfers the risks related to capital costs – construction and lifecycle maintenance – and their financing to the private sector. The DBFOM developer arranges the financing, which in a standard DBFOM project financing would be non-recourse to the City, and secured fixed-price contracts for construction and lifecycle maintenance.[50] Risks related to construction and lifecycle maintenance (e.g., unforeseen conditions, errors and omissions, latent defects, etc.) are passed down to those service providers, consistent with risk allocation terms of the DBFOM agreement.

A DBFOM procurement is more complex and takes a different expertise to execute than a conventional procurement. There are many successful DBFOM procurements in the United States and elsewhere. The greater complexity is the result of the need for the project sponsor to identify the risks up-front, make decisions on risk allocation, and develop a clear definition of what are the must have features and objectives for the project and its procurement process. In a conventional procurement many of these decisions can be approached piecemeal, which reduces the procurement process complexity but at the expense of greater risk being retained by the project sponsor.

The City has experience with public-private partnerships of different forms. Successful examples include the development of the Staples Center and the private management of the LACC's day-to-day operations currently.

A procurement of the LACC with a DBFOM model would be part of a program of DBFOM procurements of the same type, similar size and complexity, and with similar timelines as currently being developed by the City and its various departments. The City's programmatic

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[49] There is a growing perception that credit rating agencies are starting looking to municipalities' current and future capital expenditures (including unfunded liabilities caused by deferred maintenance of their municipally-owned facilities) when analyzing their fiscal results as a reliable indicator of sounding management and fiscal soundness, as well as economic competitiveness. For reference, for example, see http://www.dbrs.com/research/280843/rating-canadian-municipal-governments.pdf.

[50] In this context, non-recourse project financing means that the lenders' sole sources of repayment are the cash flows generated by the assets plus the guarantees granted by the developers. In the case of the DBFOM procurement for the LACC, these cash flows are the Availability Payments to be paid by the City subject to availability and performance of the facility.

approach to public-private partnerships generally and the DBFOM model in particular is already driving a process of institutional capacity-building aligned with the City's objective to be a national hub for infrastructure as a driver of economic development.

For example, LAWA is already in procurement of two complex, multi-billion dollar projects – the Airport People Mover and the Consolidated Rental Car facility. The experience that has already been gained by LAWA and other departments points to the feasibility of undertaking a DBFOM process for the LACC.

The infrastructure industry has the expertise and capacity to deliver a DBFOM procurement, which is a type of public-private partnership, for the LACC exists not only in the United States, but much of it resides in Los Angeles itself. The RFI process for the DBFOM Path of the LACC bore out the industry's interest in the project as it is being conceptualized.

6.1.6 Summary of Qualitative Comparison

From a qualitative perspective, the evaluation is that the DBFOM Path presents a better development option for the City. The principal benefits of the DBFOM Path that can be summarized from this report's evaluation, in broad terms, are:

- Greater cost and schedule certainty for delivery of the LACC throughout its lifecycle with contractually-guaranteed performance of maintenance and at hand back.
- No impact on the City's voter-approved debt service cap which would allow the City to finance other much-needed capital investment needs.
- Economic development impact of a new $1.4b - $1.8b private development leveraged from the City's own investment in the LACC.

6.2 Quantitative Comparison

The quantitative analysis and comparison for this report indicates that the DBFOM Path can deliver the three key benefits described above at a lower net cost to the City.

Table 46 below summarizes the NPV of the NCPs from 2016 to 2060 for the two development paths. [51] [52] For the DBFOM Path a range is provided that represents the schemes analyzed in this report. A breakdown of these figures is provided in Sections 4.8 and 5.8 of this report, as are the NCPs which account for the whole-life costs and revenues expected for each path. The figures are expressed in 2016 dollars.

[51] Net present value is a standard investment analysis tool to compare investments. If the City can earn, for example, a 6% annual rate of return by investing $100 today, then it expects to receive $106 one year from now. When comparing investments that have different patterns of costs and revenues over time, the City can use net present analysis to convert, or discount, these costs and revenues to their value today. The conversion is made with the City's expected rate of return from investing its own funds. In this example, the conversion or discount rate is 6%.

[52] The annual NCPs are estimated as follows.

- Traditional Path: annual NCP = Debt Service for initial construction, plus lifecycle capital costs, less new revenue from Signage and Naming Rights
- DBFOM Path: annual NCP = Availability Payments inclusive of construction and lifecycle capital costs and financing costs, less new revenue from Signage, Naming Rights, and Real Estate

On a net present value basis the expected range of net cost to the City of the DBFOM Path is lower than the Traditional Path.

Table 46: Traditional and DBFOM Path net present value of net City payments from 2016 to 2060

Development Path	NPV of NCPs (2016 $m)
Traditional Path	$845
DBFOM Path	$734 to $824

An alternative way to compare the two paths is to analyze their annual net costs, which as expected will vary year-to-year over a forty plus year time span and will be subject to inflation. Table 47 below summarizes the annual averages of the NCPs for both paths: the figures are expressed in current 2016 dollars in order to account for the effect of inflation, permitting an evaluation of the annual net cost in terms of today's costs.[53]

Since the project has distinct phases over the analysis period, the annual averages are shown for each of those time periods consistent with the methodology presented in Section 3 of this report.

As can be observed from Table 47, the DBFOM Path is expected to have a lower net annual cost to the City as compared with the Traditional Path during the project's first sixteen years (2018 to 2033). During this time period, procurement and construction are taking place, the expanded LACC's operations are ramping up including the expected growth in citywide convention business, and the new revenue sources are ramping up – especially the real estate development which is phased in over a period of around eight to twelve years.

Table 47: Traditional and DBFOM Path average annual net City payments

Development Path	Average annual net City payments (2016 $m)		
	2018-2033	2034-2047	2048-2060
	Expansion project construction, renovation of West Hall, ramp up new revenues and operations	*Stabilization of new revenues and operations, first major lifecycle renewal*	*Expansion project debt retired (Traditional) Second major lifecycle renewal Hand back (DBFOM)*
Traditional average annual NCP	$48 / year	$38 / year	$8 / year
DBFOM average annual NCP	$37 to $45 / year	$36 to $40 / year	$36 to $40 / year

After 2034, the annual net costs to the City under both paths stabilize as the initial and ongoing lifecycle costs continue to be amortized and the real estate is fully absorbed. During the 2034 to 2047 period, the DBFOM Path's net annual cost to the City as compared with the Traditional Path is similar. During this time period the first major lifecycle renewal program would be undertaken under both paths – consistent with experience and standard industry practice, this is expected at approximately twenty years after the end of construction.

[53] Comparing costs or income today with costs or income in the future needs to take account of the effect of inflation, which means that $100 one year from now is worth less than $100 today. As is common when people plan for their retirement or make long-term investment decisions, it is important to account for the effect of inflation. The analysis presented in this section takes account of inflation by converting all future dollar figures in 2016 dollars so that the costs and revenues over time can be understood in terms of what things cost now and what the City's General Fund revenues are today.

By 2048, the Traditional Path's bonds issued initially would be fully retired. In the thirteen years of the 2048 to 2060 time period, the final period of the analysis, the annual cash flows of the Traditional project are significantly lower than for the DBFOM Path.

During this last time period there would continue to be ongoing lifecycle investments for both paths, consistent with the estimates provided by the ICSE. In particular, a second major lifecycle renewal program is expected before 2060 (i.e., approximately twenty years after the first major cycle referred to above). This second intervention is necessary for the buildings to reach their expected design life, which has been assumed to be the industry-standard of fifty years.

At the end of the contract term the DBFOM developer hands back the facility to the City at a guaranteed minimum facility condition which ensures as a minimum the achievement of the useful life. At and beyond hand back there are no additional costs to the City in relation to the DBFOM agreement. Since the DBFOM financing is over the term of the agreement, during this time period the capital costs continue to be amortized. In this way, the DBFOM amortization of capital costs matches the expected useful life.

In the Traditional Path the City would issue new debt in the form of 30-year taxable bonds to fund the costs of the expansion and modernization project. The market standard for these bonds is a level debt service payment. The source of repayment of these bonds would be the General Fund. The City would pay for lifecycle investments along the lifespan of the project, either with pay-as-you-go funds for smaller investments or with multiple additional debt issuance for larger investments.

As explained in Section 4, the new debt service to fund the construction and the lifecycle determine the City's payment obligations under the Traditional Path. Revenues from signage and naming rights are then subtracted to determine the annual NCPs.

7. Conclusion and Next Steps



7 Conclusions and Next Steps

The analysis carried out for this report compares two different investment paths for the City. Each path aims to deliver the required expansion and modernization program in a different way, and to identify suitable sites for the development of a convention hotel. The objective of this report is to inform the City's decision making process regarding the LACC expansion project and to propose a recommended development path option.

The Traditional Path aims to integrate the new program elements with the existing facilities and to enhance the connections of the LACC with surrounding neighborhoods, especially along Figueroa Street and with L.A. Live. It proposes to deliver the project with a CM/GC construction method and funded with City-issued debt repaid from the General Fund. After completion, the LACC's ongoing lifecycle maintenance needs would be funded in a similar way. Likely ongoing improvements include, for example, a renovation of the West Hall.

The DBFOM Path has similar aims in terms of the facility program, and modifies the existing LACC footprint to incorporate a private mixed-use real estate development on site. Conceptual designs within the context of this report develop an integrated urban development strategy anchored by the LACC. The project would be delivered using a DBFOM model that integrates the whole-life needs of the facility under one procurement using private financing. The real estate development generates additional economic impact and new revenue sources that can be used to cross-subsidize the expansion project's cost. The City would pay back the private developer's investment via annual performance-based payments made from the General Fund and starting when construction is complete.

The analysis of the two paths has considered a wide range of factors:

- Qualitative: project features, economic benefits, revenue generation, cost of ownership, and sponsor risk factors
- Quantitative: the net cost of each development path on annual and aggregate bases, taking account of capital investments for construction and lifecycle, maintenance costs, financing costs, and new revenues relevant for each one

As illustrated in Section 6, neither development path presents a clear case for investment by the City based on cost alone. Hence the selection of a recommended option for the City is not straight forward and requires consideration of the benefits and risks of each path beyond cost. Section 7.1 below outlines our recommended development path, while Section 7.2 outlines the suggested next steps the City should consider in moving towards progressing the recommended development option.

7.1 Recommended Option

In light of our analysis, Arup recommends that the City move forward with the DBFOM Path.

The DBFOM Path entails a lower cost to the City over the life of the project in net present value terms, taking account of whole-life costs of each path and netting out the revenues relevant for each path. The net present value of the net City payments, from 2016 through 2060, for the DBFOM Path ranges between $734m and $824m, which compares to the Traditional Path with a net present value of $845m.

From an annual payment obligation perspective, including costs and revenues occurring on a year-by-year basis, the DBFOM Path involves lower annual net City payments through 2040. While the annual net City payments for the DBFOM Path are higher from 2048 through 2060, it offers an annual net cost advantage for the General Fund in the first two-plus decades of the project.

This is due to varying terms for the City under the two development paths:

- Under the Traditional Path, the City would issue new debt in the form of 30 year taxable bonds that would be repaid from the General Fund. The City would start making repayments during construction.
    - To fund major maintenance projects in the long run, the City would pay for small investments on a pay-as-you-go basis and issue additional debt for larger lifecycle investments.
    - This stream of payment obligations varies according to when the lifecycle investments are funded and when the debt service obligations start and end. If lifecycle investments are deferred, then higher costs in the form of deferred maintenance and replacement are incurred at later dates.
    - All debt service payment obligations, in the near or long term, would potentially impact the City's 6% debt-service limit because they are financial in nature.
- Under the DBFOM Path, the City would make periodic APs to the private partner for its services associated with the design, construction, financing, operation, and lifecycle maintenance of the venue over a 40 year operating period.
    - The City would make its first AP to the private partner when the construction is completed and the expanded facility is ready for use.
    - This stream of payment obligations is a predictable series of payments which do not impact the City's 6% debt-service limit since they are contractual and not financial obligations.
    - It transfers the risks of raising the financing, completing the construction, and of the long-term performance of the physical assets.
    - The cost of these obligations would be partially offset by a new revenue stream from a 7 to 14 acre real estate development project integrated within the LACC campus, which take account of.
    - The City would leverage its public investment in the LACC to generate a private investment in the real estate with an estimated value of $1.2b to $1.8b, not including a convention hotel development.

It is important to highlight that Arup did not consider the City's $253m outstanding debt for the LACC in its financial projections for either development path. This outstanding debt is projected to be fully repaid by 2023 and would thus overlap to some extent with the start of City's payment obligations in relation to the LACC expansion and modernization project. An analysis of the financial and budget implications for the City of this overlap is outside the scope of this report.

Arup's net cost analysis results are dependent on several key assumptions. For example, the analysis assumes that the City will negotiate media rights agreements for signage and naming rights as revenue-generating such that these sources of revenue materialize according to the valuation and timing set out in this report.

In Arup's opinion, if the City wishes to move forward with the LACC expansion and modernization project, it should seek to implement a value-optimization approach which maximizes economic development and fiscal impact. The analysis indicates that this can be achieved while:

- Reducing the project's overall net cost and its annual net costs to the General Fund over the next two-plus decades
- Avoiding impacts to the City's debt-service limit of 6%

The latter criterion would afford the City more flexibility to finance other needed investments in essential assets that do not have the revenue-generating capacity that the LACC campus has.

While demolition of older facilities such as the West Hall incurs higher upfront construction costs, the lifecycle costs associated with a facility dating from the 1970s are significantly higher and tend to off-set the apparent upfront savings from keeping them. This is especially the case when the initial construction project does not include a comprehensive renovation. Conversely, if a decision is made to keep them, there are significant construction cost economies of scale, reductions in operational impacts, and savings in future lifecycle costs if those facilities are, instead, refurbished. This would be the case for either procurement method.

More importantly, a higher-value design that reconfigures the LACC's footprint would make land available for a real estate development of significant scale which would be a unique opportunity to generate economic development and economic impact. This approach would also provide more options and flexibility to the City with regards to the location of the convention hotel.

Finally, in our opinion, the legal implications, commercial arrangement, and fiscal and economic benefits of the DBFOM Path reinforce the value of this procurement model for the City when compared to the Traditional Path. The inherent benefits of a DBFOM for the City relate to:

- **Project ownership:** the three concept design schemes developed by the DBFOM Path design team demonstrate the technical and financial feasibility to meet all or most of the City's facility expansion program while making 7 to 14 acres of land available for an on-site private real estate development. These concept design schemes are not prescriptive, nor do they limit the designs that proponents could submit. During the DBFOM RFQ/RFP stage, the City would shortlist proponents and ultimately select a private development partner that meets the City's clearly articulated must have requirements and its overall objectives to reduce the project's net cost, deliver it faster, get a better urban destination, and attract more visitors. Moreover, the City will remain the facility's owner and continue to be the land owner throughout.
- **No impact to the City's 6% debt cap:** the APs are not fixed but rather contingent on the availability of the facility, and thus do not impact the City's 6% limit of non-voter approved debt. This would enable the City to issue debt for other essential capital investment needs.

- **Predictable performance payments:** under the DBFOM Path, the City enters into a DBFOM agreement with a private partner who is remunerated by the City through a series of annual APs starting only when the construction is completed to the City's satisfaction. The APs are based on the availability and performance of the facility. The APs can be adjusted downwards if the private partner is not delivering at the condition level determined in the concession contract, yet cannot be adjusted upwards if the private partner faces risks that have been allocated by the DBFOM agreement to it.
- **Key risks transfer**: a DBFOM contract aims to explicitly allocate the project's risks to the party best able to manage them. As a result, during the construction phase, the private partner is responsible to deliver cost and schedule certainty. During the operating phase, the private partner assumes the lifecycle risks. Should the risks allocated to the DBFOM developer materialize, they will not bear financial consequences for the City. Examples of risks transferred to the private partner would include construction market conditions, design errors and omissions, and latent defects, among others – see Appendix H for an indicative and detailed risk allocation matrix.
- **Long term real estate revenues:** the City would receive proceeds in the form of ground lease revenues and tax revenues from the real estate component of the DBFOM Path during the 40 year operating term of the DBFOM agreement. A 99 year ground lease, which is a standard market instrument, would continue to provide stable long-term real estate revenues, as well as net tax revenue, to the City beyond the term of the DBFOM agreement. In Arup's opinion, these long-term revenue streams for the City have significant economic value today and represent a tangible source of recurring annual funds for future lifecycle needs of the facility.
- **Economic benefits:** the on-site mixed-use real estate project will enable South Park to capture a significant share of jobs expected to be created in the Los Angeles region over the next 25 years. Diversifying land uses within the LACC campus will help create a vibrant 24/7 convention district, a place where people want to hang out. Urban amenities and the quality of the convention destination are increasingly important to secure market share in the competitive convention and events industry. The real estate component will drive towards a convention experience that expands beyond the facility's bricks and mortar. The DBFOM Path will capitalize on ongoing South Park's development momentum to create a more lively neighborhood and a more marketable venue altogether.

7.2 Improving Affordability

Arup believes there are opportunities for the City to potentially reduce the costs and increase the revenues presented in this report, which we discuss as follows. As the City moves forward with the project, regardless of which development path it decides to pursue, it should carefully consider these and other strategies to deliver a project that can meet its primary goals at an affordable level.

7.2.1 Strategies to Improve Revenues

7.2.1.1 Implement a Digital Strategy

By implementing the measures discussed in Section 2.4, the LACC can begin to collect real-time visitor movements and spending patterns and use data analytics to devise operational and

marketing strategies that enhance user experience and revenue growth. Development and implementation of a LACC digital strategy would likely significantly enhance the marketability of the facility, regardless of which development path is pursued.

7.2.1.2 Design for Shared Facilities

7.2.1.2.1 Parking

Building parking is a significant cost and is a drag on land value. This is because lower parking costs result in increased net operating income. A sensitivity analysis on the residual land value analysis shows that, on a net present value basis, for every 10% reduction of private real estate parking spaces (based on the real estate projections in this report, this translated to approximately 400 parking spaces) would translate into an additional $10m NPV in ground lease revenue. A 50% parking reduction could generate $60m NPV.

Given these findings, Arup recommends that the City closely examine shared parking opportunities between the LACC and the private real estate development to improve land values. This should be considered in the context of a broader parking study for the LACC campus that looks at current and future demand. Factors such as the increased connectivity of the site via transit and the effect of mobility and ride-sharing services should be considered.

7.2.1.2.2 Central Utility Plant

The LACC's CUP is sized to serve peak loads at the LACC, which only occur a few times per year on very hot days coinciding with events that occupy all or nearly all of the facility. There is very likely excess capacity sitting idle for most of the year that could be put to use to provide heating and cooling to surrounding developments, for example. Other strategies may include using thermal storage.

The real estate development site is an opportunity to develop a district energy system leveraging the new LACC central utility plant that is planned and included in the cost of the DBFOM Path schemes considered in this report. This could help create revenue opportunities for the LACC while also enabling adjacent real estate developers to save on construction costs, thereby increasing their Net Operating Income and hence potential land value.

7.2.2 Strategies to Reduce Costs

7.2.2.1 Design to Achieve a Higher Gross to net Leasable Factor

As discussed in Appendix A, at an early stage of concept design without the full opportunity to optimize the non-leasable program spaces and given the need for significant vertical circulation for the DBFOM schemes considered, the Arup team used a grossing factor of 42% to size the overall facility. This factor, which is equal to net leasable floor area divided by gross floor area, is a metric that indicates the efficiency of the building within reasonable parameters of adequate functionality and quality of spaces that support the operations, whether these are front-of-house or back-of-house spaces.

Depending on various factors such as the definition of the non-leasable space program, facility-specific layouts and operational factors, and design strategies that different bidding teams could adopt, the design for expansion of an existing facility can potentially achieve higher grossing factors. Evaluation of these strategies for the new construction that leverage/maximize the existing back-of-house and pre-function spaces would be an integral part of a bidding process

whereby bidding teams are developing designs interactively with the owner, the investor, the operator, the contractor, and even the real estate development partner. It is difficult to predict what the outcome of that process would be given the multiple variables at play.

Nevertheless, it is likely that in a competitive bidding process as described in this report that at least some bidders and their design teams may be able to achieve a higher ratio than used in this report. This would have the effect of resulting in more affordable designs, which benefits both the winning bidder and the owner. As shown in Table 48 below, construction costs could potentially be reduced by approximately 2% for every 1% increase in the gross-to-net ratio.

To quantify the potential range of cost savings, the table below uses a cost of $350 per square foot as reflected in the ICSE report for replacement value.

Table 48. Gross to net leasable factor

Expansion of net rentable space (A)	Gross to net ratio (B)	Cost /ft² (C)	Total area A/B	Total construction cost ($m) A/B x C	Cumulative % reduction relative to 42% ratio	% change
100,000	0.42	$350.0	238,095	$83m	-	-
100,000	0.43	$350.0	232,558	$81m	-2.3%	-2.3%
100,000	0.44	$350.0	227,273	$80m	-4.5%	-2.3%
100,000	0.45	$350.0	222,222	$78m	-6.7%	-2.2%
100,000	0.46	$350.0	217,391	$76m	-8.7%	-2.2%

7.2.2.2 Program Reduction and Higher Gross to net Leasable Factor

A reduction of the leasable rentable space has a directly proportional reduction on the construction cost. However, when this is combined with the potential for a higher gross-to-net leasable ratio, the overall impact in the construction cost could be noteworthy. As indicated by the Table below and for illustrative purposes only, a 10% reduction in the program combined with a 0.48 gross to net ratio could result in a 20% decrease in the construction cost.

The purpose of the table below is only to provide a top-down indication of the strategies that could be pursued to deliver a more efficient and affordable facility. These considerations need to be very carefully weighed against functional and operational efficiency, as well as more intangible aspects of the quality of the facility from a visitor experience perspective.

Table 49 Program reduction and gross to net leasable factor

Expansion of net rentable space	% of required for the expansion	Cost / ft²	Total construction cost in million $		% construction cost reduction vs 100% program	
			Gross to net 0.42	Gross to net 0.48	0.42	0.48
220,000	100%	$350.0	$183	$160	NA	-13%
198,000	90%	$350.0	$165	$144	-10%	-21%
176,000	80%	$350.0	$147	$128	-20%	-30%
154,000	70%	$350.0	$128	$112	-30%	-39%

7.3 Implementation Strategy

Should the City elect to move forward with the DBFOM Path, it will need to start a series of parallel activities to advance the CEQA documentation, make decisions on the entitlement strategy, begin preparing the procurement documentation, and perform community and stakeholder outreach.

This section addresses some of the key considerations for each of these work streams.

7.3.1 CEQA Compliance Program

A project description and project alternatives must be clearly defined before environmental impact analysis can begin. The project description for the LACC expansion and the real estate development must capture the greatest potential program consistent with City policy.

To do this, Arup recommends the City to develop and implement a project description process that refines the LACC design to establish final program requirements, any critical design considerations, and cost estimates. As has been the case for the DBFOM Path analysis, this should be done in an integrated process with the refinement of an indicative site master plan and development scheme for the real estate, including target land uses, densities, and development standards.

This work is critical to release the draft EIR. The City has already selected an EIR consultant and should be able to quickly take the necessary steps for an efficient CEQA compliance process.

Additional early actions for CEQA compliance include:

- Develop an agreement as to what traffic counts will be needed and what traffic model will be used
- Develop an understanding as to whether additional primary environmental baseline data may be needed – noise measurements, air quality samples, etc.
- Begin development of a Purpose and Needs Statement for the EIR
- Establish agency coordination and community outreach strategy to support acceptance of the proposed program
- Coordinate with South Coast Air Quality Management District (SCAQMD) to establish any new requirements to be incorporated into the proposed program
- Review the previous certified EIR for the Farmer's Field project to establish what potentially significant impacts related to the previous Specific Plan should be incorporated into the proposed program to avoid or minimize impacts
- Incorporate avoidance and minimization requirements into the proposed project program
- Identify whether measures to demonstrate compliance with other compliance frameworks are needed, such as but not limited to Equator Principles or others

7.3.2 Entitlements and Pre-Development

To maximize its value, careful consideration must be made as to how the City disposes of land made available by the DBFOM Path. The value of any land will be directly affected by how clear and concrete the development rights are. Private developers will heavily discount the price they are willing to pay for land that is not entitled. Or they will apply a discount for land that has received entitlements but which may be subject to discretionary action(s) by the City in the future.

Arup's recommended disposition strategy to maximize land value is to have the City play an active role in entitling the site and then ground leasing individual parcels timed to market cycles. This strategy presupposes that the City will be able to master plan the site, not unlike a master developer would, in order to obtain the highest possible lease revenues.

This should be done in concert with a competitively procured DBFOM development partner, a competitively procured real estate developer, or both. The City's objective is to capture the highest value for the right type of complementary development to the LACC and surrounding uses by creating entitlement certainty without overly prescribing the type of development.

The following sections discuss these important implementation considerations for the DBFOM Path in more detail.

7.3.2.1 Zoning and Land Use Approvals

If the City pursues the DBFOM Path, Arup recommends that it should soon after weigh its options for how best to entitle the real estate development site. This includes consideration of both environmental approvals through CEQA and land use/development approvals through the Department of City Planning.

The first key consideration is a choice between two alternative approaches:

- Option 1: keep site's the existing Public Facilities zoning designation (PF Zone) and process a Conditional Use Permit for the LACC expansion and real estate development program; or
- Option 2: pursue a Specific Plan approach

The municipal code allows for joint public and private development in a PF Zone as long as it adheres to the more restrictive adjacent zone,[54] which in this case would be the C2 Zone designation.[55] Under a development agreement or other partnership arrangement, the City and its development partner would need to establish development rights and file for overarching development approval through a conditional-use permit for the entire site.

Once approved, subsequent development for each parcel would require an administrative-specific site plan approval. This would not require discretionary approval by the City Council unless it was deemed necessary by the Planning Director. A vesting subdivision map would likely be required, especially if no development agreement is pursued. This would require Council approval.

[54] LA Municipal Code Chapter 1, Section 12.04.09, "PF" PUBLIC FACILITIES ZONE
[55] Arup phone call on May 26, 2016 with City of Los Angeles Department of Planning

Pursuit of a Specific Plan would require a more in-depth process of community engagement, to establish the allowable mix of land uses and design guidelines through the land-use ordinance process, and would require significantly more documentation.[56]

As compared to the PF Zone approach, a Specific Plan would create greater certainty for future development partners who would be developing the site over time. This certainty is valuable to developers and is something they would reflect in their price offered to the City.[57]

Conversely, Specific Plans that are too restrictive can limit development potential in future markets if trends change, so flexibility is important. For example, a form-based zoning approach like the one used in Vancouver, British Columbia, should be considered.

The potential amendment of existing Specific Plans might be considered. An example is the Convention and Event Center Specific Plan, which was prepared and approved by City Council to allow for the Farmer's Field project. But that Specific Plan's approvals expired when the project sponsor was unable to secure a commitment from the NFL for a football team to use the stadium.[58]

Given its proximity and flexibility, the Los Angeles Sports and Entertainment District (LASED)[59] Specific Plan could be amended to incorporate the site. While it is largely built-out and the guidelines and allowable uses would need to be updated and cleared under CEQA, the LASED may be a viable option that could reduce the amount of time needed to approve a Specific Plan and related CEQA process.

7.3.2.2 California Environmental Quality Act (CEQA) Considerations

For the DBFOM path, the critical outcome from the CEQA process is to ensure that the maximum potential densities, consistent with City policy, for a range of land use options are captured in the project description, studied, and ultimately approved. Flexibility of the CEQA approval of the eventual land use mix is very important because market demand can shift over time, so the City will want the ability to move with the market as it puts parcels up for development over time.

A land use equivalency approach would be the recommended approach to incorporate into the CEQA documentation to enable different land uses to be substituted for one another based on a common environmental impact measurement and overall cap (e.g., based on traffic circulation metrics). In addition, Arup recommends that a project-level EIR would be the appropriate type of documentation for the Convention Center and the real estate development site.[60]

Pursuit of development using the current PF Zone designation or under a Specific Plan will have implications for how the project is contemplated under CEQA. If no Specific Plan is pursued, then the City will likely be able to evaluate all the potential impacts of a single project that includes the LACC modernization and the real estate development in one project-level EIR.

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[56] Please refer to Article 2, Section 12.32 of the Los Angeles Municipal code and applicable State law on Specific Plans

[57] Arup, interviews with developers as part of a public market sounding process

[58] Arup phone call on May 26, 2016 with City of Los Angeles Department of Planning

[59] Please see the Los Angeles Sports and Entertainment District Specific Plan for an example: http://planning.lacity.org/complan/specplan/pdf/LASED.PDF

[60] See *Citizens for a Sustainable Treasure Island vs City and County of San Francisco, First District Court of Appeals, July 7, 2014* for a discussion on using a project EIR for a multi-phased real estate development project

If a Specific Plan is pursued, then the real estate development parcels would be evaluated under an EIR separate from the LACC. A legal analysis of the implications of this approach is outside the scope of this report.

7.3.2.3 Masterplanning and Site Governance

The City will need to create a master plan for real estate development on the LACC site that is responsive to the surrounding neighborhood as well as to the proposed LACC reconfiguration.

The recommended approach is to establish urban planning criteria in the DBFOM procurement documentation to which (i) bidders would propose compatible master plan concepts and (ii) the City could use to evaluate the potential of a proposed master plan to maximize future revenues and stimulate economic development.

Once selected, the LACC P3 developer or the City would pursue any remaining land use and zoning approvals to entitle the negotiated master plan. This will ensure there is a single integrated master plan for the LACC and the adjacent development while also enabling the City to comprehensively evaluate the economic development impact and urban design criteria of various proposals.

As discussed above, it is essential that the entitlements provide for flexibility of land uses to enable adjustments to market changes over time.

While there are advantages to having the LACC DBFOM bidders develop well-thought-out master plans as part of their proposals, doing so does not mean the City will be able to fully relinquish the role of master developer. As such, the City should evaluate both the general process for disposing of real estate development and its capacity to act as master developer, and its appetite for the risk inherent in this process.

The City will need to consider various governance structures for the site, which include but are not limited to:

- A City department assuming full control of the process with or without support from an outside consultant
- Creation of a quasi-independent non-profit entity or joint powers authority
- Entering into a master developer agreement with a private entity

These real estate considerations should be evaluated prior to releasing the DBFOM RFQ documents so that bidders understand the project management framework prior to bidding.

7.3.2.4 Entitlement Schedule Considerations

After the LACC site master plan is accepted as bid by the private partner, we estimate that there will like be approximately 36 months until construction completion, including demolition of the West Hall. This is an adequate timeframe to complete the various stages of entitlements including developer solicitations and selection, site planning or Specific Plan development, supplemental CEQA processes (as necessary), negotiations, and gaining approvals.

Even if a Specific Plan is pursued, we believe that the estimated 36 months is a sufficient amount of time to entitle, negotiate and execute the first ground lease by the first quarter of 2021.

7.3.2.5 Key Entitlement Considerations

The key considerations for the two approaches are summarized in Table 50 below.

Table 50: DBFOM Path entitlement options

Entitlement Consideration	Option 1: Conditions of use permit on PF Zone	Option 2: Specific Plan
CEQA	To mitigate CEQA process risks, getting the project description right will require upfront work to define the maximum envelope of development. This can be mitigated somewhat if the DBFOM development partner has real estate experience, the City hires an experienced planning consultant, existing design guidelines are adopted to guide the EIR project description, and equivalency values are used to evaluate impacts.	Long community and technical processes to develop the Specific Plan are needed, parts of which are required before an EIR process can commence. Based on the schedule, it appears this lengthy process can still essentially have the approvals by the time West Hall has been demolished and the site is ready for development. Tiering off of the LASED EIR may shorten timeframes, if feasible. A real estate EIR separate from the LACC EIR could be seen as a piecemeal approach to what may be considered one project.
Land use approval	No legislative action required as conditions of use permit requires quasi-judicial Planning Commission approval. City Council approval could be requested by Planning Commission.	Legislative action required to adopt a Specific Plan.
Further discretionary actions	Subsequent site plans (required for each parcel) could require requests for special zoning exceptions or other zoning modifications, which could require additional quasi-judicial or legislative action. This would be a risk borne by the parcel developer.	Determining compliance with the Specific Plan is administrative. This would enable City to obtain a higher price for the entire site from individual site developers.
Public benefits/ betterments	No clear mechanism for establishing how much of these each parcel would carry. City will obtain more developer interest and potential ground lease rent if these are clear upfront in the development process.	These would be defined upfront in the Specific Plan and would be hard to change once adopted. See discretionary approval considerations above.

7.3.3 DBFOM RFQ/RFP Documents

The DBFOM procurement documentation process must clearly spell out the City's main technical, financial, and commercial requirements as well as the criteria by which proposals will be evaluated and a partner selected. Because of the significant pursuit costs associated with a DBFOM procurement of this size, a clear process is paramount to attracting the best teams the market has to offer.

The City will need to establish a procurement management plan that identifies responsibilities of various departments in the process. For example, the CAO and CLA will likely both have active participation. We recommend the CAO and CLA jointly appoint staff to form a steering and selection committee to oversee the pre-procurement and procurement activities.

Additionally, a detailed process map of activities and decision points, particularly City Council decision points, should be developed. The following milestones may require council approval: issuance of the RFP, selection of LACC P3 developer, and execution of the DBFOM agreement.

Finally, the procurement should involve many touch points with the private sector, through additional RFIs while the RFP is being developed (i.e., during the RFQ) and through one-on-one meetings during the RFP stage pre-submission to ensure the City's value proposition to the market is well received and to help the market be as responsive as possible.

A fairness or transparency process should be established at the outset, with a member of City staff assigned to act as the fairness or transparency officer for this process.

The procurement strategy for the RFQ/RFP should also commence immediately. Key considerations include a confirmation of contracting authority, establishing the evaluation methodology, and development of performance specifications that will guide the bidder proposals.

7.3.3.1 Contracting Authority

To procure a project as a DBFOM, the City Council needs to put an ordinance up for vote. As mentioned in Article XI, Section 5(a) of the California Constitution, the City may make and enforce all ordinances and regulations in respect to municipal affairs. In addition, Section 371(b) of the City Charter states that "design-build or other appropriate project delivery systems may be used when justified by the type of project and approved by the contracting authority." Hence, to create a long-term DBFOM authority, the City Council needs to pass an ordinance with a least two-thirds vote. The CAO or the Board of Los Angeles Convention & Tourism Development Commissioners would sponsor the ordinance.

7.3.3.2 Basis of Design

Immediately following Council approval of the procurement method, the City will need to begin work to complete a performance-based Basis of Design (BoD) to articulate the City's technical requirements for the RFP. The BoD should include:

- Facility program
- Quality and performance requirements
- Concept of LACC operations that these requirements are intended to respond to

This effort should leverage off the work completed to date for the DBFOM Path as well as the inputs from the ISCE.

The BoD should also take into consideration how the City would like the LACC's design to respond if the City is selected as the 2024 Summer Olympics host city.

The BoD will be the controlling document that the City will use to review, reject, and approve design and maintenance regime proposals from bidders. Thus, it is important that the design does not overly rely on prescriptive design requirements but rather on performance metrics that accurately describe intended outcomes and how they will be measured.

The intent of this procurement process is to maximize competition and innovation in the development of multiple design proposals that the City can select from, with full knowledge of the cost and revenue-generation implications of these competing schemes.

7.3.3.3 Evaluation Methodology

The success of the competitive bidding process will hinge on the clarity with which the proposals are evaluated.

Arup's recommendation is to structure the procurement so that proposers must provide committed financing for the LACC modernization, with a clear process for negotiating the design elements and operational impacts before selection. Committed financing will require that the LACC project financing be clean of any real estate risk.

The real estate master plan should be evaluated based on the highest value-creation in relation to the then-current market, but that also it should be evaluated in terms of how it best responds to the surrounding land uses and provides the right mix of uses for enhancing LACC bookings and attracting visitors.

Criteria should, at a minimum, include a proposed entitlement strategy; a partnering approach; and bidder commitments to activities, schedule and fees to implement it. This will enable the City to evaluate and negotiate the development partnership before commercial close on the LACC.

Conformance with the CEQA project description and any entitlement documentation, to the extent developed, will also be an important set of evaluation criteria.

City requirements should reflect technical as well as political/economic development objectives, such as being more affordable than what the City pays today (e.g., state an affordability limit) and creating a better urban destination (e.g., qualified via urban design evaluation metrics).

7.3.4 Community Outreach

The City should launch a community and stakeholder outreach campaign with the purpose of reaching out to the key stakeholders and main civic groups with an interest in the LACC campus. The campaign should extend to related business community members and LACC stakeholders to understand their needs and concerns in relation to the Project and to educate them on the advantages and disadvantages of the Project schemes and delivery option pursued.

This will provide critical input and guidance for the CEQA document, the BoD, and the eventual real estate master plan.

Once the private partner selected, we recommend that the City have the private partner take a lead role in this process all the way through construction.

7.4 Indicative Implementation Schedule

The following indicative schedule summarizes in Figure 30 the key work streams required to successfully complete the CEQA and procurement processes in a timely manner.

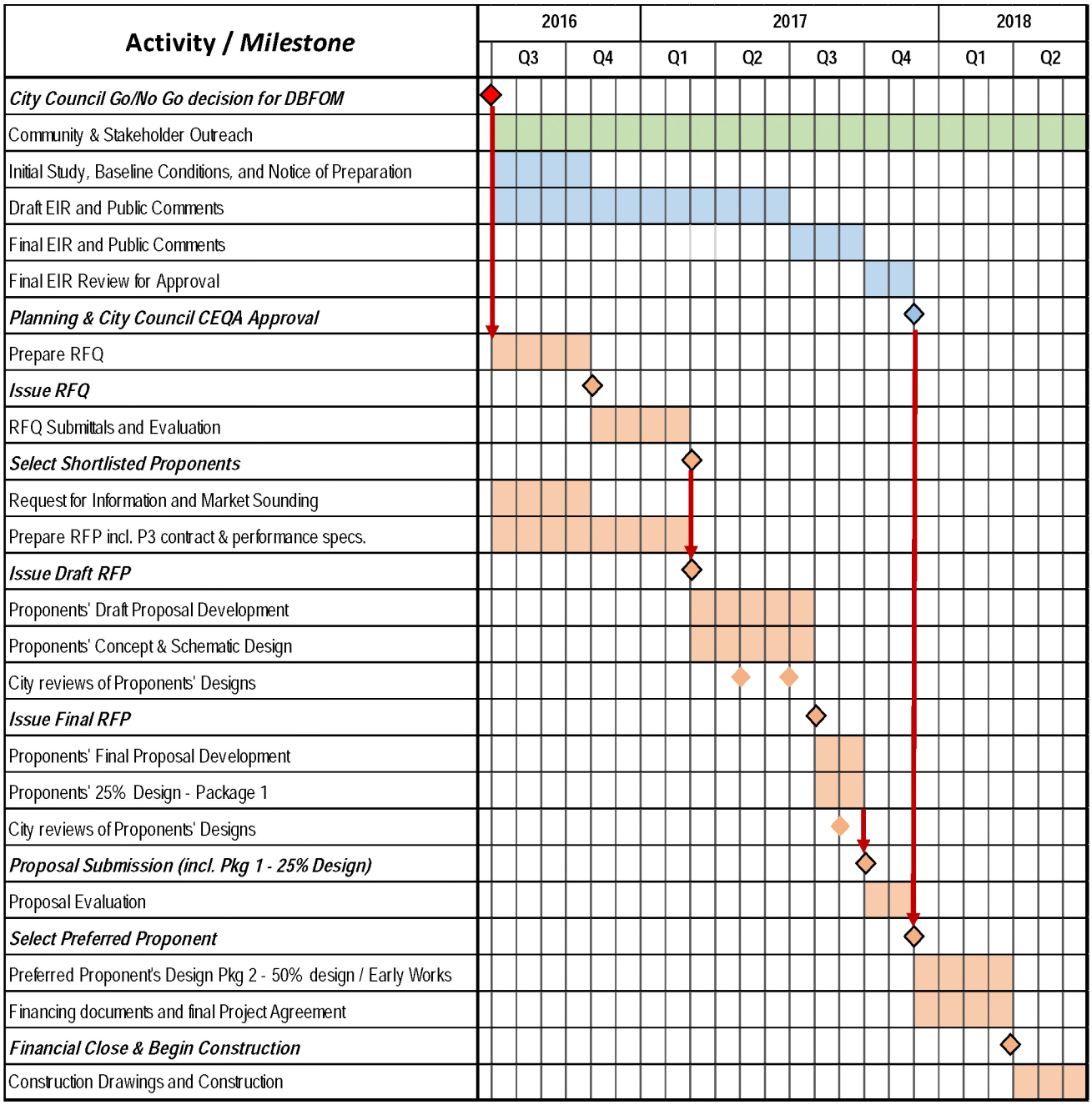


Figure 30: DBFOM Path procurement schedule

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G. Summary of Outreach Effort for the DBFOM Path G-1
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Appendix A
LACC Masterplan

A. LACC Masterplan

A.1 Existing Conditions

City of Los Angeles

Los Angeles Convention Centre Expansion Project

Existing Conditions Report

Final Report | 7 June 2016

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 246537-00

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ARUP

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Appendices

Appendix A

Existing Conditions Supplementary Information

1 Existing Conditions Assessment

To support the cost estimation efforts for the Los Angeles Convention Center Expansion, the Arup team developed an existing conditions assessment of the facility based on the following:

- Assessment of as-built plans
- Discussions with LACC staff intimate with the facility
- Numerous site visits with focus on specific attributes

Table 1. Schedule of Site Visits

Date	Purpose	Arup/HOK Attendees	CTD Attendees
24-Mar-16	Architectural, Back of House, Maintenance.	Duanne Gilmore, Ignacio Barandiaran, Abigail Rolon, Don Grinberg, Ernest Cirangle,	Tom Fields, Steve Potik
4-Apr-16	Mechanical and Structural	Duanne Gilmore, Andy Thompson, Jerry Frias	Tom Fields, Steve Potik
19-Apr-16	Electrical	Duanne Gilmore, Paul Barnard	Tom Fields, Steve Potik
29-Apr-16	Urban Planning, Transportation Planning	Duanne Gilmore, Mike Iswalt, Daleen Saah	NA
5-May-16	Life Cycle Cost, Cost Estimating, Independent Cost Estimate	Duanne Gilmore, Nick Butcher, Louise Pantetton, Robin McLernon, Jelena Djorvric, Colm Tully, Ankit Desai.	Steve Potik
12-May-16	Parking, Loading Docks	Duanne Gilmore, Jamison Ng	NA

Each of these elements is now described in turn.

1.1 Architectural

The architectural elements considered in this study mostly relate to the FF&E on the LACC campus. Appendix A1 shows a number of elements that were considered with additional elements not particularly pertaining to architecture that are documented in this category.

In summary, the finishes in the existing LACC do not satisfy the aspirations of the future project as a top-tier facility. The finishes would not complement any modern architectural finish and retaining some of the features would compromise the overall architectural integrity of the site.

The additional elements such as vertical transportation, signage and IT, are not adequately or reliably implemented and would need replacement and refurbishment to meet the standards of the development.

Anecdotal evidence provided by staff at the facility indicated that since the proposal for a stadium in 2009 on the West Hall site, very little has been invested to upgrading the facilities in anticipation of the project that would demolish the facility.

1.2 Structural

An inspection of the LACC facility was carried out to determine the state of the structural systems in the existing buildings with particular emphasis on the South and West Exhibit Halls. The objective of the study was to determine the level of damage that would be experienced in a seismic event. Appendix A2 shows details and results of the analysis.

The West Hall analysis indicated that even though the building has endured a number of large seismic events, it is still in a substandard condition for future use. The West Hall, designed in 1968, does not incorporate code changes that occurred following the 1971 San Fernando earthquake or subsequent significant changes to the seismic code. To retrofit the facility would require significant improvements to the braced frames and potentially reinforcement or replacement of the load paths between the main exhibition space upper roof diaphragm and braced frame walls. Additional bracing would be needed in the parking structure too. In a major seismic event, the West Hall would sustain damage that would render the facility inoperable for several months to years and could require complete demolition

The South Hall facility was completed in 1993 a year before the Northridge earthquake in 1994. The building sustained superficial damage with no evident or reported damage to the structural components. It is anticipated that some moderate seismic retrofits would be required to bring the structure up to current engineering codes but the extent would require a detailed investigation.

The remaining items assessed as a part of this study included mechanical equipment and suitability of egress areas to satisfy current seismic codes. Overall,

the restraints on mechanical equipment such as pipe supports and attachments offer little to no flexibility to allow for seismic movement. In a seismic event it is probable that there would be prolonged disruption of service while the equipment was repaired.

1.3 Mechanical

The mechanical systems on the site were inspected to assess the remaining life cycle, capacities and compatibility of adopting current efficiency standards. All mechanical equipment assessments are documented in Appendix A3 with detail pertaining to this study.

Overall the systems on site were well maintained and are likely to be operable until the end of the expected life cycle. However, the equipment would need to undergo major overhaul or replacement to satisfy mandatory energy efficiency codes triggered by the construction of the new facility. Currently all the existing mechanical equipment is operating at a suboptimal energy consumption. Some equipment, for example the heating in the West Hall, are obsolete and would not be suitable for a top-tier facility. An itemized list of components is shown in Appendix A3.

1.4 Electrical

The electrical components on the site was assessed in detail per Appendix A4. Manual transfer switch versus automatic transfer switch is an aspiration of the new facility that would require replacing all manual switch infrastructure currently in place. The replacement of this infrastructure would be the responsibility of the Los Angeles department of Water and Power (DWP).

A significant risk in implementing the automatic switches in coordination with DWP to ensure that their implementation schedule is aligned with the construction schedule. Further liaison is needed with DWP to establish further needs related to the electrical service and access needs. The LACC houses LADWP within the facility and requires unencumbered access at all times. This additional complexity should be considered when implementing the infrastructure.

The capacity of the electrical service appears to be sufficient to serve the program needs of the LACC. However, the West Hall would need significant upgrades to floor boxes and supporting equipment to meet the aspirations of the program..

1.5 Plumbing

Plumbing was not specifically inspected but it is anticipated that plumbing components related to Fire Life Safety (FLS) systems (sprinklers) would need specific investigations to ensure that the demands are met. Furthermore, the

installation of FLS systems was conducted prior to major building code changes that require seismic bracing.

Due to the greater occupancy anticipated for the future facility and taking into account efficiencies achieved by water saving fixtures, it is likely that there will be greater potable water demand and sanitary generated on the site.

1.6 Loading Docks

The loading docks on the LACC campus currently are served by:

- West Hall – 9 Docks (1 dock per 23,000 square feet of exhibition space)
- South Hall – 36 docks (1 dock per 9,600 square feet of exhibition space)

In addition, the South Hall can currently serve conventional articulated tractor-trailer vehicles of WB-62 but cannot accommodate larger vehicles (WB-67). The existing loading dock would need to be extended an extra ten feet to accommodate the larger sized vehicles. However, the WB-67 can be accommodated if the neighboring spaces are not occupied.

2 Additional information

Additional information regarding capital improvements for the facility are included in Appendix A5. This includes:

- Gensler's design competition assessment on West Hall refurbishment.
- LACC 2015 budget for requested capital improvements.

Appendix A

Existing Conditions
Supplementary Information

A1 Architectural Information

Architectural & Other	Upgrade/Refurbishment/ Replacement/	Remaining Life	Comments
FF&E (General Spaces)	Replacement/Refurbishment	NIL	To create a facility that is consistent with the future architectural intent of the facility, all furniture: Chairs, tables etc. are to be replaced in public facing areas. For areas in the back of house such as the security office, furniture can be retained. Fixtures: Light fixtures, power outlets, and any other fixtures need to be replaced. Equipment: For heavy moving equipment such as scissor lifts, forklifts and carts, some equipment (depending on condition) can be refurbished for continual use.
FF&E (Meeting Rooms)	Replacement	NIL	The existing meeting room spaces throughout the LACC do not contain any features that can be refurbished or reused. A complete replacement of all finishes is required to meet top-tier aspirations.
Carpets	Replacement	NIL	The existing facility undergoes frequent carpet replacement due to the high volume of foot traffic in the facility. The future project will not utilize any of the floor coverings that is currently used and will need to be replaced to create design and functional consistency.
Exterior Finishes	Replacement	NIL	The West Hall has an exterior skin that is obsolete and provides no opportunity for refurbishment

Architectural & Other	Upgrade/Refurbishment/ Replacement/	Remaining Life	Comments
			to make it consistent with any future design strategies. The South Hall exterior finish will be mostly replaced in all schemes considered and it is unlikely that the existing facade will be continued or could be refurbished to provide a new facade.
Lighting	Upgrade	5yrs	Currently the South and West Halls have metal halide fixtures. There is an opportunity to install high-efficiency LED fixtures that produce less heat, require less maintenance, have longer life span and that can change color.
Vertical Transportation	Refurbishment / Upgrade	NIL	Elevators - The elevators at LACC vary in age but have not been replaced since they were first implemented. Since implementation, LACC has performed a number of refurbishments involving the replacement of high-wearing finishes within the elevator cab and major mechanical overhauls. Overall, the condition of the elevators is in good working order but there are some instances where refurbishment has not been performed causing intermittent outages. Escalators - The escalators in the facility were implemented in 1990's expansion of the LACC and have not been replaced since. Similarly, the escalators have undergone major overhaul to maintain continuity of use throughout the facility. The majority of the mechanical

Architectural & Other	Upgrade/Refurbishment/ Replacement/	Remaining Life	Comments
			upgrades have been concentrated on the drive gear to maintain smooth operation. Overall - The vertical transportation at the LACC has experienced a number of outages related to a) User intervention (e.g. users tampering or forcing doors) and b) Mechanical failure (e.g. electrical/mechanical fault). The more prevalent is a) due to the volume of guests to the facility.
Signage	Replacement	NIL	Existing signage is dated and needs to be replaced to provide consistent information dissemination and way finding to visitors to the facility. In addition, digital interactions with personal mobile devices and easily updatable interfaces are standard in modern facilities.
Lobby/Circulation Spaces (Electrical and IT).	Upgrade	N/A	To satisfy food and beverage requirements and other needs where exhibitors are positioned in circulation areas, electrical outlets and IT connections are needed to provide connections to payment equipment and other devices needing electricity.
Efficiency Mandates (Title 24)		N/A	Title 24 efficiency mandates govern the project and are a code requirement. Application of Title 24 would result in the modification of mechanical equipment, glazing and lighting fixtures (as an example) and depends on a number of elements that consume energy or effect energy usage on the LACC campus.

Architectural & Other	Upgrade/Refurbishment/ Replacement/	Remaining Life	Comments
LEED Accreditation		N/A	The LACC facility is currently accredited as LEED Gold for existing buildings. To maintain this accreditation will require an evaluation of the future schemes. Overall, to maintain LEED Gold for an existing facility is not likely to be a significant obstacle.

A2 Structural and Seismic Information

Structural conditions	Upgrade/Refurbishment/ Replacement/	Remaining Life	Comments
West Hall	Upgrade/Replace	N/A	The West Hall (designed in 1968) does not incorporate code changes that occurred following the 1971 San Fernando earthquake or subsequent significant changes to the seismic code. To retrofit the facility would require significant improvements to the braced frames and potentially reinforcement or replacement of the load paths between the main exhibition space upper roof diaphragm and braced frame walls. Additional bracing would be needed in the parking structure too. In a major seismic event, the West Hall would sustain damage that would render the facility inoperable for several months to years and could require complete demolition.
South Hall	Upgrade	N/A	Construction of the South Hall was completed in 1993 and sustained minor damage to non-structural elements in the 1994 Northridge earthquake. The facility has not been designed to be operational after a significant seismic event and is not expected to cause any structural failure that could cause harm to occupants. The atrium presents some risks due to glazing potentially becoming dislodged during a seismic event. In addition, the

Structural conditions	Upgrade/Refurbishment/ Replacement/	Remaining Life	Comments
			atrium functions as a primary egress route that needs to be maintained as a safe exit point. The glazing could be retrofit to provide some secondary containments (such as fiber loops) to ensure they stay in place during a significant seismic event.
West Hall Mechanical	Upgrade/Replace	NIL	The major equipment housed in the West Hall, including chillers and fire sprinkler systems do not appear to be adequately braced for seismic activity. This is consistent with the building code applicable to the time of design. In a moderate seismic event, damage to the mechanical equipment may render the facility inoperable particularly in warmer weather conditions.
South Hall Mechanical	Upgrade	NIL	The major mechanical equipment housed in the South Hall would perform better than the West Hall and appears to be consistent with the design codes at the time of design. In the event of a major earthquake, it is likely that the equipment would be inoperable for weeks to months due to damage. Upgrades can be made to increase the resilience of the equipment in a major seismic event.

Preliminary Seismic review of the Los Angeles Convention Center

DRAFT May 27, 2016

1 Introduction

This note provides a high-level assessment as to the earthquake risk associated with the Los Angeles Convention Center (LACC). The intent is to provide an indicative level of risk -- and an indication as to whether retrofit is practical -- for informing discussions regarding development options and associated financing. This assessment is neither a life-safety assessment, operational risk assessment, nor a financial loss assessment. It should not be used by third parties for any reason.

The findings in this note are based on a brief review of available as-built architectural and structural drawings, a brief walk-down of the facility, and discussions with LACC management.

The scope of this assessment is the existing facility, including the West Hall and South Hall (which includes an enclosed concourse spanning Pico avenue). The scope does not include any separate parking, or other, structures.



Figure 1: The LA Convention Center, with the West Hall in background, and the South Hall in the foreground.

2 Background Information

2.1 Overview

The earthquake risk of buildings is partly informed by the year of design (which is a proxy for the edition of the code used in its design) and whether the facility sustained damage following significant earthquakes in the region. These two aspects are explored in greater detail below.

2.2 1971 and 1994 Earthquakes

The LACC was subjected to the 1971 San Fernando and 1994 Northridge earthquakes. Little or no damage was reported by LACC management.

This is consistent with the level of shaking at the site from the two earthquakes, as illustrated in the below United States Geological Survey (USGS) Shake Maps which estimate the level of shaking at the site. The level of shaking is 'Strong', but significantly less than that of the epicentral region. The location of the LACC is shown with a black dot.

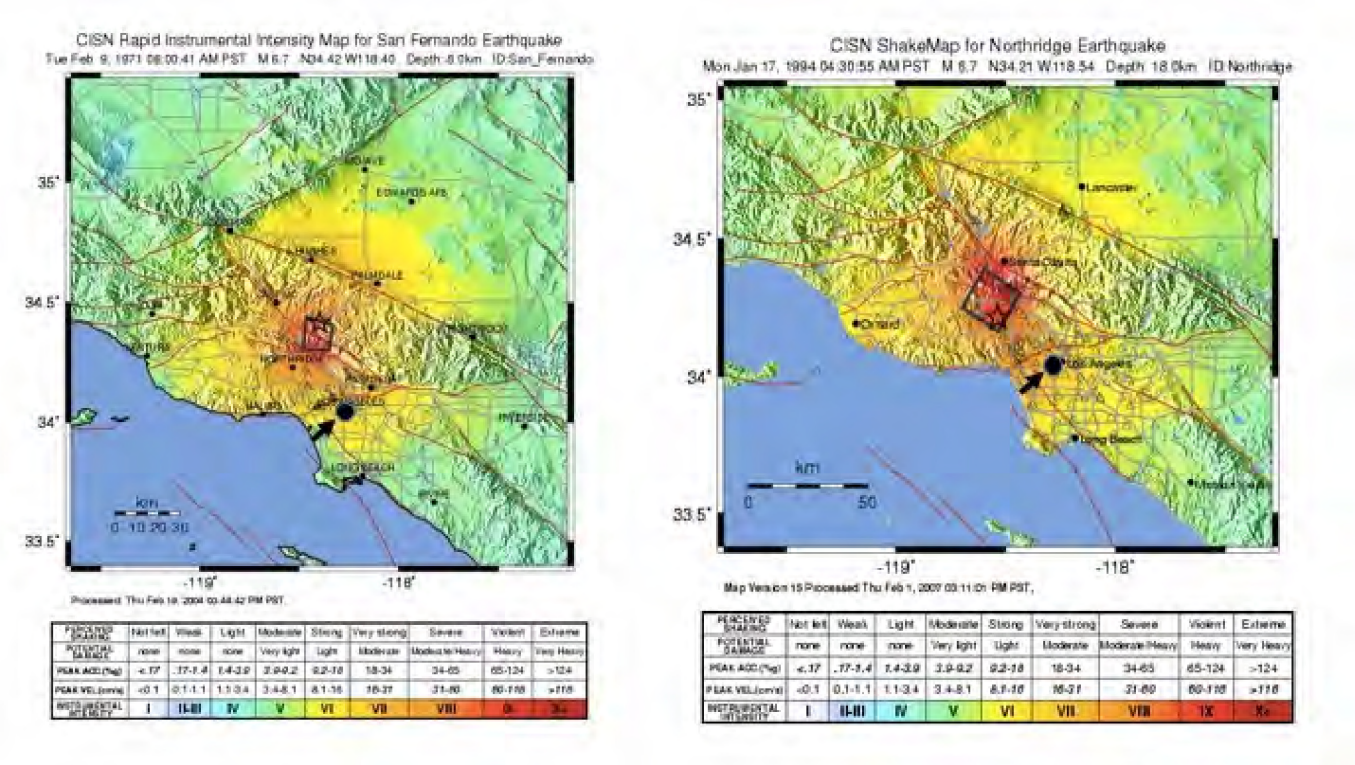
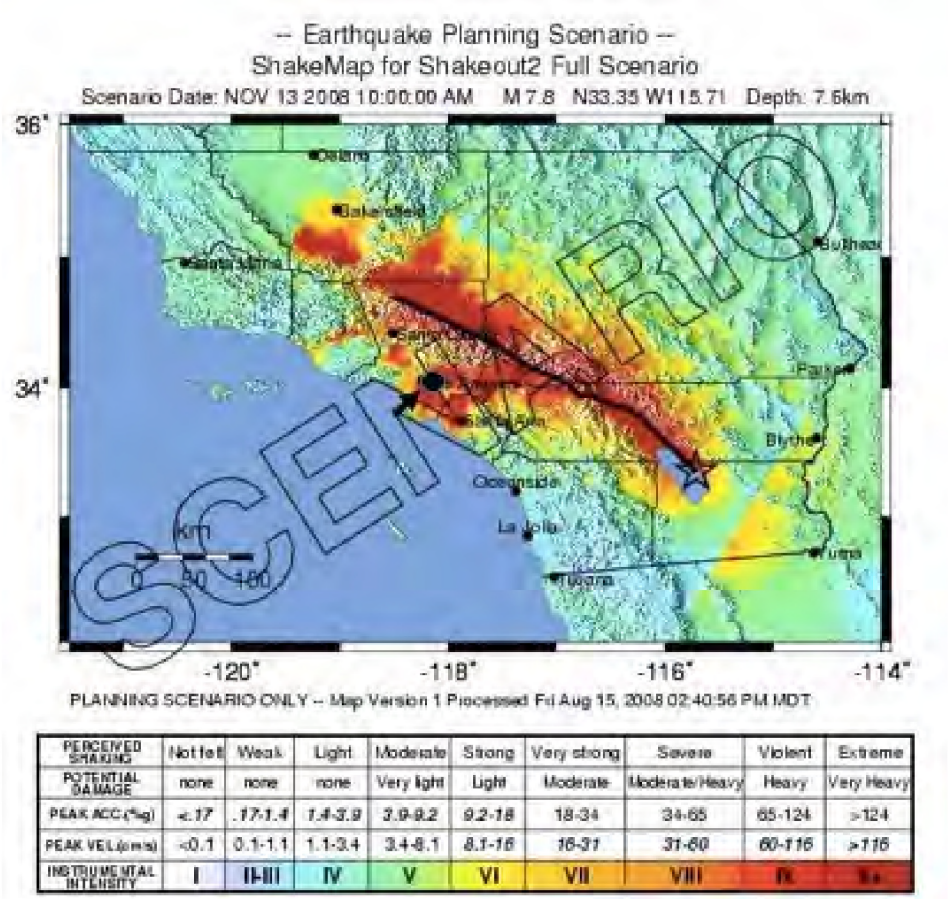


Figure 2: USGS Shake Maps of the 1971 San Fernando (left) and 1994 Northridge (right) earthquakes. The black dot shows the location of the LACC. Shaking at the site was 'Strong' but significantly less than that of the epicentral regions.

In contrast, potential for shaking at the site is significant, as illustrated in the below Shake Map for a potential future scenario earthquake in the Los Angeles area.

The fact that little or no damage was sustained during the 1971 and 1994 earthquakes is therefore not indicative of future damage from potential large earthquakes.



PERCEIVED SHAKING	Not felt	Weak	Light	Moderate	Strong	Very strong	Severe	Violent	Extreme
POTENTIAL DAMAGE	none	none	none	Very light	Light	Moderate	Moderate/Heavy	Heavy	Very Heavy
PEAK ACC.(%g)	<.17	.17-1.4	1.4-3.9	3.9-9.2	9.2-18	18-34	34-65	65-124	>124
PEAK VEL.(cm/s)	<0.1	0.1-1.1	1.1-3.4	3.4-8.1	8.1-16	16-31	31-60	60-116	>116
INSTRUMENTAL INTENSITY	I	II-III	IV	V	VI	VII	VIII	IX	X+

Figure 3: USGS Shake Map of a scenario earthquake for the LA area, which is more indicative as to the level of shaking possible at the site. The LACC is indicated by a black dot in the image.

2.3 Code Evolution

The original facility (West Hall) was designed before significant code enhancements associated with the 1971 San Fernando Earthquake, one of the most significant earthquakes of modern times in terms of building code development. Although some changes were applied in the 1976 Uniform Building Code, changes were primarily reflected through the publication of ATC 3.06 in 1978, which in turn influenced future codes. Key relevant developments during this period include:

- Introduction of a site factor to account for the effect of site soils on the frequency content and amplitude of ground shaking.
- A one third increase in the minimum design force levels for all structures, as a general reaction to the poorer than anticipated performance of buildings during the 1971 Earthquake.
- Requirements for positive direct interconnection of building components, and requirements to develop the resulting anchorage forces into the lateral-force-resisting system.

- Introduction of inter-story drift limits.
- Requirements to design anchorage for nonstructural components and to provide for the effects of inter-story drift.

In general, buildings built before these changes would be expected to sustain significantly more damage, both structurally and non-structurally.

Another seminal earthquake with respect to code changes (although not as significant as that of the 1971 earthquake) is that of the 1994 Northridge earthquake, with many changes reflected in the 1997 Uniform Building Code. Design forces and detailing requirements were increased.

It is important to note that even in the latest version of the International Building Code, it is implied that non-essential buildings would sustain significant damage in a major earthquake. It is the intent of the code that this damage does not present significant life-safety risk, but there is no explicit requirement -- nor intent -- for the structure to remain functional after the event. Unless explicitly design for such post-earthquake operations, it should be assumed that all building stock in areas of major seismicity (e.g. the Los Angeles area) may be non-operational after the earthquake for months to years. This includes all aspects of the LACC.

3 West Hall

3.1 Overview

The original West Hall's design was completed in 1968, with construction completed in 1971. The drawings do not state the code used in design, but the seismic provisions are assumed to be based on the 1964 Uniform Building Code.

The structure consists of a main exhibit space with two 'low-roof' 'wing' structures which comprise mainly meeting rooms and offices. The first level is a parking structure.

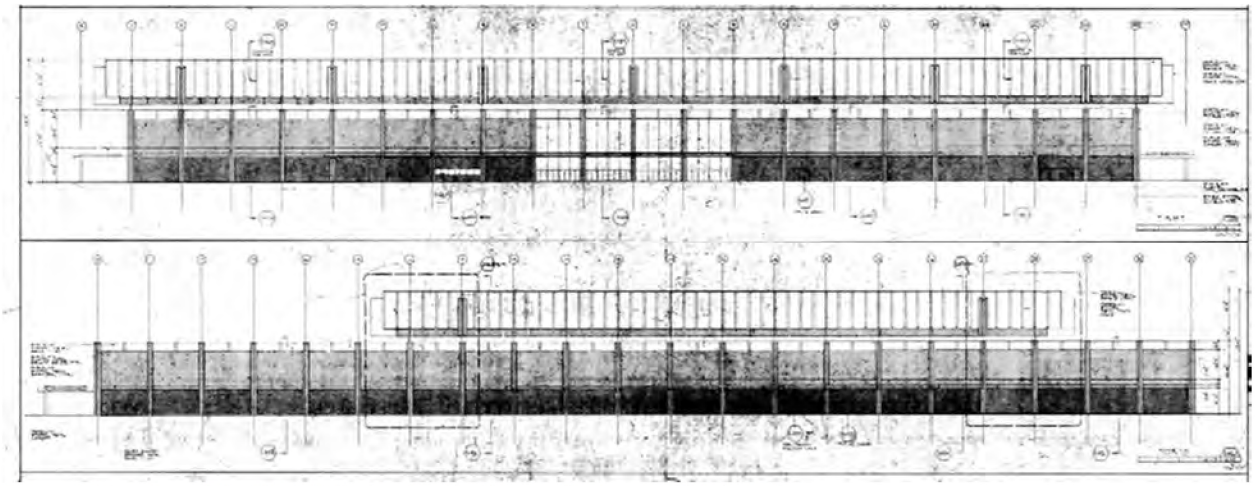


Figure 4: Elevation of the West Hall, showing the 'low-roof' wings and 'high-roof'.



Figure 5: West Hall, showing the parking structure under, 'low-roof' and 'high-roof' structures

As seen in Figure 6, the parking (first) level is comprised of reinforced concrete (r/c) columns supporting waffle slab. The primary lateral (earthquake) resistance is that of r/c shear walls.

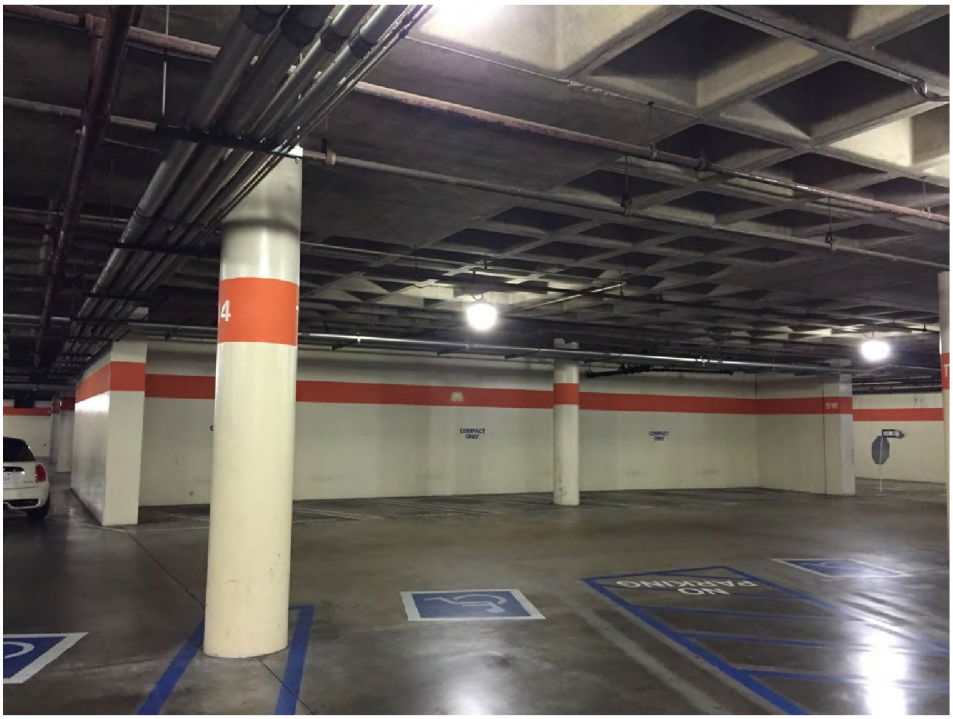


Figure 6: West Hall parking level, showing r/c columns and shear walls.

Above the parking level, the structure is generally steel construction, with steel braced frames as the primary lateral-force-resisting system. The main exhibit space consists of steel mega-trusses spanning 290 feet to steel columns. For lateral loads, the main exhibit space roof diaphragm connects to the braced fame walls in the 'wings'. The exact load path is unclear from the drawings.

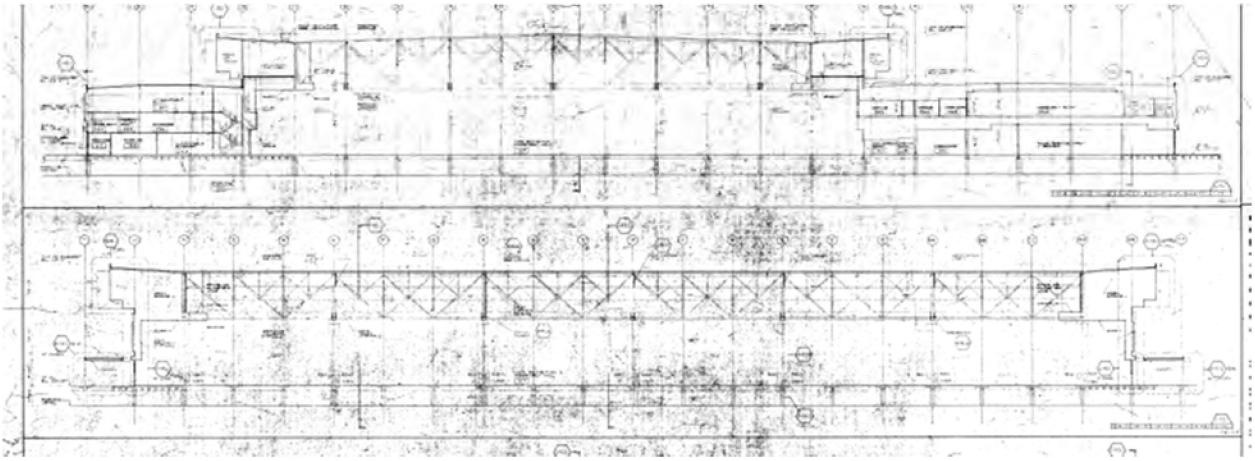


Figure 7: West Hall section through the main exhibition space. The 290 ft roof span (top image) is laterally supported out-of-plane by braced frames.



Figure 8: West Hall main exhibition space

The West Hall also consists of several mechanical systems, including a large chiller plant of 3 Trane water cooled chillers (2 rated at 1,235 Tons and 1 rated at 435 Tons), and 2 x 1,500 Ton cooling towers. In general, mechanical systems, and fire protection sprinkler systems did not appear to be adequately braced.

3.2 Earthquake Resistance

The below assessment is for a 'major' earthquake, on the order of a design level event (10% chance of exceedance in 50 years, or a 475 year return period.

- Simply based on the year of design, the West Hall would likely experience significantly more damage than that of a building designed in the 1980s (like the South Hall).
- The lower-level parking structure likely does not present a life-safety hazard. This is due to the presence of numerous shear walls well dispersed (to avoid torsion issues), and a significant number of columns that would likely provide some redundancy. There is likely poor ductile detailing associated with the walls and the columns, but this lack of ductility is potentially made up for by the increased redundancy associated with the significant number of walls and columns.
- The levels above the parking structure likely present a life-safety risk due to the lack of ductility and strength in the braced frame connections and brace elements.
- The 'high-roof' spanning the main exhibition space may also present a life-safety risk. It is not apparent from the drawings whether a complete load path between the upper roof diaphragm and the braced frame walls exists.
- Major mechanical equipment does not appear to be adequately braced for earthquake loads, which is consistent with the year of construction, and will likely be damaged in major shaking. This includes the chiller plant and also fire sprinkler system piping.
- The entire facility, regardless of life-safety issues, would likely be damaged to the point where major repairs, or complete demolition, would be required. The West Hall could be inoperable for several months to years.
- Even in moderate earthquakes, damage to mechanical equipment alone may render the facility inoperable, particularly during warm weather.
- Economic retrofit to bring the facility up to code-based life-safety standards would likely be possible. This would likely focus on reinforcing or replacing the braced frames and strengthening the load path between the main hall 'upper-roof' diaphragm and braced frame walls. Additional bracing in the parking structure may also be needed.
- Retrofit to bring the facility up to a more operational level following a major earthquake would likely be expensive. However, cost-effective bracing of critical mechanical systems, including the chiller plant, would increase the resilience of the facility.

4 South Hall

4.1 Overview

The South Hall (and concourse) were designed in 1990, using the 1985 Los Angeles Building Code. They were constructed in 1993.

The South Hall consists of an exhibition space, meeting rooms, offices, atrium, and a parking structure on the first level. An elevation is presented in Figure 9.

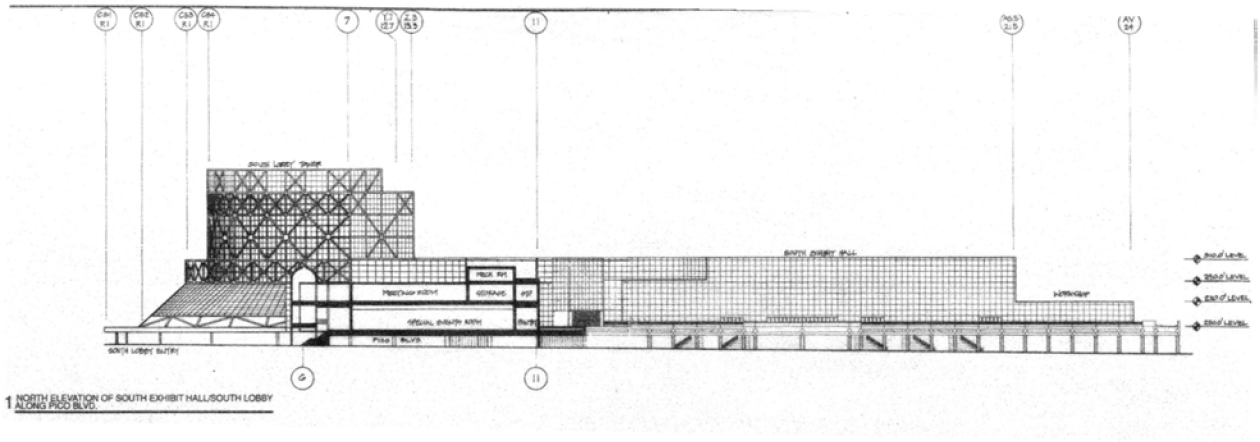


Figure 9: South Hall elevation

The parking structure is r/c column with r/c shear wall for the lateral system (Figure 10). The main structure is generally steel braced frame.

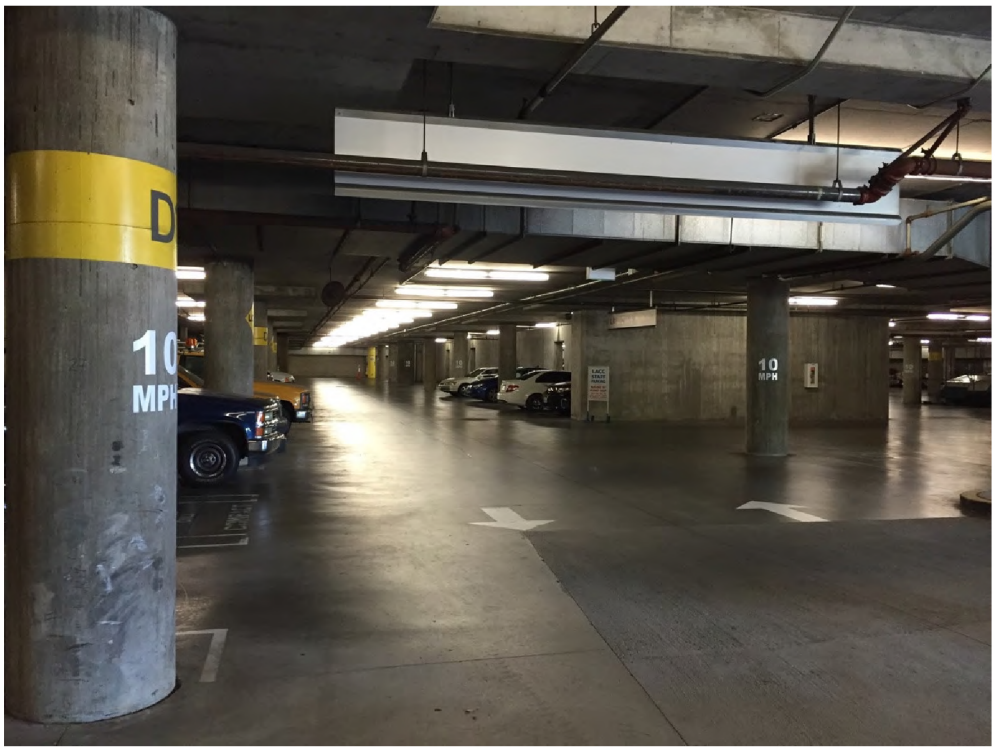


Figure 10: South Hall parking level, showing r/c columns and r/c shear walls

The long-span main exhibition space is steel mega-truss to steel concrete-encased columns. The lateral system comprises a roof diaphragm to perimeter braced frames as illustrated in Figure 11 and Figure 12.

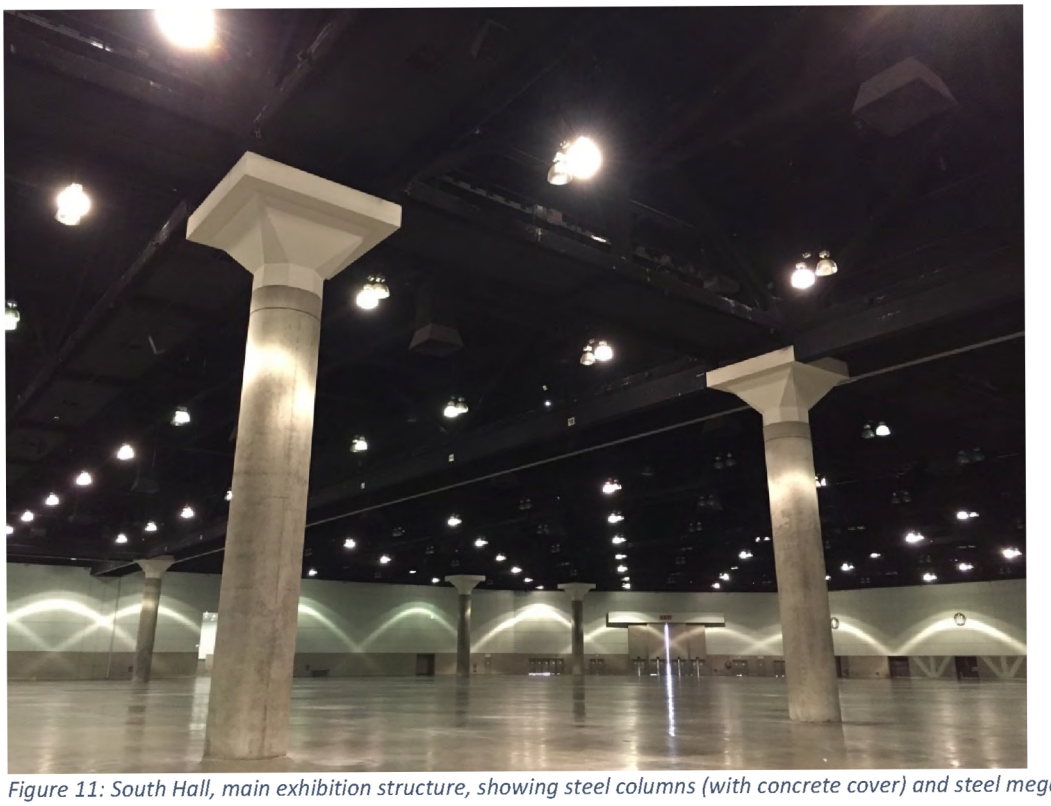


Figure 11: South Hall, main exhibition structure, showing steel columns (with concrete cover) and steel mega-trusses above.

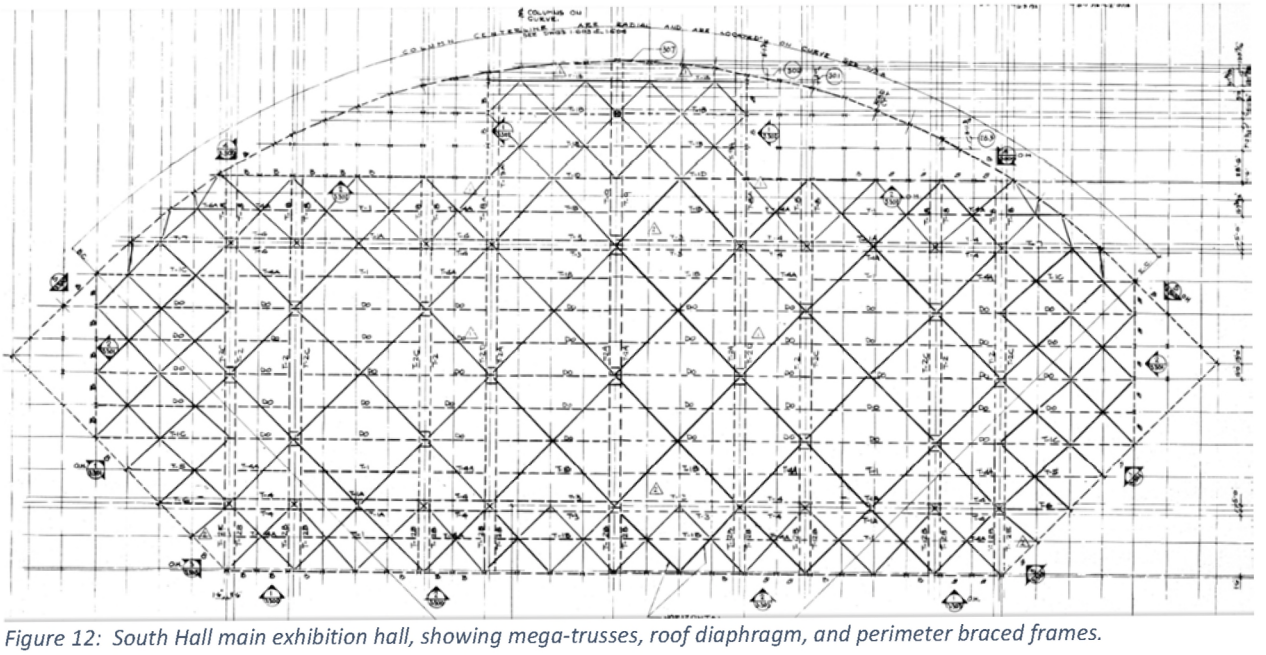


Figure 12: South Hall main exhibition hall, showing mega-trusses, roof diaphragm, and perimeter braced frames.

The South Hall also contains a glass/steel atrium as shown in Figure 13.

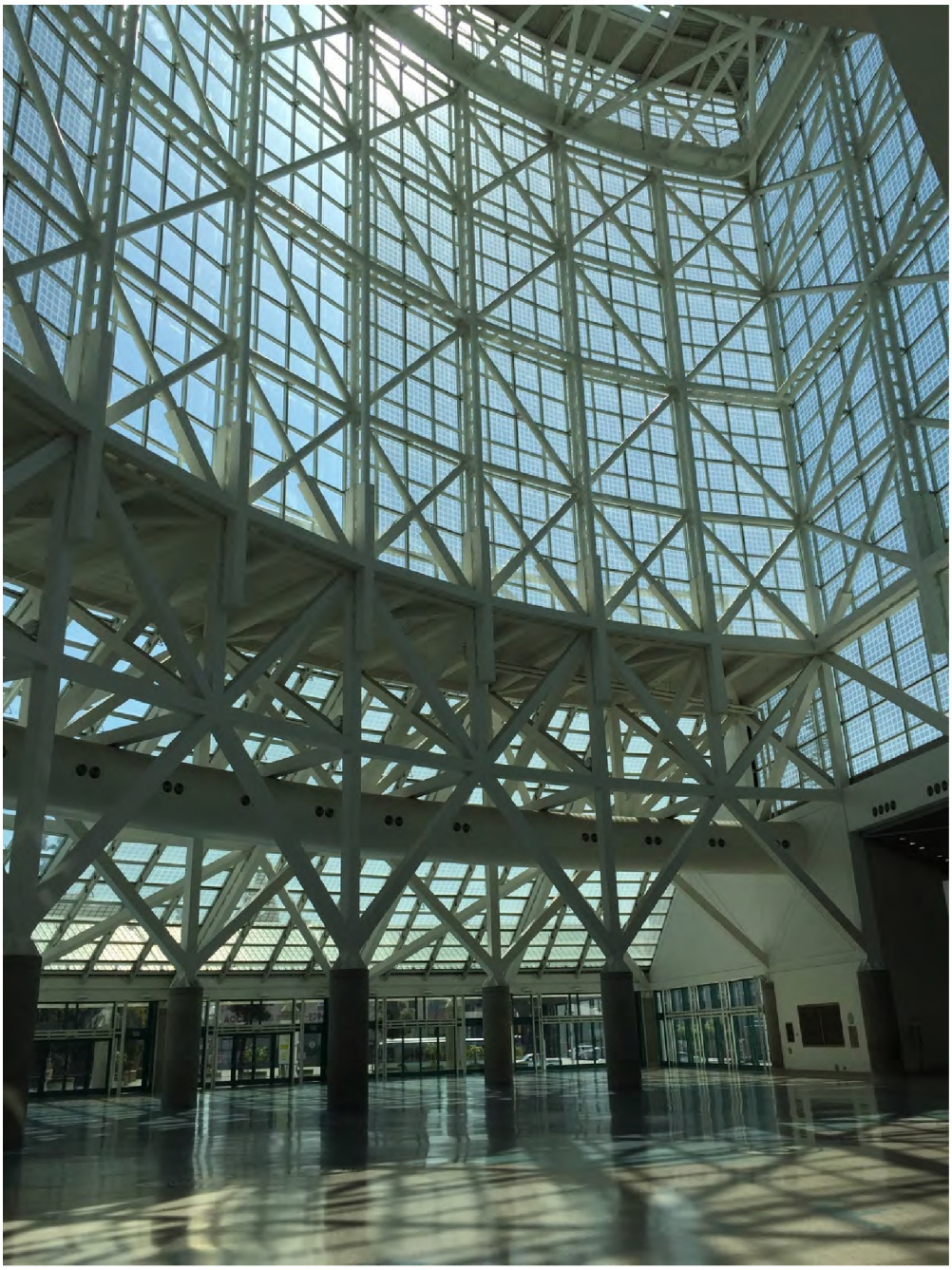


Figure 13: South Hall entrance glass atrium.

4.2 Earthquake Resistance

The below assessment is for a 'major' earthquake, on the order of a design level event (10% chance of exceedance in 50 years, or a 475 year return period.

- The South Hall and concourse were designed after the significant changes following the 1971 San Fernando earthquake, and are therefore likely markedly more resilient to earthquake loads than the West Hall.
- It is unlikely that the parking level, main exhibit hall, office, atrium, or concourse represent life-safety risks.
- The greatest life-safety risk would likely be associated with the atrium glass, that may be subjected to falling due to the flexibility of the supporting frame. This is one of the main egress routes.
- It does not appear that the facility was designed to be operational after a major earthquake. As such, significant inelastic behavior (i.e. damage) of the structure would be expected.
- Although critical mechanical equipment (e.g. the chiller plant) would be expected to perform better than the West Hall, there is a reasonable probability that the plant would remain inoperable for weeks to months following a major earthquake due to damage.
- Economic retrofit of potential life-safety risks associated with the glass atrium is likely possible. This would potentially involve using secondary containment of the glass (e.g. fiber loops).
- Bringing the facility up to an operational level following a major earthquake may be economical through non-conventional means such as added damping or base isolation. Enhanced bracing of critical mechanical systems items, including the chiller plant, would also be economical means of increasing the resilience of the facility.

5 Conclusions

1) In a major earthquake, the LACC could sustain significant damage that would render the facility inoperable for months to years. This would be the case for the West Hall (1971) and South Hall (1993). More damage would be expected in the West Hall.

2) The West Hall contains potential life-safety risks due to the lack of strength and ductility in the braced-frame walls; and an uncertain load path between the upper-roof (for the main hall span) and the braced frames.

3) An additional potential life-safety risk is that associated with the glass atrium in the South Hall due to falling glass above a primary egress route.

4) The chiller plants for both buildings likely pose operational risks for moderate earthquakes.

5) It will likely be possible to retrofit the West Hall by reinforcing or replacing the braced frames, associated connections, and the load path to the upper-roof. Such a retrofit would alleviate life-safety risks, but would not achieve operational performance following a major earthquake.

6) For both buildings, retrofitting to achieve operational performance after a major earthquake would be far more difficult than to alleviate the life-safety risks. However, such a retrofit may prove economically feasible upon more detailed analysis.

7) Simple measures could be taken, however, to increase resilience such as bracing key mechanical systems (e.g. the chiller plants).

8) The bracing of the fire protecting piping appeared inadequate in the West Hall. This should be investigated further.

9) This was high-level review of the LACC for the purpose of informing discussions regarding development options and associated financing. A thorough life-safety and operations risk assessment should be performed before deciding on any remedial works or making life-safety decisions. A tiered approach such as that in *ASCE 41 – Seismic Rehabilitation of Existing Buildings* would be a practical way forward.

A3 Mechanical Information

Mechanical conditions	Upgrade/Refurbishment/ Replacement/	Remaining Life	Comments
Cooling Plants (West Hall)	Replacement	NIL	The chillers (three) serving the West Hall were recently refurbished to update the refrigerant type and to increase the anticipated life of the asset. However, the life expectancy (per ASHRAE) for this equipment is 20 years rendering this infrastructure to be at the end of its useful life. In addition, chillers are, in general, 50% more efficient than those in operation at LACC.
Cooling Plants (South Hall)	Replacement/Refurbishment	5yrs	The chillers serving the South Hall (three) are housed in the same facility as the chillers serving the West Hall and were installed in a separate phase when the South Hall was constructed. An additional chiller was installed to provide additional capacity. This chiller has less capacity than the other equipment and was installed in the mid-1990's. Similarly, these chillers are considered to be at the end of their useful life. In addition, the structure that houses the chillers and the pipe distribution network are deficient (see structural section).
Heater Plant (West Hall)	Replacement	NIL	The West Hall is currently heated using and electric heating element from the original construction in 1967. This methodology for heating is generally obsolete as it is inefficient and is difficult to achieve Title 24 efficiency

Mechanical conditions	Upgrade/Refurbishment/ Replacement/	Remaining Life	Comments
			requirements. The heating system would need to be replaced in its entirety in the West Hall.
Heater Plant (South Hall)	Replacement	5yrs	The Heater Plant serving the South Hall is generally in good repair but does not possess capacity to serve any additional future program. The equipment does not appear to have been replaced since the construction of South Hall in 1993 and is considered to be close to the end of its useful life. In addition, it is likely that any modifications to the equipment would trigger an air quality compliance retrofit.
Air Handling Systems	Replacement	5yrs	The air handling on the site have all been maintained well. However, they are approaching the end of their useful life and if refurbished could trigger efficiency mandates.
Energy Efficiency	N/A	N/A	The mechanical infrastructure on site has not incurred any significant upgrades since first implementation. In recent times building mechanical equipment has been improved to provide better efficiency thus reducing the energy consumed on site in comparison to the existing scheme.

Existing System Summary

- The existing chiller plants are located in the West Hall and South Hall buildings. The first phase was constructed for the West Hall and the second phase for the South Hall. Phase one chiller plant is configured with three Trane water cooled chillers, (2) rated at 1,235 Tons and (1) rated at 435 Tons. Phase two is configured with three (3) York water cooled chillers, each rated at 1,000 tons. A fourth Carrier water cooled chiller was installed during the mid-1990s to serve additional capacity. There is currently no design documentation for the fourth chiller, however, the facilities group has reported that the capacity is 1,000 Tons. The design documents indicate that the two chiller plants distribution systems were interconnected to combine the chilled water plants.
    - The chillers installed during the first phase at the West Hall have been reconditioned within the last few years. The obsolete refrigerant at the chillers was replaced with a more current refrigerant. The facilities team has indicated R-134a refrigerant was utilized as the replacement. As an option, these chillers can be considered to be reutilized. However, the ASHRAE anticipated life expectancy for water cooled chillers is typically 20 years. The chillers could be considered at their end of life usefulness.
- During each of the above mentioned phases, cooling towers were provided to account for the condenser water required at the chillers. The design documents indicate the first phase installed two (2) 1,500 Ton cooling towers that approximately matches the 2,905 Ton chiller plant. During the second phase at the South Hall, the design documents indicate that three (3) 1,000 Ton cooling towers were provided to match the capacity of the chiller plant. There is no documentation regarding the additional fourth chiller condenser water added capacity.
- The current total capacity of the chilled water plant is approximately 5,905 Tons according to the design documents. With the additional 1,000 Ton chiller as part of the distribution system, the total approximate chiller plant capacity is 6,905 Tons. Further investigation shall determine the existing conditions and whether or not another cooling tower was provided to allow the additional 1,000 Tons of cooling capacity to operate while the original chiller plant is in full operation. Therefore, the information shown in the summary below is based on the nominal capacity of the chilled water plant at 5,905 Tons.

Summary of existing chiller plant size and building area:

Total Existing Building Area	
West Hall Total Area:	270,467
West Lobby Total Area:	118,430
West Concourse Total Area:	128,530
West Hall Circulation/Support/Services	384,683
West Hall and Concourse Total Area (SF):	**902,110**
South Lobby:	398,584
South Hall:	817,167
South Hall Total Area (SF):	**1,215,751**
Grand Total Existing Program Area (SF):	**2,117,861**

Existing Chilled Water Plant Size Information	
Total chiller plant capacity (Tons):	5,905
Existing building cooling metrics (SF/Ton):	359

- Space heating and cooling is done via an overhead mixed system, generally constant volume AHUs
- AHUs are located in mechanical rooms in various locations within the building
- Nearly 25 air conditioning systems serve the original West Hall of the LACC
- Nearly 90 air handling units serve the South Hall and Concourse area; approximately 20 of these units serve the Concourse and associated areas

Proposed Cooling Plant

The new program space and total existing to remain program at the South Hall accounts for a total of approximately 3,325,551 square feet (SF) area. Based on the metrics of the cooling capacity of the existing building mentioned above (359 SF/Ton), the proposed chiller plant capacity required is approximately 9,275 Tons. Once the total building plug loads can be analyzed and an energy model can be performed, there is an opportunity to reduce the chilled water plant capacity. As an alternate, the reduced chilled water capacity can potentially be 8,280 Tons. This is dependent on building plug loads and operations (i.e. scheduling large events to occur simultaneously or staggering). Below is a summary of the two chiller plant nominal capacity options:

Summary of total project building program and new chiller plant size:

Total Existing and New Program Area	
Existing South Meeting Room (SF):	46,941
Existing South Hall Exhibit (SF):	384,507
Existing South Hall Support (SF):	784,303
Total new program area (SF):	2,109,800
Grand Total Existing and NEW Program Area (SF):	**3,325,551**

Proposed Chilled Water Plant Size	
Total chiller plant capacity (Tons):	9,275
Plant size based on existing building cooling metrics (SF/Ton):	359

Alternate Proposed Chilled Water Plant size	
Total chiller plant capacity (Tons):	8,280
Plant size based on existing cooling metrics 12% better than Existing (SF/Ton):	402

Cooling Plant Equipment

Chiller Plant:
Water Cooled Chillers: Six (6) Centrifugal Chillers each rated for a nominal 1,545 Tons
Chilled Water Pumps: Six (6) 2,320 GPM pumps at 135 FT Head Pressure
Physical size of the chiller plant room: 110 FT x 75 FT

Cooling Tower:
Counter Flow Cooling Tower: Three (3) cooling towers each with two (2) cells. Each tower rated for a nominal 3,095 Tons at 10 Degree F. Delta.
Condenser Water Pumps: Six (6) 3,715 GPM pumps at 70 FT Head Pressure
Physical size of outdoor cooling tower space: 200 FT x 60 FT

Air Cooled Chiller and Thermal Energy Storage

As an alternate to water cooled chiller plant, an air cooled chiller plant with thermal storage can be considered as an option. Although the air cooled chillers do utilize more power to produce the same cooling capacity than a water cooled chiller, however, however air cooled chillers do not utilize cooling towers and do not utilize water for the evaporative cooling required at cooling towers. Therefore, the water usage is a savings when considering air cooled chillers. The Preliminary Facility Program document requires the evaluation of an air cooled chiller plant as an option in response to the climate change risks and preservation of water resources. This scheme while beneficial in water conservation strategies inherently requires a considerable amount of exterior real estate space that is restricted at this site. Acoustical considerations are also a key factor with an air cooled chiller plant of this capacity.

When paired with thermal storage, the air cooled chillers can produce and store the cooling capacity during off-peak utility rate hours during night when the outside air conditions typically are favorable for air cooled equipment. Below are the equipment requirements for this arrangement:

Air Cooled Chiller Plant:
Air Cooled Chillers: Nineteen (19) 500 Ton Air Cooled Chillers each rated for a nominal 500 Tons
Physical size of the air cooled chillers with pumps: 235 FT x 70 FT

Thermal storage metrics:
Chilled water storage volume: 15 CF/Ton*hr
Ice storage volume: 4 CF/Ton*hr

Project thermal storage volume:
Base Case cooling option
Chilled water storage: 139,125 CF
Physical required space: 69x 68x30 FT
Ice storage: 37,100 CF
Physical required space: 42x30x30 FT
Alternate cooling capacity option
Chilled water storage: 124,200 CF
Physical required space: 65x 64x30 FT
Ice storage: 33,120 CF
Physical required space: 36x31x30FT

Code Requirements for Air Cooled Chillers

Current codes would also have restrictions on this scheme.

The 2013 Title 24 California Building Energy Efficiency Standards govern requirements for Air-Cooled Chillers for new buildings and substantive retrofits in California. Pursuant to Title 24, electric air-cooled chillers must comply with the following:

Table 1 – Title 24 2013 Electric Air-cooled Chillers Minimum Efficiency Requirements

Type and Size	Energy Efficiency Rating (EER)	Integrated Part Load Value (IPLV)
Less than 150 Tons	≥ 9.562	≥ 12.500
Greater Than 150 Tons	≥ 9.562	≥ 12.750

Absorption-driven air-cooled chillers must have a Coefficient of Performance (COP) of at least 0.6. Furthermore, the Code stipulates that "Chilled Water Plants shall not have more than 300 tons provided by air-cooled chillers." There are three exceptions to this rule allowed in the code of which two are potentially applicable to this project.

One exception that the project could pursue is that air-cooled chillers may comprise a greater portion of cooling load "when used to charge a thermal energy storage system with a design temperature of less than 40 degrees F."

The second potential exception is that larger portions of the cooling load may be provided by air-cooled chillers "with minimum efficiencies approved by the [California Energy] Commission." To have a minimum efficiency approved by the Commission involves pursuing an alternate compliance pathway using an approved energy modeling tool or process under CEC Section 10-109. The pathway or potential for approval for projects or technologies pursuing approval under this path is not clear, and therefore it is not recommended.

Heating Plant

According the design documents, currently there are two (2) boilers in the expansion project located at the South Hall. The West Hall originally was design with electric resistance heating. The new design shall consider condensing type heating hot water boilers. The estimated capacity for the total project gross area is approximately 33,300 MBH. Mechanical equipment and mechanical space allocation shall be considered as follows:
Boilers: Six (6) condensing type boilers each at 6,000 MBH capacity (Input)
Boiler Room: 70x40 FT

Air Handling Systems

Comfort

Air handling systems must be added for the expansion program area. New air handling systems must also be added for replacing the program area in the West Hall and Concourse that will be demolished for the P3 project. The South Hall was built more recently, and these air handling systems will not be replaced. Therefore, the expansion and renovation area is used for the quantities given below.

Sizing for the air handling units (AHU) is based on the existing south and west hall design as well as current data on internal heat gains for similar type projects. Table 1 is a summary of the design data, where the "Expansion and Renovation LACC" column lists the design assumptions for the new program areas for this project based on existing facility benchmarks. As technology has improved since the West and South halls were built, the waste heat generated from internal sources like plug loads and lights has also reduced. Furthermore, the cooling load takes into account the diversity, so that 10 W/SF of allotted power density should be reduced to approximately 6 W/SF of internal heat gain. The approach is captured in the "Recommended LACC" column in Table 2.

Table 2 - AHU Design Data Summary

Type	Existing LACC [CFM/SF]	Expansion and Renovation LACC [CFM/SF]	Recommended LACC [CFM/SF]
Exhibit hall	3	3	2.5
Meeting room	2.1	2.1	2
Ballroom	N/A	3.2	3

- Expansion and Renovation LACC
  - 3,400,000 total CFM capacity required for the expansion and renovation program
  - 67 total new AHU's required:
    - Exhibit halls add 1,375,000 CFM with 28 AHU's at 50,000 CFM each
    - Meeting rooms add 450,000 CFM with 9 AHU's at 48,000 CFM each
    - Ballroom adds 224,000 CFM with 5 AHU's at 45,000 CFM each
    - Assume approximately 25 AHU's to meet any support, communications, and pre-function needs by level
  - One 50,000 CFM AHU is approximately 12'x10'x34' (WxHxL)
  - Each mechanical air handling room requires an average of 1200 SF.

- Recommended LACC
  - 3,000,000 total CFM capacity required for the expansion and renovation program
  - 62 total new AHU's required

Using the recommended CFM/SF design assumptions, the reduction in CFM from the existing benchmark design is approximately 12%. This reduces the number of AHUs (of approximately the same size) to 62 AHU's. The reduction of the facility air handling systems as a result of the internal load reductions adds up to significant capital cost reductions and life-cycle energy savings.

Existing Air Handling Systems

The expansion and renovation project will be permitted under the 2016 version of the Title 24 Building Energy Efficiency Standards for California. As mentioned in the "Comfort" section, the existing AHUs in the South Hall will not be replaced. However refurbishment of the South Hall will trigger Title 24-2016 requirements for approximately 70 affected mechanical systems. Therefore, a cost must be associated with each air handling system to cover upgrades. A more detailed code study should be done to determine what this cost is. For the purposes of this report, it is recommended that at least $30,000 be allotted for each air handling system to meet Title 24-2016 requirements.

Exhibit Setup Vehicle Exhaust

The stakeholders have expressed interest in being able to drive vehicles into exhibit space and allow them to idle during un-loading to expedite event setups. Providing this feature presents several operational and code challenges. This narrative briefly describes three possible ways to achieve exhibit setup vehicle exhaust, but a more detailed investigation is required to verify their applicability and feasibility.

Code requirements vary; one conservative requirement is 1.5 CFM/SF. Because of the tall ceiling height in the exhibit space and the need for extracting the air at the ceiling, the requirement has been doubled (3 CFM/SF) for this calculation.

ADD ALTERNATE 1: In loading dock mode, AHUs would be configured with exhaust fans to exhaust the vehicle fumes and supply fans to supply makeup outdoor air. Since AHUs serving the exhibit hall are sized for 3 CFM/SF, they must capable of providing 100% outside air during loading dock mode.

ADD ALTERNATE 2: For the exhibit hall space to operate in "Loading Dock Mode", the loading dock exhaust must be at least 25 ft from air intakes. This would be a challenge for an AHU to provide both exhaust from the exhibit hall and makeup air to the space. Thus this alternate has been provided where roof top fans exhaust the air separately.

ADD ALTERNATE 3: In order to avoid adding rooftop exhaust fans while maintaining a separation between loading dock exhaust and AHU air intakes, separate the main part of the air handling unit from the return/exhaust section of the air handling. A bubble-tight damper would be provided for mixing return and outdoor air streams when not in loading dock mode. A heat recovery system (i.e. a run-around coil) would be provided between the exhaust and makeup air streams to mitigate temperature drift in the occupied space during loading dock mode.

- All alternates:

    - 3 CFM/SF
    - 1,627,000 CFM
    - Provide manual switch to enter into "Loading Dock Mode"
        - However, the AHJ may require the system to be activated automatically by gas (e.g. carbon monoxide) sensors, which would not have a good location within the space due to the changing nature of the exhibit hall floor plans
        - Alternatively, the AHJ may require the system to be activated by occupancy. This could be achieved by interlocking the system with the opening of the roll-up doors when vehicles are driven into the exhibit hall
- ADD ALTERNATE 1: the 33 exhibition hall AHUs sized to temper 100% outdoor air
- ADD ALTERNATE 2: 16 roof top exhaust fans instead of using AHUs for exhaust
    - Each 100,000 CFM centrifugal backward inclined airfoil blower fan is sized for 2.5" ESP with 75 HP
- ADD ALTERNATE 3: separate return/exhaust fan module from rest of air handling unit
    - Provide a heat recovery system between exhaust and makeup air streams
    - Provide bubble-tight damper for mixing return and outdoor air streams

Challenges

- OA intakes: Care must be taken to ensure that any added building mass does not interfere with existing OA intakes. Furthermore, any added OA intakes for new equipment must be coordinated around existing exhaust equipment.

Recommended Studies or Evaluations

- Re-commissioning of mechanical systems
- Converting existing air handling systems to VAV
- Ice storage
- District energy using new CUP
- Retrofit existing air distribution into the exhibit spaces with air inducing diffusers that would allow air handling unit turndowns and conserve energy.
- Radiant heating and cooling strategies in conjunction with displacement ventilation in lobby and pre-function areas

Prospects for District Heating and Cooling

An optional strategy that could be considered for the current upgrade of the Convention Center and potential future developments is leveraging the Central Utility Plant at the Convention Center for District Heating and Cooling for future development in the LA Live district. District energy systems have been shown to reduce capital and operating costs where installed by centralizing maintenance, providing redundancy across buildings, and taking advantage of the varied timing of different heating and cooling loads to reduce capacity.

Several convention center spaces nationally have implemented district energy systems with success to reduce energy consumption of the convention center and the surrounding buildings. In addition, operating the district heating and cooling infrastructure can provide a source of revenue for the municipality through sales of heat and cooling to other stakeholders in the district. Existing convention centers utilizing district heating or cooling include:

- Moscone Center, San Francisco (district heating via steam)
- Phoenix Convention Center (district heating and cooling)
- Cleveland Convention Center (district heating and cooling)

In all cases, the convention center serves as an anchor client for a district heating and cooling system that serves other clients in the area, often including sports venues, large office buildings, and retail centers.

Studies of these areas have shown that new clients connecting to the district heating and cooling system save 14% of heating and cooling costs over the lifetime of the building due to capital cost reduction (no heating and cooling system is needed in each individual building), operations and maintenance savings via a centralized plant, and the ability of the thermal plant to operate at or near the optimal operating point through most of the year. In addition, each tenant can receive the benefits of redundancy without having to procure redundant systems as redundancy is often a feature of the district heating and cooling loop design or the central plant construction. Finally, with a diversity of heating and cooling loads across commercial and hospitality spaces, there is an opportunity to reduce primary energy consumption further through heat recovery during periods of coincident heating and cooling demand.

For both the convention center and other tenants, there is an increase in leasable space due to a reduction in space devoted to HVAC systems in each building. Furthermore, the presence of the high-load anchor tenant in the convention center creates more optimal operation and lower heating and cooling costs for the convention center as well as other tenants. Costs can also be reduced through a diversified load and the ability to negotiate a more favorable electricity rate structure for all tenants. Finally, the potential to capture buildings with simultaneous heating and cooling can create possibilities for heat recovery thermal infrastructure which can further reduce operating costs by balancing heat rejection and heat demand in the network.

To accommodate the ability for district heating and cooling for future development, current planning of the convention center will have to consider providing room for an increase in heating and cooling capacity in the central plant. A rough estimate for additional cooling capacity was performed assuming similar heights and densities to the existing LA Live development, which features a 54 story hotel/residential tower with 2-3 story podium development. The estimate used projected development areas and uses from Scenario C in the proposed district plan whereby the ground floor of the podium would predominantly feature retail, especially on active frontages, with multistory office and hotel/luxury residence above. Given the range of uncertainty in the projected development, this estimate showed that space for an additional 6,000-10,000 tons of cooling would be required in the central plant to satisfy

the cooling needs of the additional district. When greater clarity on future development massing and uses is available, this analysis would need to be revisited.

The preliminary estimate also considered the potential for heat recovery within the central plant at times when simultaneous heating and cooling is experienced in the district. This predominantly occurs when heating loads are present in hotel or residential spaces and cooling is required at the convention center or commercial regions. The preliminary analysis showed that 75-80% of the heating load is likely to occur simultaneously with cooling, indicating that incorporation of heat recovery chillers in future central plant expansion to serve the district may be an economically and environmentally advantageous strategy.

Incentives and Rebates Programs

Incentives, low-interest loans, and rebates are available at the local, state, and federal level for which the project may qualify should it pursue an HVAC strategy implementing air-cooled chillers. This section highlights these programs and their potential applicability to the project.

Local Programs through Los Angeles Department of Water and Power

Two rebate programs are available through the Los Angeles Department of Water and Power (LADWP) that could be applicable to this project: the Custom Water Conservation Projects Technical Assistance Program and the Custom Performance Program. It should be noted that both of these programs are only available for retrofit projects. Given this requirement, it is possible that only the portion of the project affecting the existing South Hall may be eligible. However, given that the construction of new space is compensating the demolition of the existing West Hall, the size of the Central Utility Plant may not increase, meaning a case could be made that the relevant changes qualifying for rebates are all retrofits. Since the scope of this work combines demolition, new construction, and retrofit of the South Hall and Central Utility Plant, a conversation with LADWP is necessary to determine the applicability of potential rebate programs.

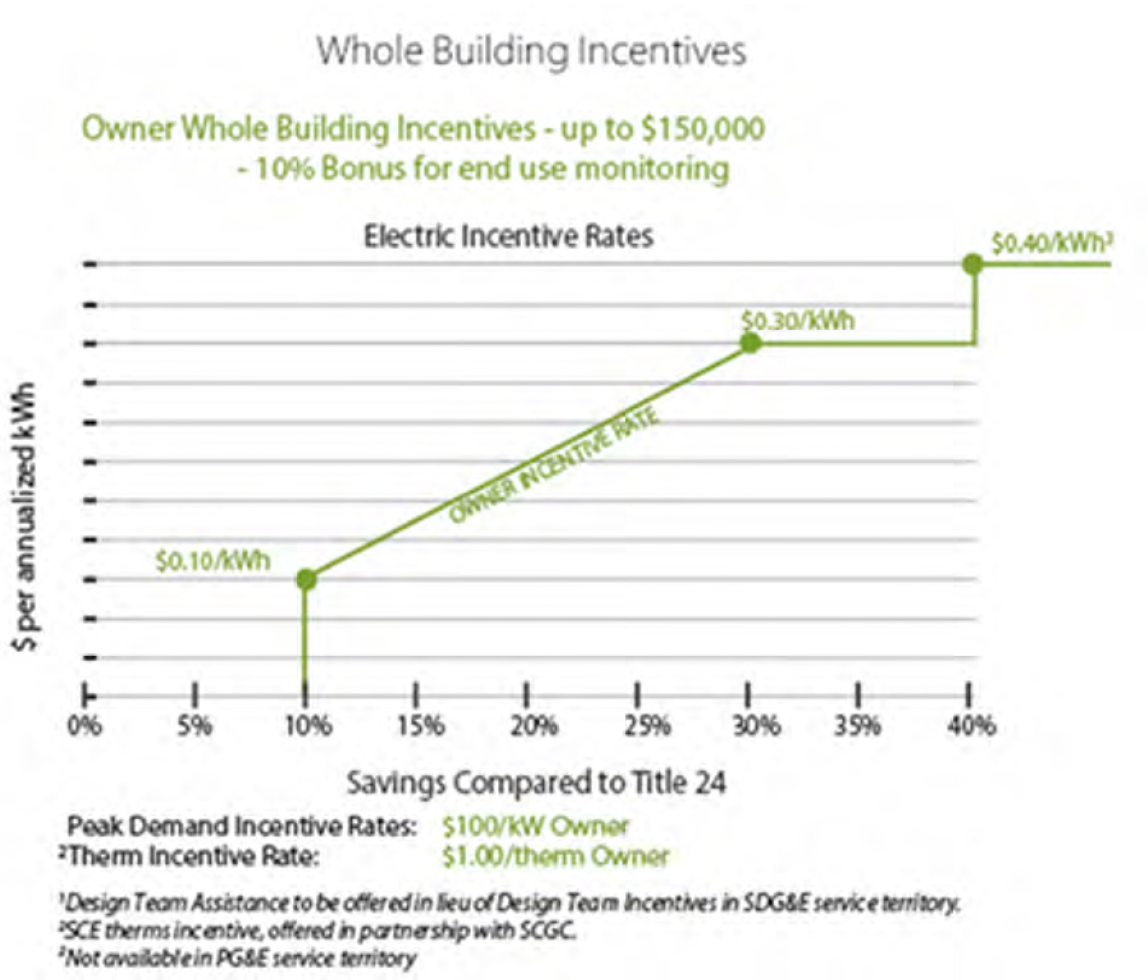
Custom Water Conservation Projects Technical Assistance Program

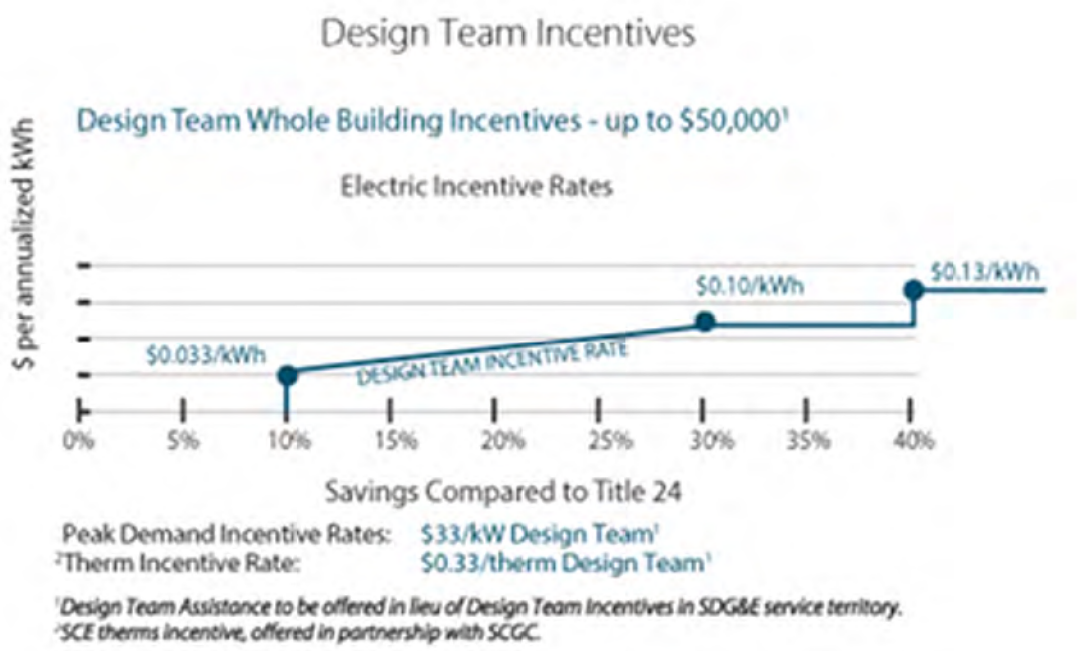
The Custom Water Conservation Projects Technical Assistance Program is a financial incentive program for commercial, industrial, institutional, and multifamily residential customers that can cover up to $250,000 of capital expenses for pre-approved equipment that saves water. Examples of equipment that has been approved under the program includes, but is not limited to, cooling tower upgrades, water-saving kitchen equipment, and water filtration. To be approved, the project must demonstrate that the upgrade is a permanent change that will save a minimum of 50,000 gallons of potable water over 2 years. The program operates as a rebate, so funds are disbursed upon completion of the water-saving upgrade.

Savings by Design Program

For new non-residential construction projects, the Savings by Design program can be leveraged to cover up to $150,000 of the project cost with an additional 10% bonus (up to $15,000) for projects that include end use monitoring. The program is eligible for projects that achieve greater than 10% improvement from Title 24 baseline performance, with a rate schedule that increases as more energy is saved up to 40% savings from Title 24. An additional $50,000 in incentives can be pursued by the design teams for projects achieving the same level of performance. In both cases, incentives are also available for reductions in peak electrical demand.

Incentives are paid at rates based on the annualized savings in kWh. Savings are verified through whole building energy modeling using an approved modeling tool. The figures below show the rate schedules for the owner and design team.





An additional pathway is available for receiving funding under the Savings by Design program. While not the preferred pathway, the program offers a Systems Approach whereby incentives are disbursed for modeled energy savings attributable to improvements in a single system (e.g., Interior Lighting, HVAC, Service Hot Water, etc.). Currently, projects pursuing this approach receive $0.15/annualized kWh saved that is attributable to the system improvement. Projects will also receive $100 per peak kW saved for all measures.

A4 Electrical Information

Electrical conditions	Upgrade/Refurbishment/ Replacement/	Remaining Life	Comments
Generators	Replacement	NIL (West), 5yrs (South)	There are currently three emergency generators on the LACC site that appear to be in good working order. The capacity of the generators (~1,600kW) is likely adequate for the future facility but are approaching the end of their lifecycle.
Floor Boxes	Replacement	NIL (West)	The floor boxes in the West Hall require replacement to meet the same standards as the South Hall (LACC Program Aspiration). The floor boxes upgrade would require greater electrical capacity and data connections to be incorporated too.
Automatic Switches	Upgrade	NIL	The LACC campus currently has manual switch equipment to the main DWP distribution network. One of the elements requested in the LACC program is inclusion of automatic switches. This upgrade would require DWP involvement and would require coordination to establish implementation schedule and equipment needed.

Memorandum

ARUP

To	Colm Tully, Jelena Djurovic	Date	May 10, 2016
Copies	Abigail Rolon, Duanne Gilmore	Reference number	246537
From	Paul Barnard	File reference	4-05
Subject	LACC - Electrical Distribution Review / Capacity		

This memo is a result of reviewing the drawings made available for the existing Los Angeles Convention Center and Expansion (LACC) located here:

Review Drawings

The electrical service is provided by Los Angeles Department of Water and Power (LADWP). Although the electrical service consists of 34.5kV and 4.8kV utility feeders, all service entrance meters are provide at either 480V or 208V across the site.

The total available equipment load for the LACC is 52.25MVA

There are two primary 34.5kV utility lines utilized by the site. Velasco Trinity Line 1 and Velasco Peddler 2. The original LACC was provided with (3) dual 34.5kV connections. Each dual feed included a manual interlocked switching arrangement providing a 'primary' and a 'secondary' feeder from the two provided.

The first dual 34.5kV connection (vault IS 2202) serves the north hall and connects to 2000kVA, 480Y/277V step down transformer. The transformer feeds a [2000A] switchboard with a utility meter.

The second dual 34.5kV connection (vault IS 1343) serves the west exhibit hall. There are (2) step down transformers. Bank 1 is 3750kVA and steps down to 480Y/277V feeding (2) switchboards rated 4000A and 3000A, both are connected via a utility meter. Bank 2 is 5000/6250kVA and steps down to 4.8kV. This 4.8kV service distributes around the site stepping down locally to serve (2) 480V, 600A switchboard, (8) 208V, 2500A switchboards, (1) 2000A switchboard. Each switchboard is provided with a utility meter.

The third dual 34.5kV connection (vault IS 1508) serves the west exhibit hall and connects to a 2500kVA, 480Y/277V step down transformer. The transformer feeds (2) 480V, 2000A rated switchboards with utility meters.

The original facility has (1) 140W diesel generator feeding a 225A switchboard for essential services.

Memorandum

The LACC expansion project provided (5) new 34.5kV LADWP feeders for new chiller plant/CUP, expansion of the west hall and meeting rooms, and south exhibition hall.

The CUP is served by (2) new 34.5kV feeders (vault IS 1343) with (2) 3750kVA, 480Y/277V step down transformers. Each transformer feeds a 4000A switchboard, each with utility meters.

The west hall and meeting rooms are served by a new 34.5kV feed (vault IS 1508) with 6250kVA, 4.8kV step down transformer. . This 4.8kV service distributes around the site stepping down locally to serve (4) 480V, 1000A switchboards, (4) 208V, 1600A switchboards. Each switchboard is provided with a utility meter.

The CUP and west expansion has (1) 1600W diesel generator feeding a 2500A switchboard for essential services.

The south exhibition hall is served by (2) new 34.5kV feeders arranged in a loop configuration to serve two vaults, one located at the south, the other at the north.

The south vault contains (2) 3750kVA, 480Y/277V step down transformers. Each transformer feeds a 4000A switchboard, each with utility meters. The south vault also has (1) 6250kVA, 4.8kV step down transformer serving a 4.8kV loop feed to (7) distributed vaults under the south exhibition hall. Four of the vaults contain equipment, three of the vaults are empty for future use. There are (2) 750kVA, 208Y/120V step down transformers. Each transformer feeds a 2000A switchboard, each with utility meters. There are (6) 500kVA, 208Y/120V step down transformers. Each transformer feeds a 1600A switchboard, each with utility meter.

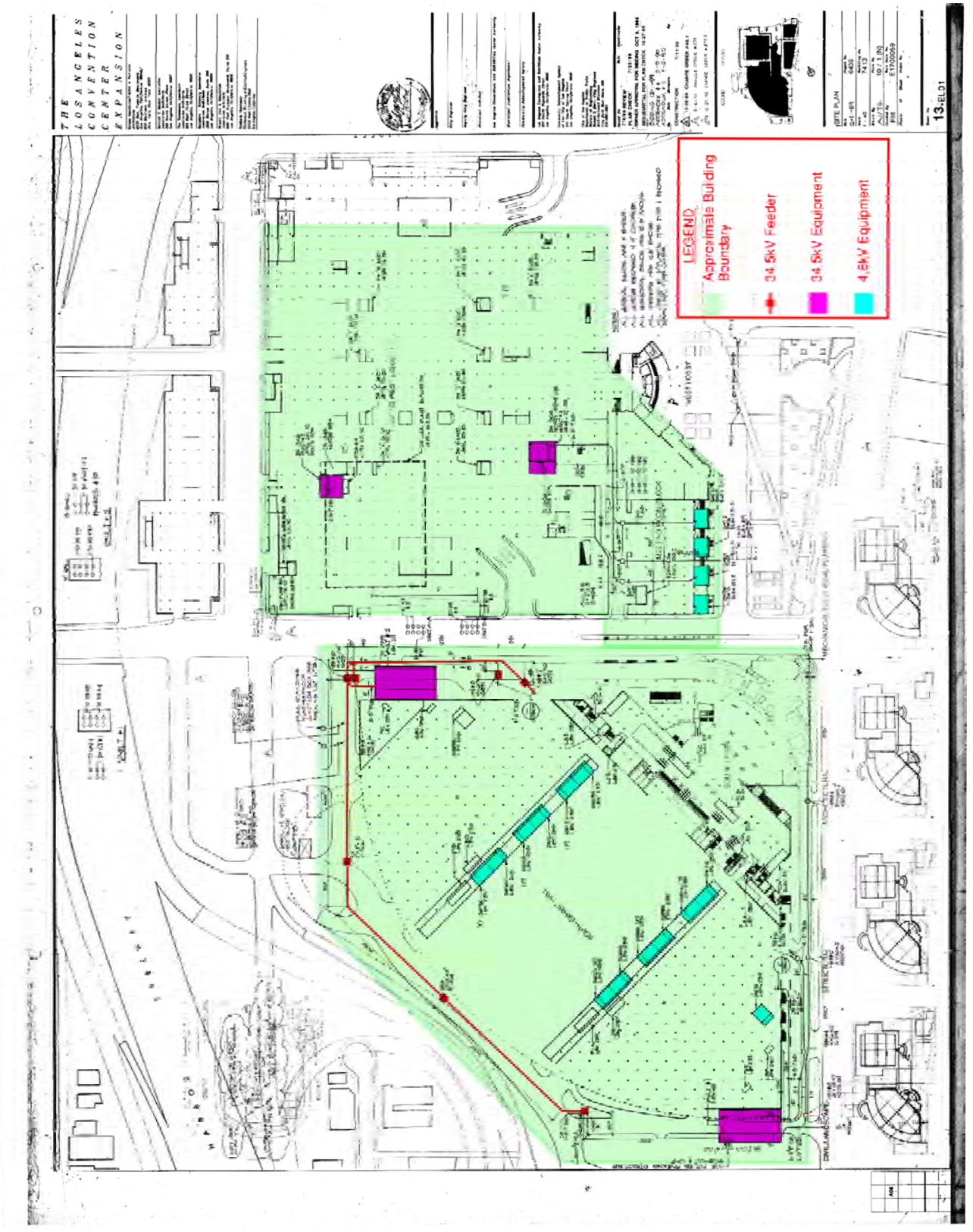
The north vault contains (2) 3750kVA, 480Y/277V step down transformers. Each transformer feeds a 4000A switchboard, each with utility meters. The south vault also has (1) 6250kVA, 4.8kV step down transformer serving a 4.8kV loop feed to (7) distributed vaults under the south exhibition hall. Four of the vaults contain equipment, three of the vaults are empty for future use. There are (2) 750kVA, 208Y/120V step down transformers. Each transformer feeds a 2000A switchboard, each with utility meters. There are (6) 500kVA, 208Y/120V step down transformers. Each transformer feeds a 1600A switchboard, each with utility meter.

The south hall has (2) 1600W diesel generator feeding 2500A switchboards for essential services.

Future Capacities

The south exhibition hall contains (6) empty vaults that have a 4.8kV feed with a three way switch terminated for future build out. The two transformers serving the south ex hall vaults have an additional 1750kVA each of available capacity above the current connected step down transformer capacity that is serving the south exhibition hall floorbox distribution equipment.

Memorandum


THE LOS ANGELES CONVENTION CENTER EXPANSION
LEGEND
Approximate Building Boundary
34.5kV Feeder
34.5kV Equipment
4.8kV Equipment

Memorandum

Existing Switchgear Upgrades

As part of the program documents, it was requested that all LADWP feeds be outfitted with automatic transfer switches. The existing system has (6) 34.5kV 600A MV switches that are manually interlocked that would require replacement for an automatic system that meets the requirements of LADPW for automatic switching.

The program requirements also stipulate a review must be taken of the condition of all existing utility infrastructure and related distribution to determine what must be replaced or upgraded. At a minimum the main circuit breakers and switchgear in the S1 through S4 electrical west hall switch rooms must be replaced.

An upgrade to the seismic related bracing and support of systems and equipment is also required.

Future Expansion

The future expansion is broken down into two separate parcels. South Hall at Venice, South Hall / West Hall New. South Hall Venice consists of exhibit, meeting, pre-function and support space covering an area of approximately 155,000ft². South Hall / West Hall New consists of meeting, ballroom, pre-function and support space covering approximately 1,364,000ft².

South Hall at Venice

The total estimated load for this area is 2.5 MVA. We would anticipate the MV connection would be from the existing 34.5kV loop and extend to a designated electrical room(s) within the program area. For efficiency of space, the design will assume the use of dry type indoor unit substations to step down from 34.5kV to 480Y/277V. (1) Unit substations with transformer sized to 2500kVA with low voltage switch board rated at 4000A with a minimum short circuit rating of 65kAIC. There are to be (4) 500kVA 480-208Y/120V step down transformers to supply exhibit hall and meeting room plug loads. Each transformer shall terminate into a 1600A rated distribution panel. There shall be a minimum of (4) 100A panels for normal lighting (2) 100A panels for emergency lighting. The lighting control system shall be digitally addressable system and be capable of daylight linking and demand response dimming. Mechanical systems shall be connected to 1200A switchboard at the lower level and (1) 1200A switchboards at the upper levels.

South Hall / West Hall New

The total estimated load for this area is 15MVA.We would anticipate the MV connection would be from the existing 34.5kV loop and extend to a designated electrical room(s) within the program area. For efficiency of space, the design will assume the use of dry type indoor unit substations to step down from 34.5kV to 480Y/277V. (6) Unit substations with transformer sized to 2500kVA with low voltage switch board rated at 4000A with a minimum short circuit rating of 65kAIC. There are to be (16) 500kVA 480-208Y/120V step down transformers to supply exhibit hall and meeting room plug loads. Each transformer shall terminate into a 1600A rated distribution panel. There shall be a minimum of (16) 100A panels for normal lighting (8) 100A panels for emergency lighting. The lighting control

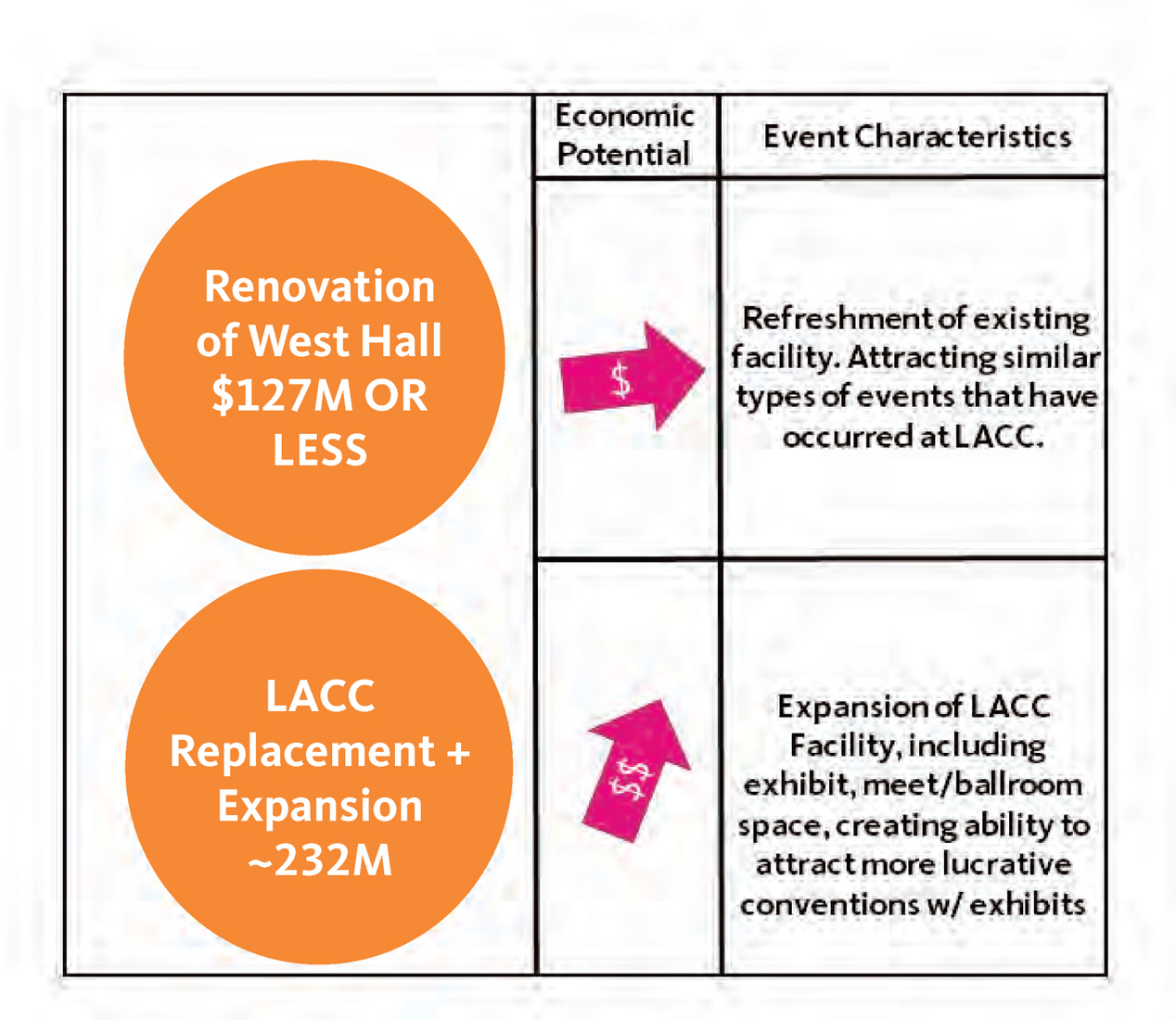
system shall be digitally addressable system and be capable of daylight linking and demand response dimming. Mechanical systems shall be connected to (2)1600A switchboard at the lower level and (4) 1600A switchboards at the upper levels.

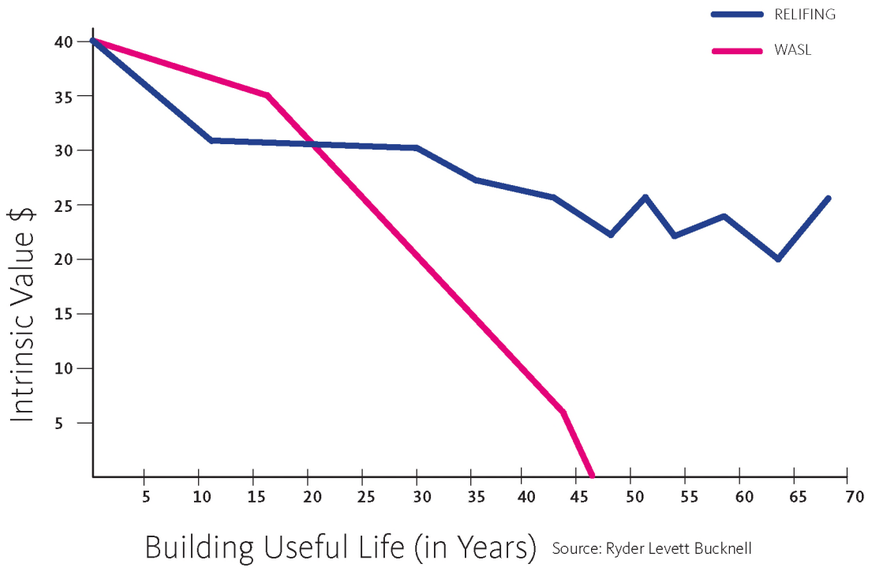
A5 Capital Improvements Information

- The Los Angeles Convention Center (LACC) is at a point in time in it's lifecycle to decide the right course of action for future operations at LACC and the appropriate cost considerations for West Hall renovations

- This reality drives the opportunity to expand or renovate existing space at the LACC, specifically the West Hall. Additionally, current revenues for a facility of this size are at the average compared to other convention centers, whereas the San Diego convention center achieves per square foot revenue rates nearly 40% greater than LACC, suggesting that their may be the opportunity for pricing power and revenue volume with new offerings

- Full West Hall renovation equates to ~40% of total project budget, whereas ~60% has been estimated for expansion



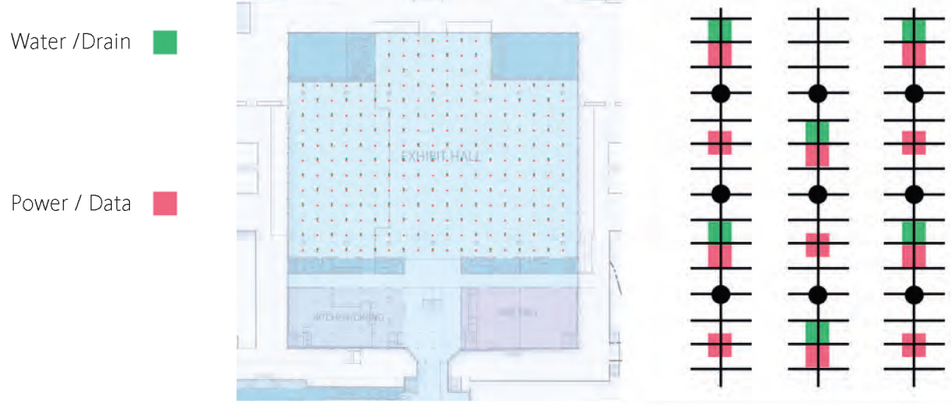


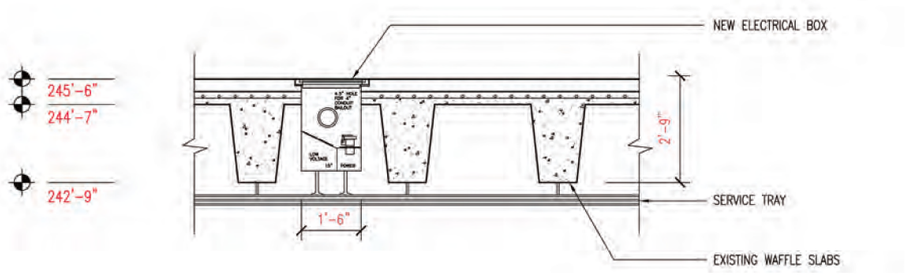
Source: Ryder Levett Bucknell

Building Life Extension Study

This graphic demonstrates the ROI on continually reinvesting capital into a Convention Center facility, as compared to building a new facility.

Relifing: Strategy of systematically upgrading the base facility and its components over time
WASL: Weighted Average System Life
Intrinsic Value: The value-add in return for every $100 spent on improvements in terms of added lifespan.





West Hall Floor Boxes

West Hall Lifespan
The West Hall was constructed in 1971 and, at 45 years old, will reach eligibility for Historic status in five years. This is very old in the context of the convention center marketplace. These are a few elements of the existing facility that are outdated or need upgrades:

- Upgrade Restrooms to meet ADA and design-quality standards
- Replace entire underfloor electrical, data and plumbing with Floor Boxes
- Seismic Upgrade
- Structural enhancement to roof to support staging
- Replace Finishes on all surfaces throughout
- Expansion and reconfiguration of loading docks
- Replace Light fixtures and controls
- New Roof

Core Thresholds
Of the possible upgrades that would enhance attractiveness of the West Hall, a simple refresh of paint and carpet and the addition of floor boxes seems to add the most value. However, to this point, the overall project has been contained to a single building project in the expansion area—thereby avoiding any trigger that would require the remaining South and West Halls to be brought up to current design codes. If more than paint and carpet (which are considered maintenance) are pursued, full ADA upgrades to the restrooms would likely have to occur before any other upgrade is undertaken. Our estimates for progressively larger interventions into the West Hall are shown in the graphic (to the right). The chart works generally as an additive tally of costs moving from left to right. For example, the cost associated with New Floor Boxes ($18.3 million) includes the cost of Restroom/ADA upgrades.

Conclusion
As one can see, the costs associated with making the West Hall meet 21st century needs grow quickly. Most problematic may be the perception issue. No matter how much money is spent to renovate the existing West Hall, it will always be the “old hall” and less marketable than the other two. The greatest improvement of the West Hall has already been implemented by making the exhibit hall contiguous with the South and Pico Halls. After careful consideration of all potential options, our design team recommends that only the minimal Paint and Carpet renovation of the existing hall take place.

Analysis
Benchmarking
Informed Decisions

West Hall Renovation Strategy & Alternatives

Minimal Intervention

Do the most possible without triggering ADA upgrades

New Paint and Carpet

$3.5M

Restroom/ADA Upgrades

Previous Option plus code required upgrades

Previous Upgrades
ADA Upgrades

$7.4M

New Floor Boxes

Previous Option plus New Floor Boxes in West Hall

Previous Upgrades
New Floor Boxes
Electrical Upgrades
New Drains and Water Supplies
New Data Distribution

$18.3M

20-Year Lifespan

Upgrades required to keep the entire West Hall relevant and marketable for another 20 years

Previous Upgrades
New Lights
New Exterior Finishes
Upgraded Finishes Throughout
Seismic Upgrades
Reinforced Roof

$127M

New Facility

Assuming same size and program (Keeping parking below)

214,000ksf Exhibit Hall
54,000sf Meeting Space
22,000sf Petree Hall
25,000sf Kitchen

$232M

A.2 Traditional Path Option

The Traditional Path design team is composed of four architecture firms: Populous, HMC, Olin, and Chu + Gooding. The team originally proposed 3 alternative options for the LACC expansion design schemes (option 1, option 2, and option 3). Option 2 was retained after getting feedback from the stakeholders during the outreach sessions held in April 2016, and based on CTD and BOE's preferences.

The retained scheme for the Traditional Path proposes adding 368,612 ft^2 of net new exhibit space, including 181,000 ft^2 of exhibit hall, 78,000 ft^2 of meeting rooms, a 70,000 ft^2 ballroom, and 40,000 ft^2 of outdoor exhibit space. By physically integrating the South and West Halls and bridging over Pico Boulevard, this scheme allows for 737,000 ft^2 of contiguous exhibit space.

Table 1: Expansion program for the Traditional Path design scheme

Area	CTD/BOE expansion program (ft^2)	Traditional Path design scheme (ft^2)
Exhibit hall	220,000	181,000
Meeting rooms	78,000	78,000
Ballroom	70,000	70,000

The scheme also involves demolishing some elements of the existing facility. Some of the demolished parts of the existing facility will be replaced.

Table 2: Demolition program for the Traditional Path design scheme

Location	Sub Location	Area (ft^2)
Parking level	Parking	25,125
	West Tower	N/A
Level 01	Existing bridge (north corner of South Hall)	10,143
	1-story deck building (reuse deck)	18,058
	Elevated deck (reuse)	14,683
	West Tower	16,415
	Elevated deck (east corner of West Hall)	23,919
	Building	15,532
Level 02	Building	N/A
	West Tower	N/A

More information on the Traditional Path design scheme can be found in the document entitled *LACC Expansion & Renovation – Concept Validation* submitted by the Traditional Path Design Team to the City on June 8th 2016.

A.3 DBFOM Path Option

The Los Angeles Convention Center (LACC) is an important strategic asset for the City of Los Angeles; it functions as a gateway destination for more than 2 million guests from around the world each year. The LACC Modernization Project is an opportunity to refresh an iconic place while activating the LACC district and creating a truly 24/7 destination for Angelenos and guests alike.

The City wishes to explore creative approaches to further enhance the LACC's value to the City and unlock its potential in a manner appropriate for the nation's second largest City. The DBFOM Path presents an opportunity to not only create a more marketable LACC facility in a format better aligned with the future of the convention industry, but also free up land for a compatible mixed-use development that can build upon downtown's thriving revitalization. The result can be a transformative, vibrant and attractive mixed-use district Angelenos and visitors alike. Importantly, the value created by the real estate opportunity can be an essential tool for reducing the impact to the LACC Modernization Project on the City's General Fund while expanding the economic development potential of the overall project.

In short, the DBFOM Path re-imagines the LACC Modernization Project as an opportunity to implement an integrated urban development strategy anchored by the LACC. This study describes the LACC modernization schemes Arup developed with HOK to optimize the functionality of the facility while meeting the program as well as unlock adjacent land for real estate development.

A.3.1 Goals and Program Objectives – All Schemes

A.3.1.1 Primary Project Goals

One of the documents provided to the DBFOM Path design team early on was the *Design Criteria for the Convention Center Renovation and Expansion Issues to be Considered* from January 30, 2015. This initial input from this list included several primary project goals for consideration:

- Generate greater economic impact by developing a facility and surrounding campus that is more competitive with major west coast centers, and attracts / accommodates city-wide events with higher number of delegates
- Create adequate space inventory and functional design to achieve the following:
    - Attract and host larger conventions and trade shows
    - Attract and host multiple medium size city-wide events simultaneously (i.e., have ability to stack events)
    - Accommodate growth of anchor tenants (i.e., L.A. Auto and E3)
- Increase LA's competitive status and become a convention destination of choice on the west coast
- Create a responsible, prominent, functional yet iconic civic presence and statement as the southern gateway to downtown

- Integrate the building into the fabric of the community through responsible urban design. Includes walkability and connection with surrounding neighborhoods, L.A. Live campus, transportation hubs, etc.
- Capitalize on Los Angeles's weather by creating / offering significant outdoor programing solutions
- Address the design over Pico Blvd in a manner that avoids the creation of a long tunnel
- Be a leader in the industry in sustainability, technology, and innovative design
- Create private use opportunities to generate additional revenue

A.3.1.2 Program

The target building program for the net usable areas of the leasable spaces provided by CTD for the expansion of the LACC is:

- 220,000ft^2 net of new exhibit space
- A new 70,000ft^2 sub-divisible ballroom
- 78,000ft^2 net of new leasable meeting space
- Replacement of all leasable and support spaces that may be demolished in the course of expanding the LACC

Please refer the full Program of Requirements (POR) provided by CTD on the next page for further detail.

Three LACC expansion schemes were developed to examine a range of potential costs for the DBFOM Path. These schemes respond are presented herein. Each is summarized by a listing of key features, a level-by-level description of their organization, leasable and support spaces. These narratives are accompanied by plan diagrams that show the site and development options and the various levels of the expanded convention center.

In addition to the leasable areas described in the CTD POR, non-leasable service and support are estimated in Figure 1. Through several workshops and clarifying memoranda a matrix was developed that listed all of the potential new spaces in the project. Estimated square foot values were applied to each space based on industry standards, discussions with CTD, and in some cases, non-scheme specific placeholder square footage amounts were used. The resulting building program, with grossing factors applied, represents an idealization of the new full-build building program not adjusted for the particular size limits and geometry of the available site.

Together with the written space program, the project analysis involved test fits – the development of plan diagrams that showed basic strategies for organizing the leasable area, public circulation, service corridors and support areas. This site-specific diagramming process for each level of the building resulted in a conclusion that a net leasable/gross enclosed area ratio for this project in the vicinity of 42% should be the target as final programming and design move forward. The existing LACC has a net/gross ratio of 42%.

Category - Enclosed Areas	Area (SF)	Total Area (SF)	Notes
NEW EXPANSION CONSTRUCTION per CTD's Program			
Leasable Areas			
Exhibition	220,000		
Ballroom	70,000		not including exterior event space
Meeting Rooms	78,000		
Sub-total, net leasable area		368,000	
Non-Leasable Areas			
Exhibit Hall-related	121,340		Summary from detailed breakdown
Ballroom-related	77,610		Summary from detailed breakdown
Meeting Room-related	72,590		Summary from detailed breakdown
Loading Docks	6,100		Summary from detailed breakdown
Guest Services	2,550		Summary from detailed breakdown
Food Service	40,600		Summary from detailed breakdown
Shops	-		no expansion
Administrative Offices	-		no expansion
Security	300		Summary from detailed breakdown
Trash/Garbage/Recycling	6,480		Summary from detailed breakdown
MEP Spaces	54,840		Summary from detailed breakdown
Vertical Transportation	21,300		Summary from detailed breakdown
Unassigned (bridges etc.)	10,000		Summary from detailed breakdown
Sub-total, Service and Support		413,710	
Sub-total: Leasable + Service and Support		**781,710**	Net usable area excluding circulation, structure, walls/partitions/chases/shafts
Circulation	10%	78,171	Not including Pre-Function and Service Corridors; includes exit and other stairways.
Structure	1%	7,817	Rough estimate
Skin/Walls/Partitions/Chases/Shafts	1%	7,817	Rough estimate
GROSS ENCLOSED AREA (G)		**875,515**	
Net Leasable/Gross Enclosed Area = N/G		**42.0%**	Net/gross ratio of existing LACC is 42%
OTHER BUILT AREAS, EXCLUSIVE OF CONVENTION CENTER GROSS ENCLOSED AREA			
Parking		-	To be determined
Structured Exterior Space		10,000	Varies by design concept
At-grade Exterior Space		-	To be determined
REPLACEMENT CONSTRUCTION			
Exhibition (West Hall)	210,000		
Meeting Rooms (associaed with West Hall)	66,948		
Meeting Rooms (Concourse)	66,147		
Subtotal, Net Leasable Area		343,095	
Service and Support		387,000	
Sub-total, Leasable + Service and Support		**730,095**	
Circulation	10%	73,010	Not including Pre-Function and Service Corridors; includes exit and other stairways.
Structure	1%	7,301	
Walls/Partitions/Chases/Shafts	1%	7,301	
Sub-total, NET LEASABLE AREA (N)		343,095	
GROSS ENCLOSED AREA (G)		**817,706**	
Net Leasable/Gross Enclosed Area = N/G		**42.0%**	Net/gross ratio of existing LACC is 42%
SUMMARY - TOTAL, ALL NEW CONSTRUCTION (New Expansion Program + Replacement)			
Net Leasable Area		**711,095**	Sum of new CTD program and replacement of demolished areas
Gross Enclosed Area		**1,693,222**	
Net Leasable/Gross Enclosed Area		**42.0%**	Net/gross ratio of existing LACC is 42%

Figure 1: Building program summary – new construction

A.3.2 Key Site Considerations

A.3.2.1 LACC Facility Improvement Area

For purposes of this study, the LACC expansion design has been developed within the boundary shown in Figure 2.

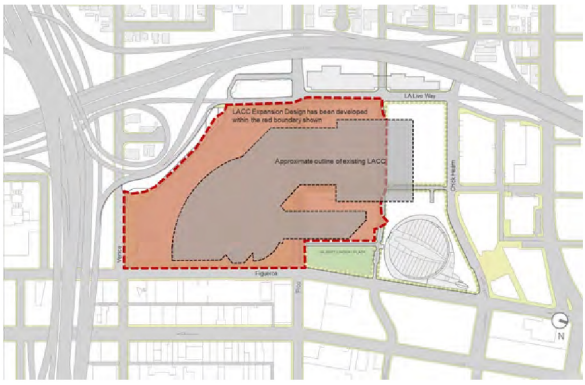


Figure 2: Boundary of DBFOM Path concept design schemes

A.3.2.2 Parking

The current LACC parking configuration is a combination of parking beneath exhibition spaces, surface parking and parking structures. The total number of spaces in the existing campus is approximately 5,500 spaces. Among the 5,500 spaces are approximately 1,180 spaces that are leased by the private operator to serve demand generated by LACC and neighboring facilities. All parking access points have equipment that allows patrons to pay as they enter which removes potential crowding at the end of major events when a great volume of drivers exit the facility. Figure 3 illustrates the locations, sizes and number of spaces in each area.



Existing

Area ID	Status	Spaces	Area (sq feet)	Name	AEG Lease Spaces	LACC Lease Spaces
1	Existing	1,121	59,611	Venice Garage	0	1,121
2	Existing	179	56,895	Bond Street Surface	0	179
3	Existing	87	35,812	Security Surface	0	87
4	Existing	1,603	772,501	West Hall Garage	689	914
5	Existing	1,655	587,370	South Hall Garage	0	1,655
6	Existing	859	107,922	LA Live Way Garage	494	365
Totals:		5,504			1,183	4,321

Date: 5/13/2016

Figure 3: Existing parking on LACC campus

In the final configuration, there is no aspiration to increase in parking spaces nor is there an explicit demand within the existing facility uses to warrant expanding parking. The phasing of the construction of the project (see Sections A.3.5.6, A.3.6.7, and A.3.7.7) will allow the majority of the spaces to be maintained.

The future parking spaces will primarily utilize the existing South Hall parking garage in its current structural formation with enhancements to increase the number of spaces. The South Hall parking configuration can be restriped to increase the number of parking spaces while still meeting Los Angeles Department of Building and Safety's requirements for parking. Through restriping the South Hall existing parking area and without any structural or major modifications, it is anticipated that an additional 160 spaces can be added to the existing 1,655 spaces. These changes would apply to the north and south wings of the South Hall and also Kentia Hall. Final configuration of the parking can be found in Sections A.3.5.7, A.3.6.9, and A.3.7.9.

In addition to improvements in configuration, additional spaces will be replaced beneath the future building north of Pico Boulevard, and at surface lots in the area where the current West Hall is located. In addition to meeting the parking capacity, there are future development opportunities (beyond the LACC extension) to construct additional parking beneath Gilbert Lindsay Plaza and other surrounding areas. The parking structures along L.A. Live Way are configured in a sub-optimal way and could be replaced to maximize capacities in the future.

A.3.3 Scheme Development

A.3.3.1 Process

In order to fully address the development opportunities for the LACC and surrounding urban areas, the Arup team, in conjunction with HOK architects, orchestrated a series of interactive workshop meetings with the City of Los Angeles and the LACC leadership team and staff. These meetings created a forum to review and test the pre-existing POR and then to advance planning and design alternatives for the surrounding urban areas.

After reviewing the POR a Vision and Goals Confirmation Workshop was held on April 18, 2016 to get input from the City Administrative Office on the convention center expansion. The purpose of the session was to confirm, evaluate and add to the project's goals and vision as stated in the *LACC Expansion Goals and Criteria* document.

International case studies were examined for their ability to be state-of-the-art or top-tier in terms of urban design strategies and larger district integration. This allowed the team to advance case studies of both successful convention center developments, especially those that are main competitors in the world marketplace, and successful convention center districts - those that penned their success on being fully integrated into a well-conceived urban district full of mixed-use functions and accommodations.

Critical lessons learned and best practices from these case studies allowed the existing LACC facility to be analyzed within the context of relevant benchmarks that help frame the site's current conditions and future opportunities. In doing so, the workshop documented and acknowledged the current deficiencies in urban character and the public realm surrounding LACC and referenced the success of L.A. Live and pending other public infrastructure improvements like My Figueroa Streetscape and new linear street parks within South Park, as well as private developments like FigCentral.

A.3.3.2 Audience goal statements from Vision and Goals Confirmation Workshop

- Increase marketability and flexibility in event planning. This includes scheduling, capacity flow, and functional needs.
- Address the lack of connectivity between L.A. Live, the Sports & Entertainment District, Staples Center, FigCentral development and the LACC.
- Overcome the lack of a master plan for how to get from West Hall to South Hall – solve for poor convention center connectivity and a lack of pedestrian emphasis.
- Capitalize on activity from sporting events, from the national media and television about the area.
- Make LACC and surrounding areas actively contribute to downtown Los Angeles. Downtown's recent success has been partially fuelled by the adaptive re-use ordinance, Walt Disney concert hall and L.A. Live.
- Make LACC an international case study and example of an attractive, densely utilized, tourist destination.
- Make Los Angeles competitive (against Anaheim, San Francisco, and San Diego), in a competitive market.
- Create sense of urgency around a local focus for the Los Angeles region.
- Investigate how the site can be smartly densified, build out the bigger district (connecting USC to downtown Los Angeles via the LACC).
- Market LACC as a campus.
- LACC Brand – World class facility; World class service. Integrate this with citywide brand.
- Investigate the opportunity to shop local with L.A. Live, food, and Avenue of the Angels.

Ongoing workshops allowed the careful study and refinement of the POR and the advancement of three main architecture development plans: Schemes A, B and C. Each of these were presented and critiqued with the input of the City Family stakeholders and adjustments per their input were incorporated.

The overall process would remiss to not include the input of external stakeholders, namely: Hotel Developers, the Client Advisory Committee and the local Community. Three Stakeholder input sessions were held between May 11th and 12th, 2016 to get input from these entities on the convention center expansion. The purpose of the sessions was to present draft schemes to the three groups in order to elicit feedback on a variety of programmatic and contextual issues in order to evaluate the site's opportunities and impacts on these stakeholder groups. More information can be found in Appendix G.2.

A.3.4 Scheme Details

The three schemes vary in the amount of new exhibit space, reuse of existing facilities and the site's opportunities for development:

- Scheme A utilizes both existing South Hall and West Hall then adds new area between and creates expanded contiguous exhibit space.
- Scheme B also keeps South Hall then adds new space to the south and north to create expanded exhibit area. West Hall is demolished and allows re-established connections to the existing urban pattern at 12th Street and Georgia. Additional new development opportunities are created in this area.
- Scheme C also retains South Hall and adds new exhibit area to the north. Instead of spanning over Pico Boulevard, new space across the street connected by bridges and terraces on multiple levels. The dynamic architectural space at the center of the site is unified under a lightweight canopy structure. Similar to Scheme B, 12th and Georgia are enhanced and provide access to significant new development possibilities.

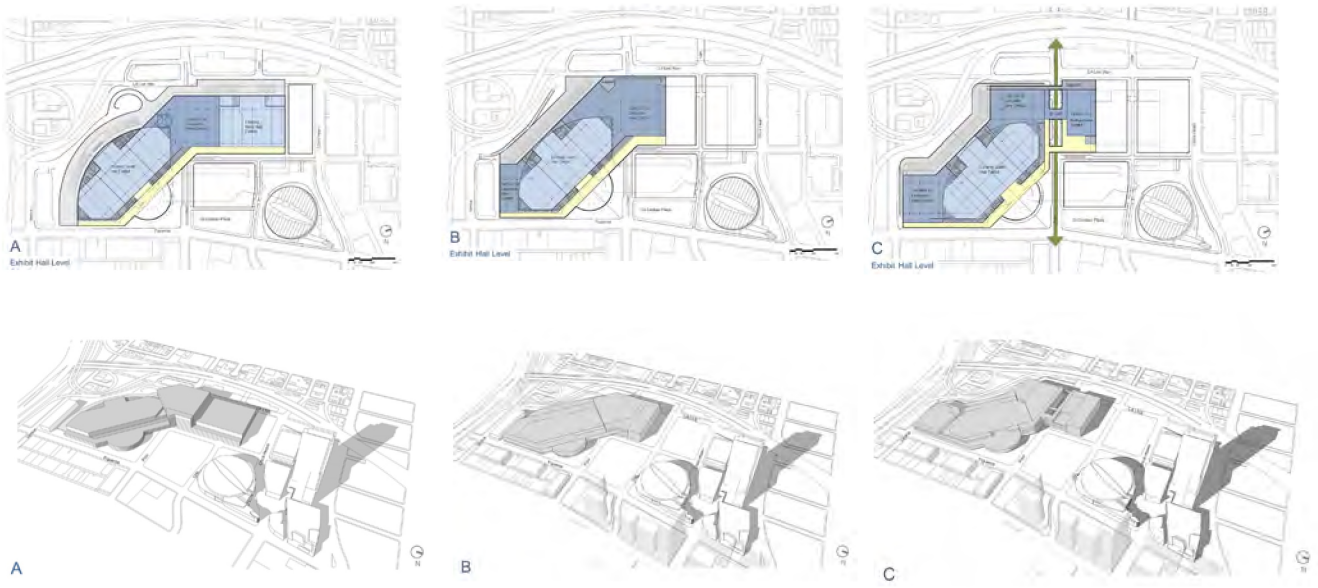


Figure 4: Concept design schemes for the DBFOM Path

A.3.5 Scheme A

This expansion scheme focuses on expanding the convention center in such a manner that preserves and renovates West Hall as part of the expanded complex. In contrast to schemes B-2 and C-2, this approach results in no new developable parcels of land. Key features of Scheme A are:

- 220,000ft^2 of new exhibit space, contiguous (same level and height) with the 347,000ft^2 of existing exhibit space in South Hall. The expansion exhibit space will be immediately adjacent to the 210,000ft^2 of exhibition space that currently exists in West Hall, with the

five foot elevation difference easily handled by banks of stairways, escalators and elevators;

- Construction of new exhibition, ballroom and meeting space in a new vertically organized five-level structure over Pico Boulevard (600 feet covered) between the South and West Halls;
- Continued use of West Hall, but demolition/replacement of its associated meeting rooms, and demolition/ replacement of the Concourse meeting space.

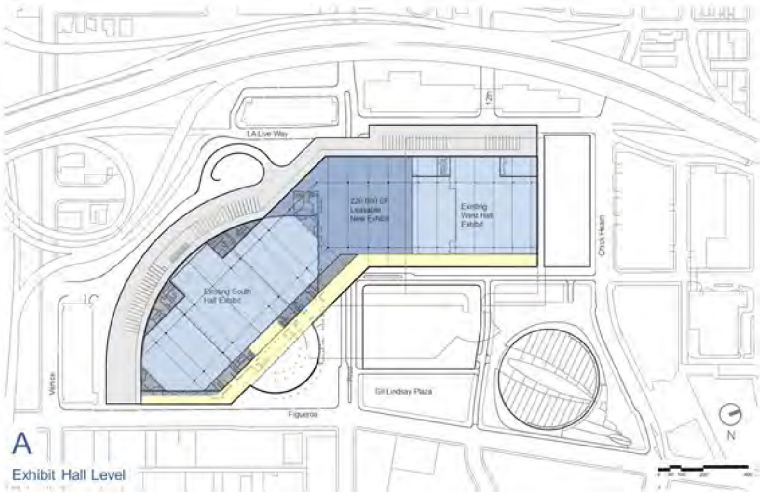


Figure 5: Scheme A – exhibit hall level

A.3.5.1 Ground/entry level

A new entrance and main lobby will be constructed on the north side of Pico Boulevard, approximately mid-way between L.A. Live Way and Gilbert Lindsay Plaza. This lobby will be immediately adjacent to a new transportation center that is located parallel to Pico Boulevard along its northern side. Vertical circulation elements (stairs, escalators and elevators) will connect this new entry lobby to the new upper levels of the expanded convention center.

Vertical circulation elements will also be built in the existing South Hall lobby on the south side of Figueroa Street so that this portion of the convention center can easily connect to the upper levels of the expansion zone.

Support facilities that will be constructed at this level include the food and beverage receiving, support areas (loading docks, dry and refrigerated storage, trash and garbage, etc.) accessed from the L.A. Live Way side, and various ancillary MEP areas. The remaining new space at ground level will serve as expanded parking capacity.

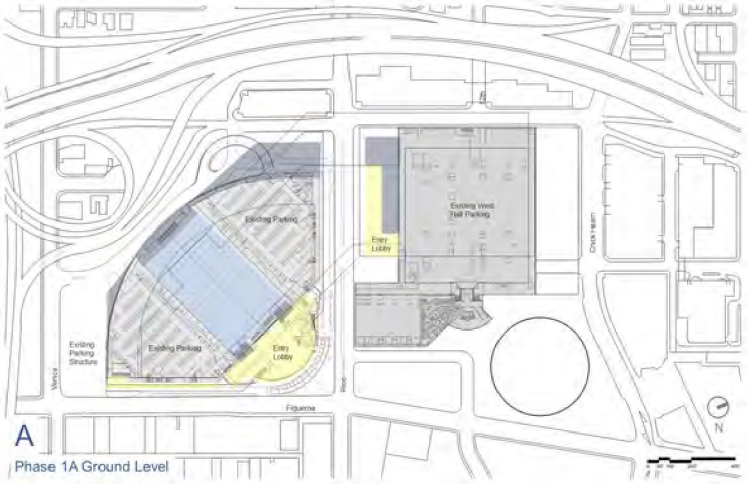


Figure 6: Scheme A – ground level (phase 1A)

A.3.5.2 Exhibition Level

At the level of the existing South Hall, 220,000ft^2 of new exhibit space will be built between South and West Halls above Figueroa Street to create a single exhibition hall experience. Where the new exhibit space meets West Hall, the five-foot elevation difference will be accommodated by stairs, escalators and elevators that will make the transition experience for attendees as seamless as possible.

To support the new exhibition space, 30 new truck positions will be created as an extension of the existing truck areas. Following the completion of the expansion's construction there will be a total of 64 truck parking positions to service the 777,000 total square feet of exhibit space.

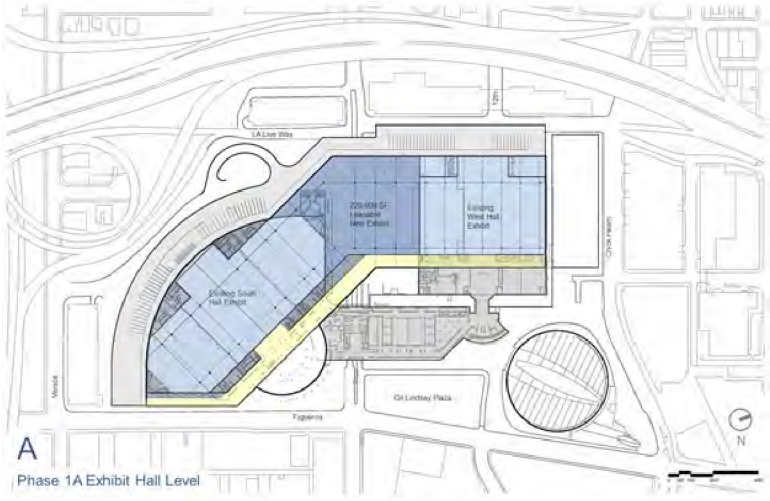


Figure 7: Scheme A – exhibit hall level (phase 1A)

A.3.5.3 Mezzanine Level

Approximately 18,000ft^2 of new meeting room space will be added to the 16,749ft^2 of meeting space that already exists at this mezzanine level. These new meeting rooms will be of a similar size range (1,200 – 1,350ft^2 each) as the existing 300 series meeting rooms. The new and existing mezzanine meeting rooms will be connected together by a public corridor that extends to

the northwest, parallel to the exhibit hall on the level below. Escalators and elevators connecting to other levels of the center will stop at this level.

A.3.5.4 Meeting Rooms Levels

The next two levels of the expanded center, above the exhibit hall expansion, contain meeting rooms, including two 10,000ft^2 sub-divisible rooms as called for in the CTD building program, replacement of the Petree and the Concourse, junior ballrooms, and 24 5,400ft^2 meeting room modules. The total net leasable meeting room area to be accommodated on these two levels is 211,000ft^2, consisting of 78,000ft^2 of new space, and the replacement of West Hall and Concourse meeting space that is demolished (approximately 133,000ft^2). Support and back-of-house facilities (F&B pantries, storage, service corridors, meeting planner's offices, MEP spaces, etc.) will also be included on these two levels.

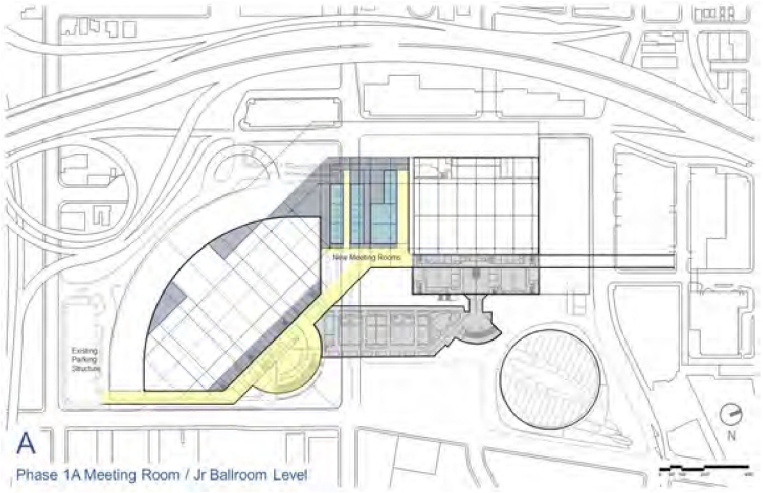


Figure 8: Scheme A – meeting rooms/junior ballroom level (phase 1A)

A.3.5.5 Ballroom Level

The top floor of the expanded center in this scheme contains the new 70,000ft^2 grand ballroom. The center's main kitchen will be located immediately next to the ballroom, connected to all the levels of the center by multiple freight and service elevators. The grand ballroom will be highly flexible, divisible in up to 12 smaller spaces and many combinations of sizes. Restrooms, meeting planner offices, green rooms, storage and MEP spaces round out the types of other functional areas that will be accommodated at this level of the project. As is the case with other meeting room levels below, vertical circulation on both the north and south sides of Pico Boulevard will connect to this level.

A.3.5.6 Construction Phasing

After the demolition of West Hall and Concourse Hall, development parcels with a total of 7 acres are created.

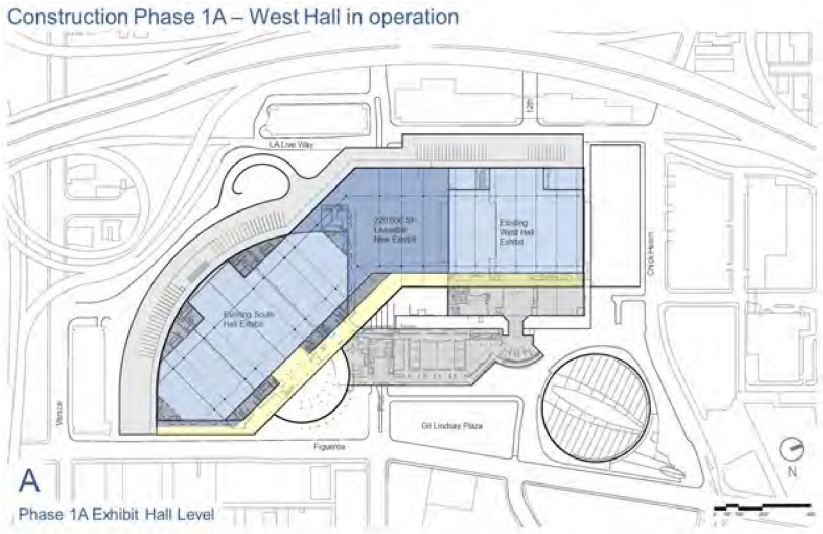


Figure 9: Scheme A – exhibit hall level (phase 1A)

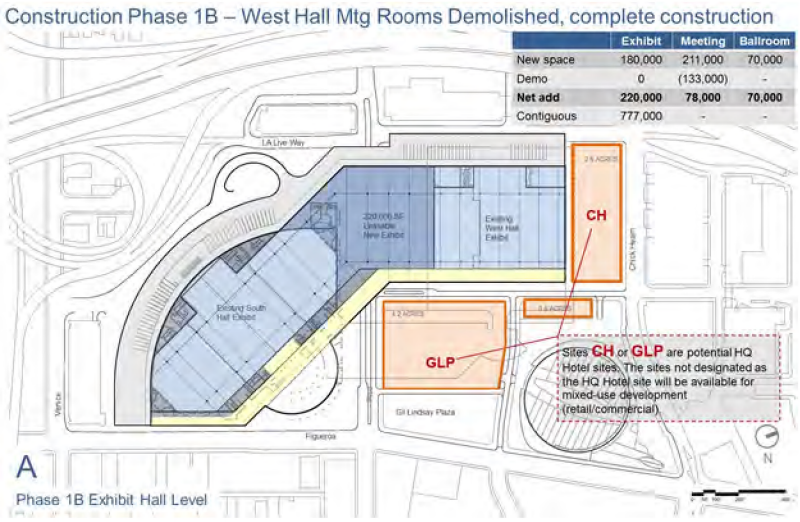


Figure 10: Scheme A – exhibit hall level (phase 1B)

A.3.5.7 Parking

Parking in Scheme A is a small departure in configuration from the existing. The main difference is the area that will be developed north of Pico Boulevard would be reconfigured to provide a new entry treatment and an optimized layout to maximize access and number of spaces provided. Scheme A also maintains the private operator leases spaces in their current location.



Scheme A

Area ID	Status	Spaces	Area (sq feet)	Name	Floors	AEG Lease Spaces	LACC Lease Spaces
1	Existing	1,121	59,611	Venice Garage		0	1,121
2	Existing	179	56,895	Bond Street Surface		0	179
3	Demolished	-87	35,812	Security Parking			
5	Existing	1,900	587,370	South Hall Garage Restriping		0	1,900
6	Existing	859	107,922	LA Live Way Garage		494	365
7	Existing	1,142	462,670	West Hall Garage Restriping		689	453
9	Demolished	-166	128,497	West Hall Garage			
9	New	303	128,497	West Hall Underground Garage	-1	0	303
12	Demolished	-520	181,979	West Hall Garage			
	Totals:	5,504				1,183	4,321

Date: 6/16/2016

Figure 11: Scheme A - parking

A.3.5.8 Urban Design Challenges

Scheme A (in addition to scheme B) presents a challenge in that it places a large lid over Pico Boulevard with the expansion of the new exhibit space. From the City and Community's perspective this is a negative as the capping of Pico has association with increased crime, vandalism and other issues that are inconsistent with good urban planning practices.

A.3.5.8.1 Street

In retaining the existing West Hall and Concourse Hall buildings, Scheme A also keeps the existing super-block structure and character of the convention center site, as bordered by West Pico Boulevard, South Figueroa Street, Chick Hearn Court and L.A. Live Way.

A.3.5.8.2 Current Convention Center Expansion

This expansion plan does not provide for any new entries to the convention center from the ground floor.

A.3.5.8.3 Private Development

In contrast to Schemes B and C, this scheme results in no new developable parcels of land. The existing Gilbert Lindsay Plaza site (2 acres) and the site of the entries to the existing parking garages off of Chick Hearn Court (2 acres) would be the potential HQ hotel site. The site not designated as the convention hotel could be made available for mixed-use development (retail, commercial, etc.).

A.3.5.8.4 Gilbert Lindsay Plaza

Gilbert Lindsay plaza will remain as existing, including its function as a bus drop-off zone.

A.3.5.8.5 Future Convention Center Expansion

There are no future expansion opportunities envisioned beyond what is depicted for this scheme.

A.3.6 Scheme B

This expansion scheme focuses on maximizing the quantity and size of new development parcels in the vicinity of the expanded convention center by vertically concentrating most of the new convention center construction between South Hall (preserved) and the current location of West Hall (eventually demolished and replaced). Key features of Scheme B-2 are:

- 390,000ft^2 of new (180,000ft^2) and replacement (210,000ft^2) exhibit space, contiguous with the 347,000ft^2 of existing exhibit space in South Hall, for an eventual total of 777,000ft^2 of first-class, single level exhibit space.
- Construction of new exhibition, grand ballroom (70,000ft^2) and meeting space (78,000ft^2) vertically organized in a new six-level structure over Pico Boulevard (approximately 665 linear feet covered) between South Hall (preserved) and West Hall (eventually demolished).
- Following initial vertical construction over Pico Boulevard, the completion of Phase 1 will involve the demolition of West Hall, its associated meeting space and the Concourse Meeting space, and the completion of the exhibition hall expansion on a portion of the former West Hall site. All of the demolished leasable and support areas will be replaced as part of the new construction project. The scheme will further provide:
- Preservation of the 1,200 car Venice Boulevard garage;
- Creation of three development parcels totalling approximately 12 acres;
- Extension of the street grid to enhance connections to L.A. Live and the surrounding neighborhood.

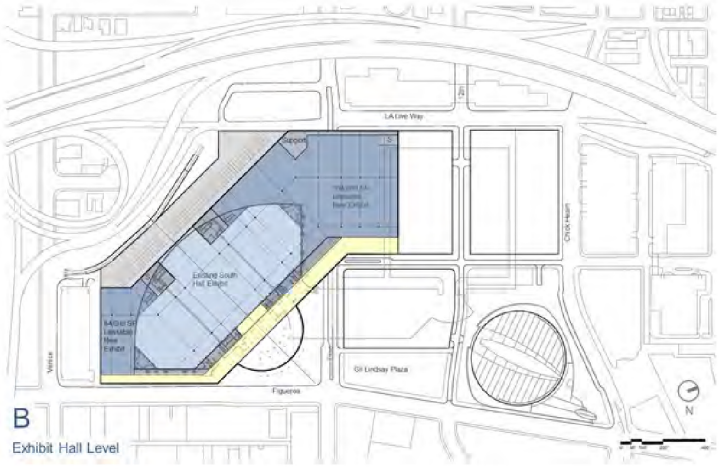


Figure 12: Scheme B – exhibit hall level

A.3.6.1 Ground/Entry Level

A new entrance and main lobby will be constructed on the north side of Pico Boulevard, approximately mid-way between L.A. Live Way and Gilbert Lindsay Plaza. This lobby will be immediately adjacent to a new transportation center that is located parallel to Pico Boulevard along its northern side. Vertical circulation elements (stairs, escalators and elevators) will connect this new entry lobby to the new upper levels of the expanded convention center.

Other public space constructed at ground level will be a small new lobby at the south end of the convention center complex along Figueroa Street. This new lobby will be connected to the main existing South Hall lobby in order to unify at grade the new and existing parts of the convention center.

New vertical circulation elements will be built in the existing South Lobby on the south side of Figueroa Street so that this portion of the convention center can easily connect to the upper levels of the expansion.

Support facilities that will be constructed at this level include the food and beverage receiving/ support areas (loading docks, dry and refrigerated storage, trash and garbage, etc.) accessed from the L.A. Live Way side, and various ancillary MEP areas. The remaining new space at ground level will serve as expanded parking capacity.

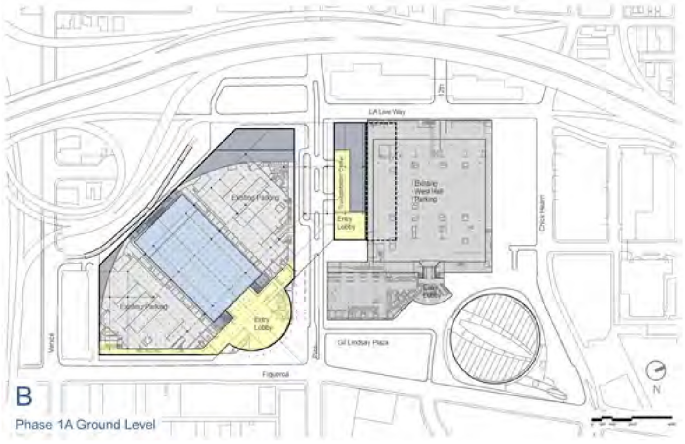


Figure 13: Scheme B – ground level (phase 1A)

A.3.6.2 Exhibition Level

The main exhibit level will be expanded to create a larger single and contiguous exhibit hall in two directions. On the south side of the existing South Hall an 84,000ft^2 exhibit hall expansion will be built, and to the northwest 306,000ft^2 of new exhibit space will be added (280,000ft^2 will be constructed before West Hall is demolished, and another 84,000ft^2 will be built after West Hall is demolished). The total 390,000ft^2 of new exhibit space will incorporate the 180,000ft^2 of new program space, and an additional 210,000ft^2 representing the replacement of West Hall. The expanded hall will be able to be subdivided by moveable partitions into three to five self-standing exhibit spaces so that it will be able to accommodate multiple events, whether active or in move-in or move-out mode. Expanded pre-function space will unify the entire exhibit level on the Figueroa Street side of the complex.

The expanded exhibition space will be served by an enlarged and reconfigured truck dock with 28 truck positions served by new ramps from grade level. Other new support spaces at this level will include restrooms, vertical circulation elements connecting to grade and levels above, and MEP facilities. L.A. Live Way will remain in its current alignment, and the expanded exhibit hall will bridge across Pico Boulevard.



Figure 14: Scheme B – exhibit hall level (phase 1A)

A.3.6.3 Mezzanine Level

Approximately 18,000ft^2 of new meeting room space will be added to the 16,749ft^2 of meeting space that already exists at this level. These new meeting rooms will be of a similar size range (1,200 – 1,350ft^2 each) as the existing 300 series meeting rooms. The new and existing mezzanine meeting rooms will be connected together by a public corridor that extends to the south and northwest, parallel to the exhibit hall on the level below. Escalators and elevators connecting to other levels of the center will stop at this level.

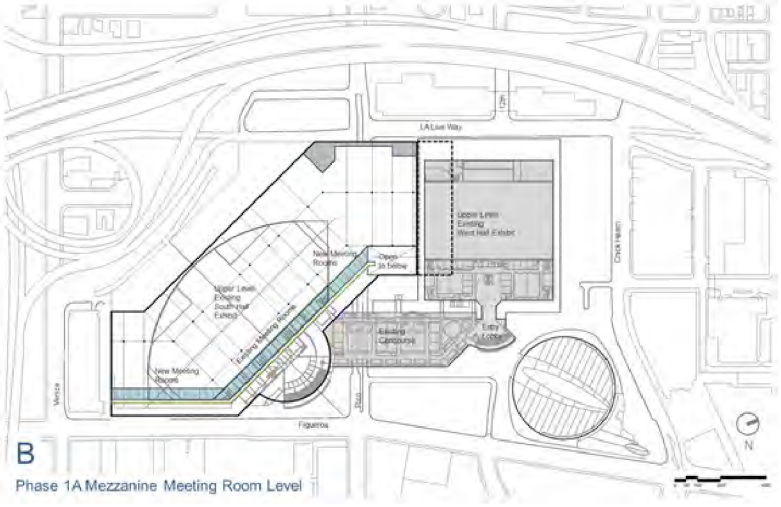


Figure 15: Scheme B – mezzanine meeting room level (phase 1A)

A.3.6.4 Junior Ballrooms Level

Moving upwards in the center, the next level of the expanded center is in the area of the expansion zone above the expanded exhibit hall at Pico Boulevard. This level contains two junior ballrooms of 26,400ft^2 and 21,600ft^2 to replace spaces of these sizes (the Concourse and Petree Hall) and 61,200ft^2 of meeting rooms. The latter group will consist of two 9,000ft^2 sub-divisible meeting rooms, and eight 5,400 sub-divisible modules that divide into thirds (three spaces of 1,800ft^2 each). A total of 109,200ft^2 of leasable meeting space will be accommodated at this level. Vertical circulation systems will be designed so that this meeting room complex can be accessed from the main convention center lobbies on both the north and south sides of Pico Boulevard.

Supporting the junior ballrooms and meeting room complex at this level will be pre-function and registration areas, restrooms, service corridors that connect all of the meeting space to satellite food and beverage pantries, storage, meeting planner offices, green rooms, and MEP spaces. Public circulation areas will be oriented to the east, towards Figueroa Street, and service areas primarily to the west.

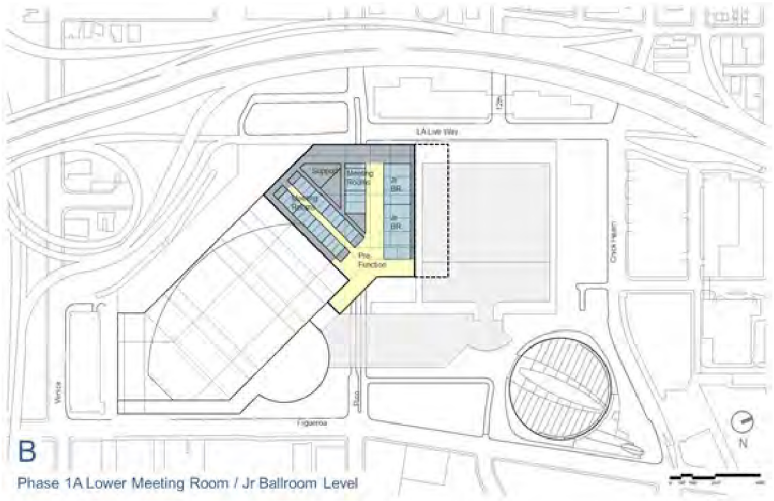


Figure 16: Scheme B – lower meeting room / junior ballroom level (phase 1A)

A.3.6.5 Meeting Room Level

The next level of the expanded center again contains meeting rooms, here two 10,000ft^2 sub-divisible rooms as called for in the CTD building program, and eight 5,400ft^2 meeting room modules. Support and back-of-house facilities similar to those found on the level below will also be included on this level. A total of 63,200ft^2 of meeting space is contained at this level – a smaller amount than the level below because of the space taken up by the upper volume of the junior ballrooms.

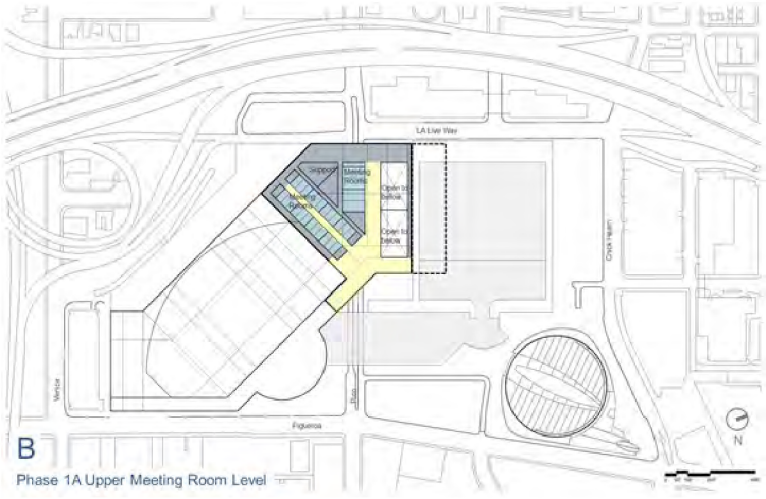


Figure 17: Scheme B – upper meeting room level (phase 1A)

A.3.6.6 Ballroom Level

The top floor of the expanded center contains the new 70,000ft^2 grand ballroom, supplemented by 21,600ft^2 of meeting rooms and smaller well-appointed board rooms. The center's main kitchen will be located immediately next to the ballroom, connected to all the levels of the center by multiple freight and service elevators. The grand ballroom will be highly flexible, divisible in up to 12 smaller spaces and many combinations of sizes. This upper level will also contain an outdoor events terrace of about 14,000ft^2 that is directly accessible from the grand ballroom's pre-function space. This exterior event space, along with all of the interior grand ballroom and meeting rooms will be connected by service corridors to the main kitchen. Restrooms, meeting planner offices, 'green rooms', storage and MEP spaces round out the types of other functional areas that will be accommodated at this level of the project. As is the case with other meeting room levels below, vertical circulation on both the north and south sides of Pico Boulevard will connect to this level.

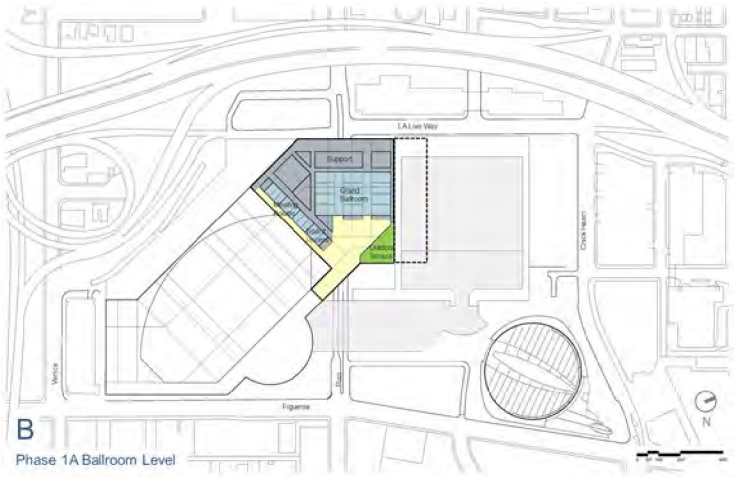


Figure 18: Scheme B – phase 1A – ballroom level

A.3.6.7 Construction Phasing

After the demolition of West Hall and Concourse Hall, there is flexibility in the amount of construction to complete this phase of the convention center expansion. The following two plan diagrams illustrate either a net add of 180,000ft^2 or 220,000ft^2 leasable space to the exhibit hall level. The resulting 12th Street parcel size would be 3.4 acres and 2.3 acres respectively.

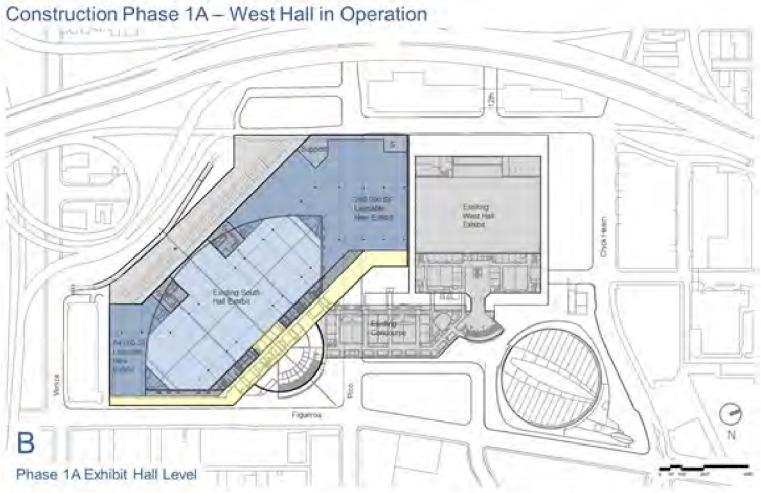


Figure 19: Scheme B – exhibit hall level (construction phase 1A)

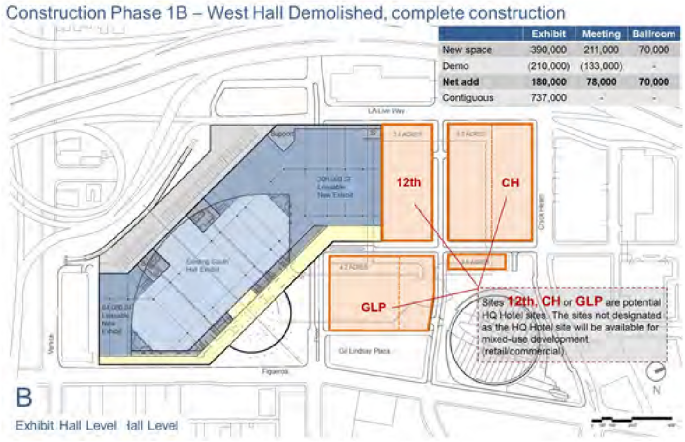


Figure 20: Scheme B – exhibit hall level (construction phase 1B)

A.3.6.8 Future Expansion

Additional expansion in the far future can be accomplished in two ways. With a re-alignment of L.A. Live Way to the west, parcels of land for a modest expansion of the convention center along its western edge can be created. Additionally, more substantial convention center expansion to the north can take place south of 12th Street. This latter expansion scenario could be done as a P3 project including a new hotel.

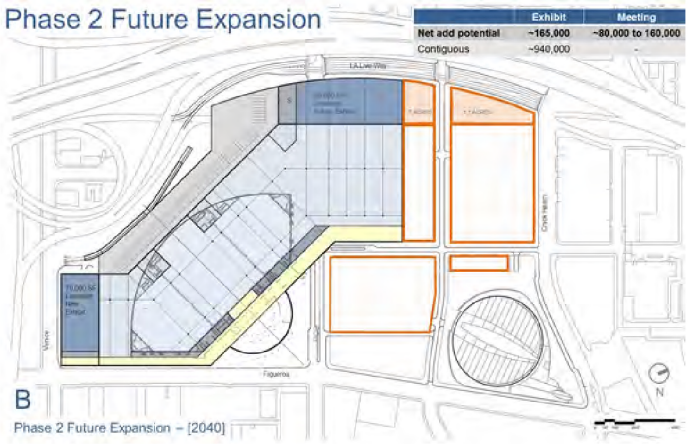
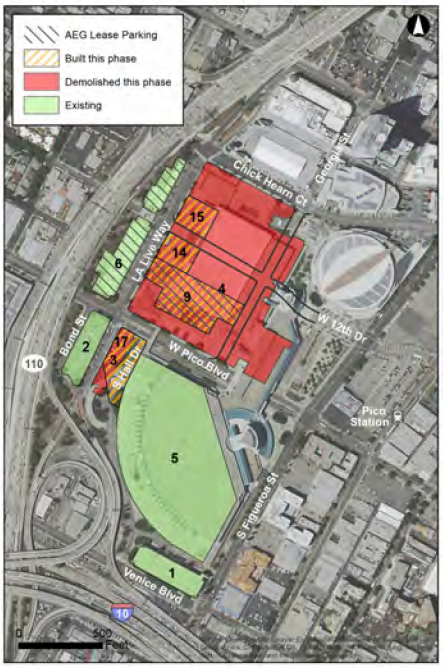


Figure 21: Scheme B – future expansion plans

A.3.6.9 Parking

Parking in Scheme B would utilize surface parking in the area where the current West Hall is located while creating ground elevation and mezzanine level parking in the newly constructed exhibit areas. Scheme B retains the parking structure at the corner of Figueroa and Venice that has 1,120 parking spaces. The location of the private operator lease spaces would change from the existing configuration but would offer spaces with vicinity to the private operator managed and owned facilities (LACC and Staples Center).



Scheme B: Phase 1A

Area ID	Status	Spaces	Area (sq feet)	Name	Floors	AEG Lease Spaces	LACC Lease Spaces
1	Existing	1,121	59,611	Venice Garage		0	1,121
2	Existing	179	56,895	Bond Street Surface		0	179
3	Demolished	-87	35,812	Security Surface			
4	Demolished	-1,603	772,501	West Hall Garage			
5	Existing	1,900	587,370	South Hall Garage Restriping		0	1,900
6	Existing	859	107,922	LA Live Way Garage		494	365
9	New	746	130,504	New West Hall Garage	1	689	57
14	New	162	36,478	Surface Lot South		0	162
15	New	167	37,604	Surface Lot North		0	167
17	New	370	129,267	W Exhibit Hall	1	0	370
Totals:		5,504				1,183	4,321

Date: 6/16/2016

Figure 22: Scheme B – parking (phase 1A)



Scheme B: Phase 1B

Area ID	Status	Spaces	Area (sq feet)	Name	Floors	AEG Lease Spaces	LACC Lease Spaces
1	Existing	1,121	59,611	Venice Garage		0	1,121
2	Existing	179	56,895	Bond Street Surface		0	179
5	Existing	1,900	587,370	South Hall Garage Restriping		0	1,900
6	Existing	859	107,922	LA Live Way Garage		494	365
9	New	746	130,504	New West Hall Garage	1	689	57
11	New	509	178,044	Gilbert Lindsay Garage	-1	0	509
14	Demolished	-162	36,478	Surface Lot South			
15	Demolished	-167	37,604	Surface Lot North			
17	New	370	129,267	W Exhibit Hall	1	0	370
	Totals:	5,684				1,183	4,501

Date: 6/16/2016

Figure 23: Scheme B – parking (phase 1B)

A.3.6.10 Urban Design Challenges

Scheme B (and scheme A) presents a challenge in that it places a large lid over Pico Boulevard with the expansion of the new exhibit space. From the City and Community's perspective this is a negative as the capping of Pico has association with increased crime, vandalism and other issues that are inconsistent with good urban planning practices.

A.3.7 Scheme C

This expansion alternative focuses on maximizing the quantity and size of development parcels in the vicinity of the expanded convention center while at the same time day lighting Pico Boulevard so that a tunnel condition is not created by the convention center's expansion. The new architectural space created at Pico Boulevard enhances the convention center area as well as the facility itself. Primary circulation spaces and the most active areas of the building are located on multiple levels on both sides of the street to create a dynamic and engaging experience for both convention participants and the surrounding community. Several bridges and continuous exterior walkways link the interior spaces as well as the ground levels. The architectural space is celebrated with a lightweight glass and steel canopy structure. Key features of Scheme C-2 are:

- 284,000ft^2 of new (74,000ft^2) and replacement (210,000ft^2) exhibit space, contiguous with the 347,000ft^2 of existing exhibit space in South Hall, for a total of 631,000ft^2 of first-class contiguous exhibit space. An additional 80,000ft^2 of exhibit/multi-purpose space with somewhat lower vertical clearance (30' instead of 40') will be connected to the main exhibit space and at the same level to create a total of 711,000ft^2 of exhibit space, exclusive of West Hall. An additional 26,000ft^2 of exhibit space will be created after the demolition of West Hall to produce the required total of 737,000ft^2.

- Construction of new exhibition, grand ballroom (70,000ft^2) and meeting space (78,000ft^2) vertically organized and primarily located in new multi-level structures on both sides of Pico Boulevard between South Hall (preserved) and West Hall (eventually demolished). Pico Boulevard will remain open to the sky, crossed by several bridges that connect the center's functional areas on several levels. This solution for an open Pico Boulevard condition will positively influence day lighting, way finding and the sense of scale in the expanded center.
- Following initial vertical construction, the completion of Phase 1 will involve the demolition of West Hall, its associated meeting space and the Concourse Meeting space, and the completion of the exhibition hall expansion on a portion of the former West Hall site. All of the demolished leasable and support areas existing in Concourse and West Hall will be replaced as part of the new construction project.
- The 1,200 car Venice Boulevard garage will be demolished and its parking spaces replaced to make room for an expansion of exhibit space and some meeting rooms to the south.
- Creation of three development parcels totaling approximately 12 acres.
- Extension of the street grid to enhance connections to L.A. Live and the surrounding neighborhood.

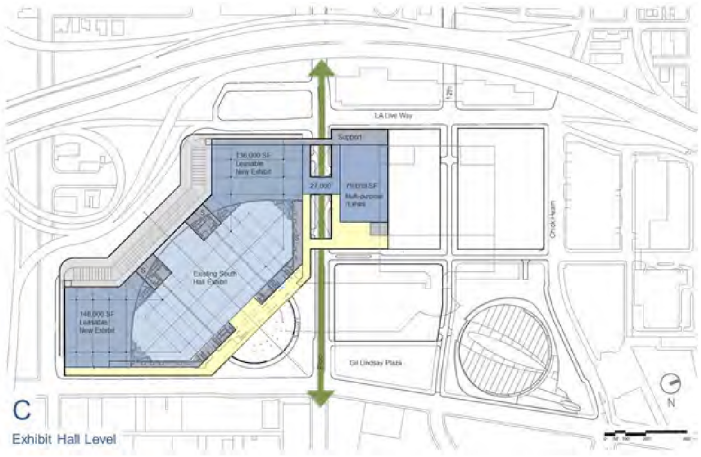


Figure 24: Scheme C – exhibit hall level

A.3.7.1 Ground/Entry Level

A new entrance and main lobby will be constructed on the north side of Pico Boulevard, approximately mid-way between L.A. Live Way and Gilbert Lindsay Plaza. This lobby will be immediately adjacent to a new transportation center that is located parallel to Pico Boulevard along its northern side. Vertical circulation elements (stairs, escalators and elevators) will connect this new entry lobby to the new upper levels of the expanded convention center.

Other public space constructed at ground level will be a new lobby at the south end of the convention center complex along Figueroa Street. This new lobby will be connected to the main existing South Hall lobby to unify the new and existing parts of the convention center.

Vertical circulation elements will be built in the existing South Hall lobby on the south side of Figueroa Street so that this portion of the convention center can easily connect to the upper levels of the expansion.

Support facilities that will be constructed at this level include the food and beverage receiving/ support areas (loading docks, dry and refrigerated storage, trash and garbage, etc.) accessed from the L.A. Live Way side, and various ancillary MEP areas. The remaining new space at ground level will serve as expanded parking capacity.

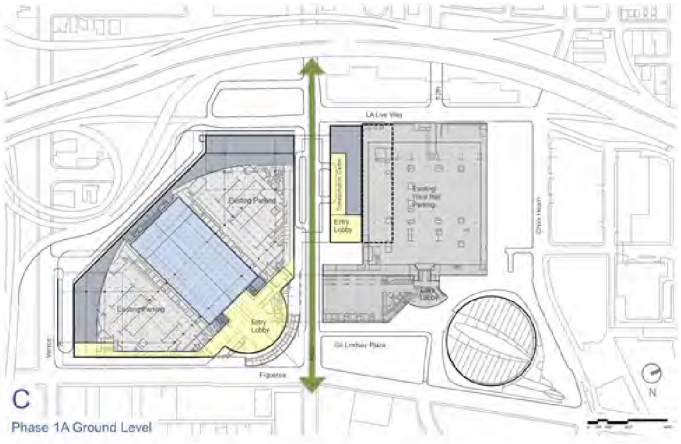


Figure 25: Scheme C – ground level (phase 1A)

A.3.7.2 Exhibition Level

The main exhibit level will be expanded to create a larger exhibit hall in two directions. On the south side of the existing South Hall a 148,000ft^2 exhibit hall expansion will be built, partially on the site of the demolished Venice Boulevard garage. To the West, 136,000ft^2 of new exhibit space will be added south of Pico Boulevard. An additional 80,000ft^2 of exhibit space at the same level but with somewhat lower vertical clearance will be created by a 90’ wide exhibition hall bridge across Pico Boulevard that connects to new exhibit/multi-purpose space north of Pico Boulevard. Following demolition of West Hall, the full exhibit hall expansion will be completed northwards towards 12th Street.

The expanded hall will be able to be subdivided by moveable partitions into three to five self-standing exhibit spaces. Expanded pre-function space will unify the entire exhibit level on the Figueroa Street side of the complex.

The expanded exhibition space will be served by an enlarged and reconfigured truck dock with 28 truck positions, served by new ramps from grade level. Other new support spaces at this level will include restrooms, vertical circulation elements connecting to grade and levels above, and MEP facilities. L.A. Live Way will remain in its current alignment.



Figure 26: Scheme C – exhibit hall level (phase 1A)

A.3.7.3 Mezzanine Level

Approximately 12,400ft^2 of new meeting room space will be added to the 16,749ft^2 of meeting space that already exists at this level. These new meeting rooms will be of a similar size range (1,200 – 1,350ft^2 each) as the existing 300 series meeting rooms. The new and existing mezzanine meeting rooms will be connected together by a public corridor that extends to the west, parallel to the exhibit hall on the level below. Escalators and elevators connecting to other levels of the center will stop at this level.

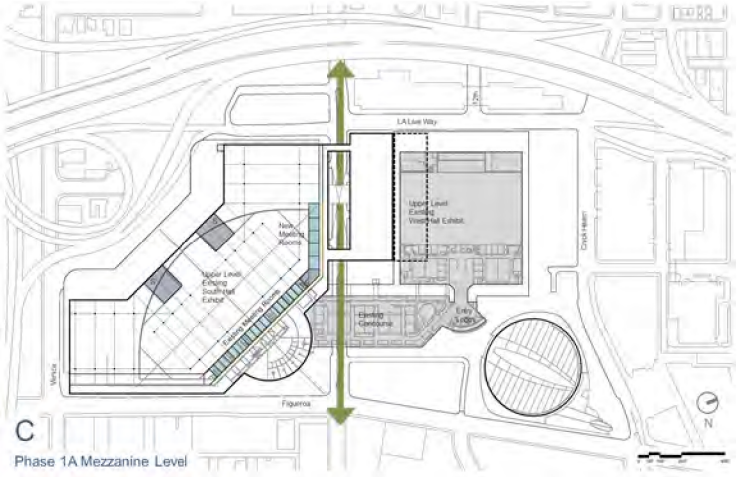


Figure 27: Scheme C – mezzanine level (phase 1A)

A.3.7.4 Junior Ballroom/Meeting Room Level

Moving upwards, the next level of the expanded center is north of Pico Boulevard. This level contains a Junior ballroom of 21,600ft^2 to replace Petree Hall, and an additional 16,200ft^2 of meeting rooms. Vertical circulation systems will be designed so that these assembly spaces can be accessed from the main convention center lobbies on both the north and south sides of Pico Boulevard. A public circulation bridge will connect across Pico Boulevard at this level.

Supporting the junior ballroom and meeting rooms at this level will be pre-function and registration areas, restrooms, a service corridor that connect to a satellite food and beverage

pantry, storage, meeting planner offices, green room, and MEP spaces. Public circulation areas will be oriented to the east, towards Figueroa, and service areas primarily to the west.

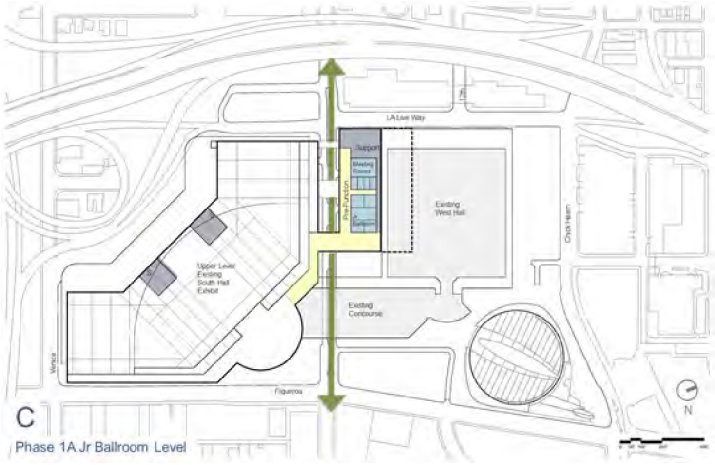


Figure 28: Scheme C – junior ballroom level (phase 1A)

A.3.7.5 Meeting Room Level

The main meeting room level of the expanded center in this scheme is built in three locations:

1. Southern end of the complex above the expanded exhibit hall (site of the demolished Venice garage) – 44,000ft^2 of leasable meeting room space;
2. South of Pico Boulevard above the expanded exhibition hall (59,400ft^2 of leasable meeting room space), and,
3. Connected by bridges to north of Pico Boulevard (25,400ft^2 of leasable meeting room space). This results in a total of 128,800ft^2 of meeting space at this level.

Support and back-of-house facilities similar to those found on the junior ballroom/ meeting room level below will also be included on this level.

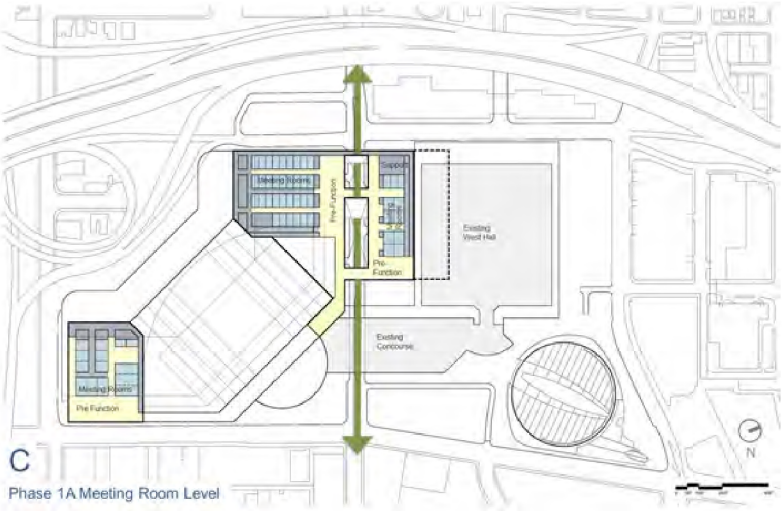


Figure 29: Scheme C – meeting room level (phase 1A)

A.3.7.6 Ballroom Level

The top floor of the expanded center in this scheme contains the new 70,000ft^2 grand ballroom, supplemented by a 26,400ft^2 junior ballroom (to replace Concourse), 5,400ft^2 of meeting rooms and two smaller well-appointed board rooms. The two main pre-function spaces at this level are on either side of Pico Boulevard and connected by bridges, thereby creating some separation when multiple events are occupying this level. This upper level will also contain an outdoor events terrace of about 14,000ft^2 that is directly accessible from the grand ballroom's pre-function space.

The center's main kitchen will be located immediately next to the ballroom, connected to all the levels of the center by multiple freight and service elevators. The grand ballroom will be highly flexible, divisible in up to twelve smaller spaces and many combinations of sizes. The exterior event space, along with all of the interior grand ballroom, junior ballroom and meeting rooms will be connected by service corridors to the main kitchen. Restrooms, meeting planner offices, 'green rooms', storage and MEP spaces round out the types of other functional areas that will be accommodated at this level of the project. As is the case with other meeting room levels below, vertical circulation on both the north and south sides of Pico Boulevard will connect to this level.

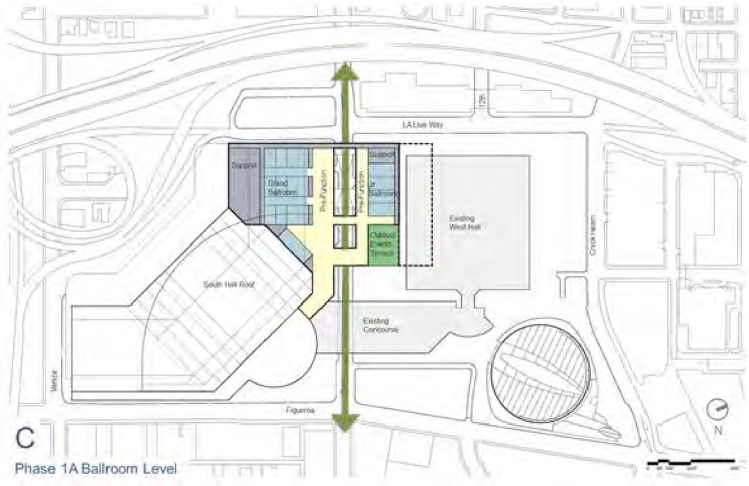


Figure 30: Scheme C – ballroom level (phase 1A)

A.3.7.7 Construction Phasing

After the demolition of West Hall and Concourse Hall, there is flexibility in the amount of construction to complete this phase of the convention center expansion. The following two plan diagrams illustrate either a net add of 180,000ft^2 or 220,000ft^2 leasable space to the exhibit hall level. The resulting 12th Street parcel size would be 3.4 acres and 2.3 acres respectively.



Figure 31: Scheme C – exhibit hall level (construction phase 1A)

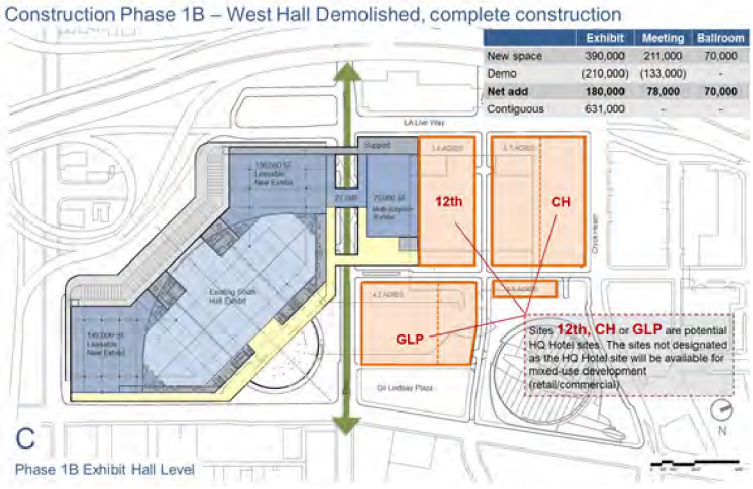


Figure 32: Scheme C – exhibit hall level (construction phase 1B)

A.3.7.8 Future Expansion

Additional expansion in the far future can be accomplished in two ways. With a re-alignment of L.A. Live Way to the west, parcels of land for a modest expansion (up to 115,000ft^2 of additional exhibition space, as well as accompanying meeting space) of the convention center along its western edge can be created. Additionally, more substantial convention center expansion to the North can take place south of 12th Street. This latter expansion scenario could be done as a P3 project, perhaps including a new hotel.

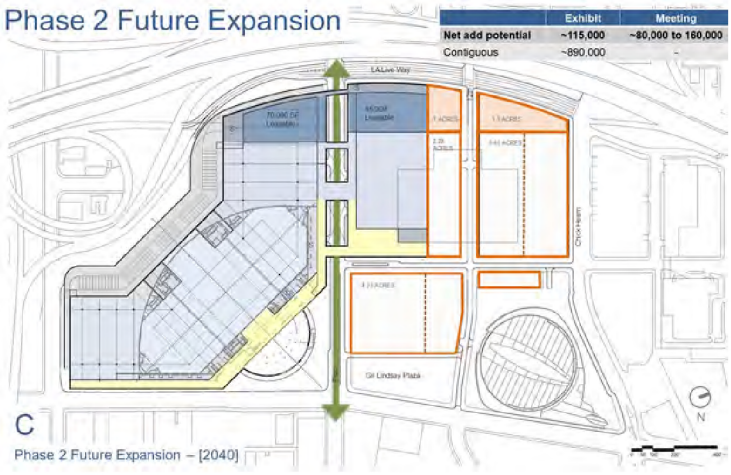


Figure 33: Scheme C – plans for future expansion

A.3.7.9 Parking

Parking in Scheme C would retain the parking that is currently in the existing South Hall and would involve the demolition of the parking garage at the corner of Figueroa Street and Venice Street. The 1,120 spaced removed from this parking garage would be replaced in two areas; firstly at surface parking lots where the existing West Hall is located and secondly in subsurface parking beneath the future building north of Pico Boulevard and a subsurface parking facility beneath the existing Gilbert Lindsay Plaza. Section A.3.7.7 details the sequence of implementation. The private operator lease spaces in the West Hall would be likely relocated to the area beneath Gilbert Lindsay Plaza which would provide a concentrated facility close to the private operator managed and owned facilities.



Scheme C: Phase 1A

Area ID	Status	Spaces	Area (sq feet)	Name	Floors	AEG Lease Spaces	LACC Lease Spaces
1	Demolished	-1,121	59,611	Venice Garage			
2	Existing	179	56,895	Bond Street Surface		0	179
3	Demolished	-87	35,812	Security Surface			
4	Demolished	-1,603	772,501	West Hall Garage			
5	Existing	1,900	587,370	South Hall Garage Restriping		0	1,900
6	Existing	859	107,922	LA Live Way Parking		494	365
8	New	375	112,454	W Exhibit Hall Garage	1	0	375
9	New	746	130,504	New West Hall Garage	1	689	57
10	New	503	134,593	S Exhibit Hall Garage	1	0	503
14	New	162	36,478	Surface Lot South		0	162
15	New	167	37,604	Surface Lot North		0	167
Totals:		4,891				1,183	3,708

Date: 6/16/2016

Figure 34: Scheme C – parking (phase 1A)



Scheme C: Phase 1B

Area ID	Status	Spaces	Area (sq feet)	Name	Floors	AEG Lease Spaces	LACC Lease Spaces
2	Existing	179	56,895	Bond Street Surface		0	179
5	Existing	1,900	587,370	South Hall Garage Restriping		0	1,900
6	Existing	859	107,922	LA Live Way Parking		494	365
8	New	375	112,454	W Exhibit Hall Garage	1	0	375
9	New	746	130,504	New West Hall Garage	1	0	57
10	New	503	134,593	S Exhibit Hall Garage	1	0	503
11	New	1,017	178,044	Gilbert Lindsay Garage	-2	689	328
14	Demolished	-162	36,478	Surface Lot South			
15	Demolished	-167	37,604	Surface Lot North			
	Totals:	5,579				1,183	3,707

Date: 6/16/2016

Figure 35: Scheme C – parking (phase 1B)

A.3.7.10 Benefits of Urban Design in Scheme C, the Pico Revival Scheme

A.3.7.10.1 Streets

Scheme C provides the same re-connected street grid as Scheme B which provides for a new Georgia Street connection from Chick Hearn Court to Pico Boulevard. However, the convention center expansion design is laid out in such a way that it allow daylight and open sky views onto Pico Boulevard for a more pleasant visitor, community and pedestrian experience in Scheme C than in Scheme B. The resulting district then becomes anchored by this new visual gateway above the newly revived Pico Boulevard.



Figure 36: Scheme C – view from Staples Center

A.3.7.10.2 Civic Boulevard (Pico Boulevard)

Pico Boulevard is a critical link between downtown Los Angeles' South Park neighborhood and the rest of Los Angeles West. Scheme C recognizes the vital nature of the Pico Boulevard with a sunny and daylit public realm. Instead of a full convention center floor, the upper stories cross Pico Boulevard with a series of light and transparent pedestrian bridges. Their lightness invites possibilities for active uses at the street level. The bridges and their arched roof create a gateway moment for the City, declaring an iconic and memorable addition to the district's identity. In addition, opening up Pico to light and air allow new ways for people to inhabit the re-designed Boulevard.



Figure 37: Scheme C – view from the South hall entrance

A.3.7.10.3 Current Convention Center Expansion

Connecting the two sides of the street into a cohesive environment for the convention attendee and allows the circulation of the convention to occur both at grade and in sky bridges along the 2nd and 3rd floors of the convention center. The iconic architectural canopy over Pico Boulevard provides a unique and distinctive gateway element for the City. An outdoor events terrace and green roof provides a spectacular view and builds upon LA's great climate and internationally known outdoor lifestyle.

A.3.8 Urban Design Benefits for Schemes B and C

A.3.8.1 Urban Context

A completed Los Angeles convention district has the potential to energize and expand on the current downtown Los Angeles renaissance, creating an active district by focusing on place-making and neighborhood connections. The district is bordered by significant city investments, key development properties and connected to the flourishing South Park and L.A. Live districts. It is anchored by the convention center which acts as a bookend to this important area of the City. The other side of the bookend includes Staples Center, Microsoft Plaza, and the JW Marriott hotel.

Key surrounding city investments include My Figueroa streetscape and multi-modal transportation plan, the LA Streetcar extension, and the new Metro Expo line. Key private investments in the area include FigCentral, Avenue of the Angels, and Hope Street's Spot or Park to Park. Getting the remaining mix of 'ingredients' right within the convention center district will leverage these existing investments and catalyze the area as one of downtown's most active and vital corridors.



Figure 38: Schemes B and C – LACC campus

A.3.8.2 Streets

Both Schemes B and C remove the older West Hall and Concourse Hall buildings to capture opportunities for private development as part of the new convention center expansion project. In this space, the new rights of way declared for a new street grid is the same for each scheme, pointing to its ability to flexibly accommodate multiple convention center expansion and private development options. The new rights of way both break up the convention center super block by extending 12th Street from Figueroa Street to L.A. Live Way and an extending Georgia Street from Chick Hearn Court to Pico Boulevard, reconnecting the site to its neighborhood districts. Georgia Street then acts as the linear, active, pedestrian spine along which the two major event venues are balanced and 12th Street becomes a service street for the newly created private development sites.

The newly created rights of way can be used as streets, public gathering spaces and places for public activities during non-peak traffic periods, with limited use for vehicular traffic. Georgia Street in particular can double in its use as both a traditional right of way, and be closed down for outdoor events to become programmable space.

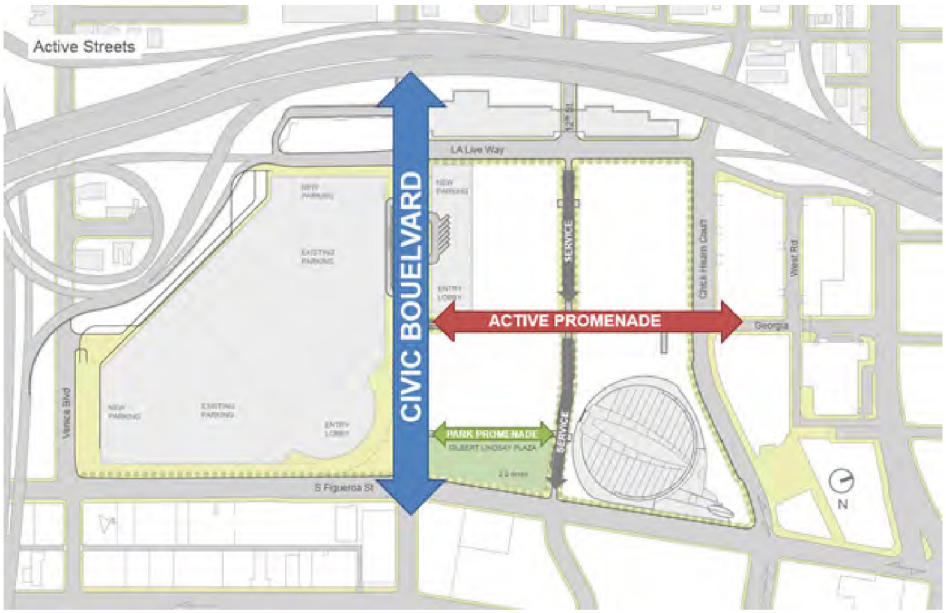


Figure 39: Schemes B and C – street grid

A.3.8.3 Civic Boulevard (Pico Boulevard)

While remaining primarily a vehicular through-way, Pico Boulevard can be transformed through the creation of a more pedestrian friendly street types by eliminating one vehicular lane in either direction for the length of the convention center building, between the turn lanes onto South Figueroa Street and L.A. Live Way. Then enhancing the pedestrian cross walks on either end and at the Pico / Georgia intersection, widening sidewalks and plantings on both sides, and expanding the public realm.

A.3.8.4 Active Promenade (Georgia Street)

Designing Georgia Street as a 'great place' by giving priority to pedestrians and creating a comfortable environment with wide sidewalks, places to sit, and active edges is the key to an active, walkable connection between the convention center and L.A. Live. A great street, filled with retail, art galleries, restaurants, etc., will complement nearby theatre and event activities and will also be attractive to office and other tenants, allowing both day and night usability on this street that hosts some of the City's largest events.

Pursuing the opportunity for mixed-use along Georgia Street will lead to the creation of a 24/7 presence in the newly formed district, along with an expanded and enhanced outdoor environment of the convention center, and more programmed and non-programmed outdoor activity.

A.3.8.5 Park Promenade (Gilbert Lindsay Plaza)

A slow street, the park promenade is viewed as a primarily pedestrian right of way that can be used for maintenance vehicles, exhibit tents, or pop-up retail access to the Gilbert Lindsay Plaza for larger events. With bollards at either end of the street, its role as a paved thoroughfare for service access to activate Gilbert Lindsay Plaza, increase food offerings, support community events, nurture small business, and complement existing convention center operations.

A.3.8.6 Service Street (12th Street)

Designed as a two-lane, one-direction, service street, the extension of 12th Street bisects the block and distance between L.A. Live and the convention center. Allowing traffic to flow from L.A. Live Way to South Figueroa Street, but not to cut through the convention center district from Figueroa Street to the Pico-Union neighborhood.

A.3.8.7 Transit Hub

A new transit hub to replace operations on Gilbert Lindsay Plaza provides for consolidated bus pickup and drop-off from Pico Boulevard within the new convention center expansion. The hub enhances the district's access and mobility of vehicles, buses, taxis, bicycles, and pedestrians.

Our concept expansion plan, as shown below in Figure 40: Schemes C – active streetscape, provides for two new entries to the convention center: one on Pico Boulevard and one on Georgia Street near Pico. The design encourages permeability of the convention center façade with transparent materials along pedestrian edges.

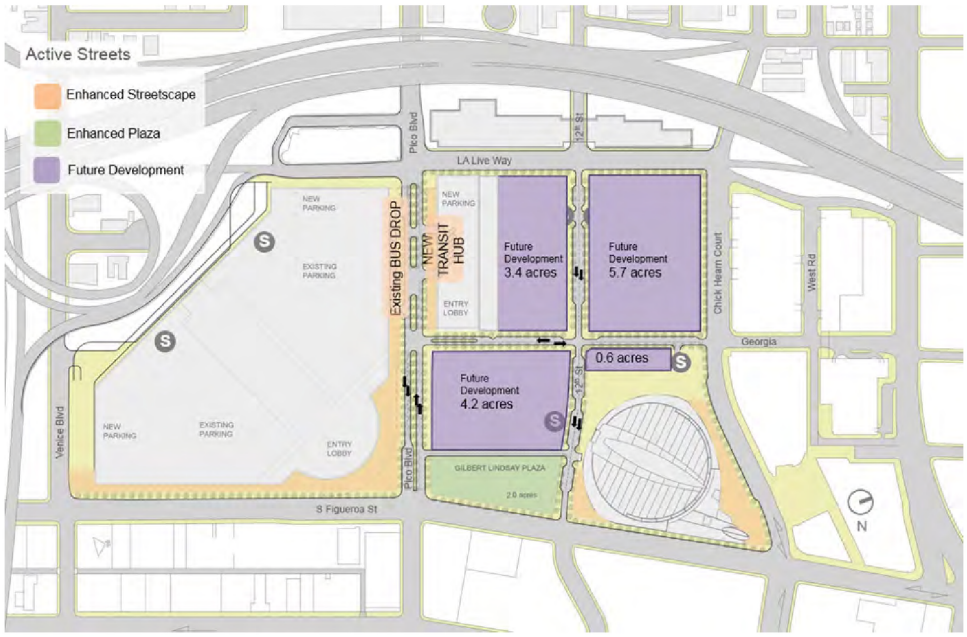


Figure 40: Schemes C – active streetscape

A.3.8.8 Private Development

As described in the Scheme descriptions, Scheme B and C could unlock as much as 14 acres (depending on the amount of net new program) of developable land between the modernized LACC, L.A. Live and Staples Center. This would be one of, if not the largest, development opportunity sites in the downtown Los Angeles. These new blocks would offer locations for a range of potential land uses, including convention hotel.

The maximum FAR for these parcels is 6:1, as illustrated in the massing diagrams below. The maximum potential private development envelope under allowable FAR is shown in red. The blue shading is the larger LACC footprint associated with adding the full 220,000 net new exhibit space.

New mixed-use towers should be oriented east/west for optimum solar orientation and shading purposes (to keep long tower shadows off of the public realm as much as possible), and orient towards potential roofscape views as much as possible.

New blocks would require ground floor retail and/or amenity uses along designated 'active edges'.

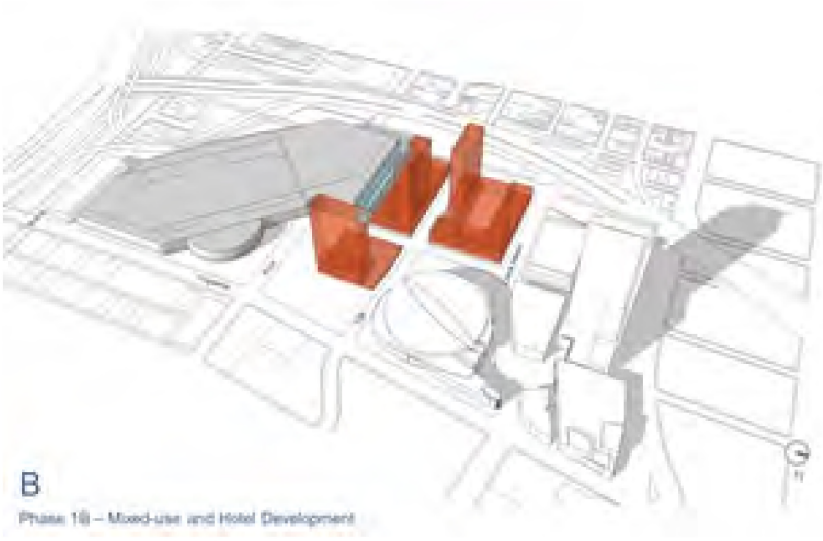


Figure 41: Scheme B – private real estate development

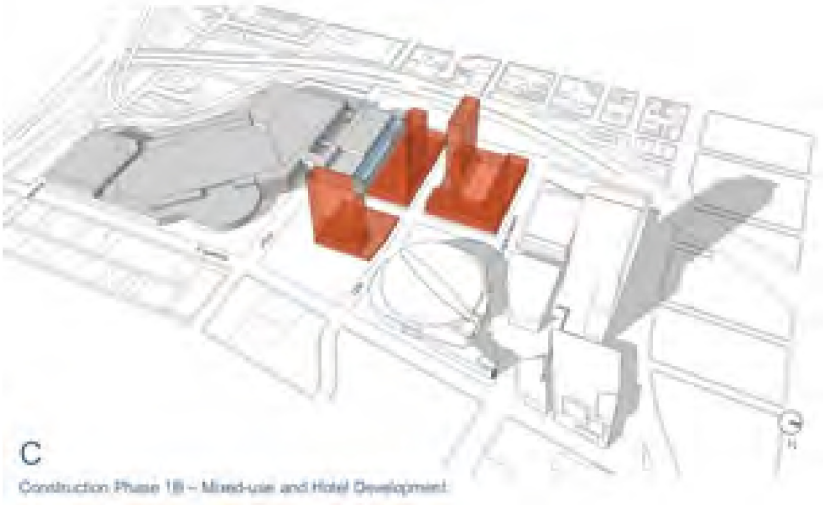


Figure 42: Scheme C – private real estate development

A.3.8.9 Gilbert Lindsay Plaza

Gilbert Lindsay acts as a significant public open space for the downtown South Park neighborhood and the Convention Center with its high visibility and 'front yard' location to the district's event venues. Creating a quality open space design to interface between convention center attendees, hotel guests, residents and tourists and just steps away from the Metro's Expo expansion and LA Streetcar could position the plaza as a public space in that reflects the unique vibe of urban, southern California lifestyles.

New private development or convention hotel adjacent to the plaza will be built out as an active façade edge along the Park Promenade. The Figueroa Street edge provides access to transit, connects to the South Hall entry plaza across an enhanced cross walk on Pico Boulevard, walking north, and invites pedestrians along a wide sidewalk along Staples Center to Microsoft Plaza. The planned pedestrian crossing at 12th Street will connect to the new FigCentral retail, entertainment, and outdoor lifestyle development.

A.3.8.10 Future Convention Center Expansion

The future expansion phase of both Scheme B and C suggests a re-routing of L.A. Live Way to more directly align with the freeway system to the West. This adds 1.8 acres of potential development space on two blocks and 95,000ft^2 per floor of leasable future exhibit space.

A.3.9 Building Program Summary

The program list of spaces presented on the attached pages represents a combination of input from the following:

- CTD Building Program (March 14, 2016)
- Input from several workshops/meetings with CTD and follow-up memos
- Application of best practices and industry standards to create a top-tier and state-of-the art facility
- Use of grossing factors for circulation, walls, structure, shafts, etc. based on prior experience

This program list of spaces is based on the accommodation of the full leasable program, that is, all 220,000ft^2 of desired new exhibit space, a 70,000ft^2 ballroom, and 78,000ft^2 (net) of new meeting space. This full-build program, as an idealized statement, guided the team's efforts through the testing of various organizational concepts on the available site. Obviously, for those expansion concepts where the full 220,000ft^2 of exhibit space cannot be accommodated there would be appropriate reductions in some of the amounts of circulation, support and service square footage. Table 3 through Table 16 provide the full program of spaces developed as a result of the scheme development.

Table 3: Full building program – exhibition space

Category	Code	#	Space Type	Space Name	Quantity	Size (Net SF)	Total (Net SF)	Notes
INTERIOR ENCLOSED SPACES								
EXHIBITION								
Leasable	**E**	**1**	**Public**	**Exhibition Hall**	**1**	**220,000**	**220,000**	Divisible into halves or thirds. Maximum occupancy =
Non-Leasable	E	2	Public	Lobby/Pre-Function	1	44,000	44,000	@ 20%
Non-Leasable	E	3	Public	Restrooms - Men	1	2,000	2,000	
Non-Leasable	E	4	Public	Restrooms - Women	1	2,000	2,000	
Non-Leasable	E	5	Public	Restrooms - Family	3	80	240	
Non-Leasable	E	6	Public	Registration	2	10,000	20,000	In additon to pre--function SF
Non-Leasable	E	7	Support	Registration Storage	2	500	1,000	
Non-Leasable	E	8	Support	Janitor	4	50	200	# varies according to design, quantity and distribution of restrooms
Non-Leasable	E	9	Public	VIP Lounge w/ restroom	1	500	500	Similar to a Green Room
Non-Leasable	E	10	Support	Coat Check/Multi-Purpose	2	400	800	
Non-Leasable	E	11	Support	FF&E Storage	1	22,000	22,000	@ 10% of new Exhiiton area - assumes no new shops
Non-Leasable	E	12	Support	Show Managers' Offices	3	200	600	
Non-Leasable	E	13	Support	Box Office	0		-	portables - no dedicated area
Non-Leasable	E	14	Support	Box Office - Vault	0		-	
Non-Leasable	E	15	Support	Moveable Partition Storage	1	800	800	Assume quantity of partitions for two (2) full walls = three (3) simultaneous Ex. Hall spaces
Non-Leasable	E	16	Support	Catwalks			-	
Non-Leasable	E	17	Support	Concession Stands (built-in)	3	1,000	3,000	One per Exhibition Hall subdivision
Non-Leasable	E	18	Support	Service Corridor	1	20,000	20,000	
Non-Leasable	E	19	Support	Audio-Visual Control Room	1	200	200	
Non-Leasable	E	20	Support	Maintenance Storage	1	1,000	1,000	
Non-Leasable	E	21	Support	Support Vehicle Storage	1	3,000	3,000	Allowance to be confirmed
Non-Leasable			**Subtotal, Exhibition - Non-Leasable**				**121,340**	

Table 4: Full building program – ballroom

Category	Code	#	Space Type	Space Name	Quantity	Size (Net SF)	Total (Net SF)	Notes
INTERIOR ENCLOSED SPACES								
BALLROOM								
Leasable	**BR**	**1**	**Public**	**Grand Ballroom**	**1**	**70,000**	**70,000**	Divisble into 12 sub-spaces by moveable partitions.
Non-Leasable	BR	2	Public	Lobby/Pre-Function	1	40,000	40,000	
Non-Leasable	BR	3	Public	Restrooms - Men	1	1,500	1,500	
Non-Leasable	BR	4	Public	Restrooms - Women	1	1,500	1,500	
Non-Leasable	BR	5	Public	Restrooms - Family	2	80	160	
Non-Leasable	BR	8	Support	Janitor	2	50	100	# varies according to design
Non-Leasable	BR	6	Public	Registration	2	2,000	4,000	In additon to pre--function SF
Non-Leasable	BR	7	Support	Registration Storage	2	300	600	
Non-Leasable	BR	9	Support	Coat Check/Multi-Purpose	1	400	400	
Non-Leasable	BR	10	Support	FF&E Storage	1	10,000	10,000	
Non-Leasable	BR	11	Support	Green room with restroom	2	275	550	
Non-Leasable	BR	12	Support	Show Managers' Offices	2	200	400	
Non-Leasable	BR	13	Support	Moveable Partition Storage	1	1,500	1,500	12 room subdivisions
Non-Leasable	BR	14	Support	Service Corridor	1	15,000	15,000	
Non-Leasable	BR	15	Support	Service Corridor Alcove Pantr	5	300	1,500	Confirm with food service consultant
Non-Leasable	BR	16	Support	Audio-Visual Control Room	2	200	400	
Non-Leasable			**Subtotal, Ballroom - Non-Leasable**				**77,610**	

Table 5: Full building program – meeting rooms

Category	Code	#	Space Type	Space Name	Quantity	Size (Net SF)	Total (Net SF)	Notes
INTERIOR ENCLOSED SPACES								
MEETING ROOMS								
Leasable	**MR**	**1**	**Public**	**Meeting Rooms**	**30**	**1,800**	**54,000**	Ten (10) 5,400 SF modules each divisible by moveable partitions into thirds (1,800 SF each); total of 30 break out spaces
Leasable	**MR**	**2**	**Public**	**Meeting Rooms**	**2**	**10,000**	**20,000**	Possibly combine into one (1) 20,000 SF space that divides in half
Leasable	**MR**	**3**	**Public**	**Meeting Rooms**	**3**	**1,333**	**4,000**	One or more of these spaces could be finished and furished as a boardroom
Leasable				**Subtotal, leasable MR area**	**35**		**78,000**	Total MR area; required minimum = 78,000 SF; maximum occupancy:
Non-Leasable	MR	2	Public	Lobby/Pre-Function	1	25,000	25,000	
Non-Leasable	MR	3	Public	Restrooms - Men	1	2,000	2,000	
Non-Leasable	MR	4	Public	Restrooms - Women	1	2,000	2,000	
Non-Leasable	MR	5	Public	Restrooms - Family	3	80	240	
Non-Leasable	MR	8	Support	Janitor	4	50	200	# varies according to design
Non-Leasable	MR	6	Public	Registration	2	1,500	3,000	In additon to pre--function SF
Non-Leasable	MR	7	Support	Registration Storage	2	300	600	
Non-Leasable	MR	8	Support	Coat Check/Multi-Purpose	3	400	1,200	
Non-Leasable	MR	9	Support	FF&E Storage	1	10,000	10,000	
Non-Leasable	MR	10	Support	Green room with restroom	2	275	550	
Non-Leasable	MR	11	Support	Meeting Planner's Offices	4	150	600	
Non-Leasable	MR	12	Support	Moveable Partition Storage	1	1,000	1,000	Multiple locations
Non-Leasable	MR	13	Support	Service Corridors	1	25,000	25,000	Multiple locations
Non-Leasable	MR	14	Support	Service Corridor Alcove Pantr	5	200	1,000	
Non-Leasable	MR	15	Support	Audio-Visual Room	1	200	200	
Non-Leasable				**Subtotal, Meeting Rooms**			**72,590**	

Table 6: Full building program – loading docks

Category	Code	#	Space Type	Space Name	Quantity	Size (Net SF)	Total (Net SF)	Notes
LOADING DOCKS								
Non-Leasable	L	1	Support	Loading Dock for Ex. Hall			-	Exterior Space - see below
Non-Leasable	L	2	Support	Truck Parking positions			-	Exterior Space - see below
Non-Leasable	L	3	Support	Dock Master Office	1	120	120	
Non-Leasable	L	4	Support	Restrooms	2	120	240	
Non-Leasable	L	5	Support	Food Service Loading Dock	1	2,000	2,000	
Non-Leasable	L	6	Support	Food Servivce Truck Positions	5	700	3,500	Assume 12' x 55' (53' trucks)
Non-Leasable	L	7	Support	Staff restrooms	2	120	240	
Non-Leasable				**Subtotal, Loading Docks**			**6,100**	

Table 7: Full building program – guest services

Category	Code	#	Space Type	Space Name	Quantity	Size (Net SF)	Total (Net SF)	Notes
GUEST SERVICES								
Non-Leasable	G	1	Support	Information Kiosks	3	50	150	Quantity varies with design
Non-Leasable	G	2	Support	Kiosk Storage	3	80	240	
Non-Leasable	G	3	Public	First Aid	2	200	400	
Non-Leasable	G	4	Public	First Aid restroom - unisex	2	80	160	
Non-Leasable	G	5	Public	Lactation Room	2	200	400	
Non-Leasable	G	6	Public	Adult Changing Rooms	2	300	600	
Non-Leasable	G	7	Public	Buisness Service Center	1	600	600	
Non-Leasable				**Subtotal, Guest Services**			2,550	

Table 8: Full building program – food service

Category	Code	#	Space Type	Space Name	Quantity	Size (Net SF)	Total (Net SF)	Notes
FOOD SERVICE								
Non-Leasable	F	1	Public	Food Court	1	10,000		
Non-Leasable	F	2	Public	Restaurants				
Non-Leasable	F	3	Support	Main Banquet Kitchen	1	15,000	15,000	Allowance; size based on 10,000 meals capacity
Non-Leasable	F	4	Support	Chef's Demo Kitchen	1	1,500	1,500	
Non-Leasable	F	5	Support	F&B Pantries (for meeting roo	4	2,000	8,000	Amount and sizes vary according to design
Non-Leasable	F	6	Support	Uniform Distribution	1	300	300	
Non-Leasable	F	7	Support	Lockers - Male	1	500	500	
Non-Leasable	F	8	Support	Lockers - Female	1	500	500	
Non-Leasable	F	9	Support	Receiving Office	1	150	150	
Non-Leasable	F	10	Support	Refrigerated Storage at FS Lo	1	750	750	Allowance - requires input from food service consultant
Non-Leasable	F	11	Support	Dry Storage at FS Loading Do	1	1,000	1,000	Allowance - requires input from food service consultant
Non-Leasable	F	12	Support	Portable F&B Cart Storage	1	1,500	1,500	Allowance; Quantity of food carts to be determined - CTD
Non-Leasable	F	13	Support	Portable Bar Storage	1	1,000	1,000	Allowance; Quantity of bars to be determined - CTD
Non-Leasable	F	14	Support	Temporary Staff Restrooms	2	200	400	
Non-Leasable	F	15	Support	Additional service corridors	1	10,000	10,000	
Non-Leasable				**Subtotal, Food Service**			40,600	

Table 9: Full building program – shops

Category	Code	#	Space Type	Space Name	Quantity	Size (Net SF)	Total (Net SF)	Notes
SHOPS								
Non-Leasable	SH	1	Support	Metal Shop	1	-	-	Use exisitng - no expansion
Non-Leasable	SH	2	Support	Electrical Shop	1	-	-	Use exisitng - no expansion
Non-Leasable	SH	3	Support	Wood Shop	1	-	-	Use exisitng - no expansion
Non-Leasable	SH	4	Support	Paint Shop	1	-	-	Use exisitng - no expansion
Non-Leasable				**Subtotal, Shops**			-	

Table 10: Full building program – administrative offices

Category	Code	#	Space Type	Space Name	Quantity	Size (Net SF)	Total (Net SF)	Notes
ADMINISTRATIVE OFFICES								
	A	1	Support	Adminstrative Suite			-	Use exisitng - no expansion

Table 11: Full building program - security

Category	Code	#	Space Type	Space Name	Quantity	Size (Net SF)	Total (Net SF)	Notes
SECURITY								
Non-Leasable	SEC	1	Support	Security Suite for expansion	1	300	300	

Table 12: Full service program – trash/garbage/recycling

Category	Code	#	Space Type	Space Name	Quantity	Size (Net SF)	Total (Net SF)	Notes
TRASH/GARBAGE/RECYCLING								
Non-Leasable	TR	1	Support	Storage Room	1	600	600	
Non-Leasable	TR	2	Support	Compactor Positions - Exhbit	3	480	1,440	12' x 40' each
Non-Leasable	TR	3	Support	Compactor Positions - Other	3	480	1,440	12' x 40' each
Non-Leasable	TR	4	Support	Truck ramps and aprons	1	3,000	3,000	
				Subtotal, Trash/Garbage/Recycling			6,480	Assume this is interior space

Table 13: Full building program – MEP spaces

Category	Code	#	Space Type	Space Name	Quantity	Size (Net SF)	Total (Net SF)	Notes
MEP SPACES								
Non-Leasable	MEP	1	Support	Central Plant Expansion	1	20,000	20,000	
Non-Leasable	MEP	2	Support	Air-Handling Units - Ex. Hall	1	8,000	8,000	
Non-Leasable	MEP	3	Support	Air-Handling Units - Ballroom	1	4,000	4,000	
Non-Leasable	MEP	4	Support	Air-Handling Units -Meeting I	1	4,000	4,000	
Non-Leasable	MEP	5	Support	Air-Handling Units - General	1	3,500	3,500	
Non-Leasable	MEP	6	Support	Transformer Vault	2	1,500	3,000	
Non-Leasable	MEP	7	Support	Electrical Rooms	2	2,000	4,000	
Non-Leasable	MEP	8	Support	Electrical Closets	8	150	1,200	
Non-Leasable	MEP	9	Support	Data Services Room	1	150	150	
Non-Leasable	MEP	10	Support	Telecom Entrance Facility	2	150	300	
Non-Leasable	MEP	11	Support	Telephone Room	1	150	150	
Non-Leasable	MEP	12	Support	IDF Rooms	8	150	1,200	
Non-Leasable	MEP	13	Support	Emergency Generator	1	2,500	2,500	
Non-Leasable	MEP	14	Support	Pump Room	4	500	2,000	
Non-Leasable	MEP	15	Support	Parts and Maintenance Stora	2	300	600	
Non-Leasable	MEP	16	Support	Engineers' Offices	2	120	240	
				Subtotal, MEP Spaces			54,840	

Table 14: Full building program – vertical transportation

Category	Code	#	Space Type	Space Name	Quantity	Size (Net SF)	Total (Net SF)	Notes
VERTICAL TRANSPORTATION								
Non-Leasable	VT	1	Public	Escalators	1	10,000	10,000	Allowance; Quantity depends on design
Non-Leasable	VT	2	Public	Passenger Elevators	8	150	1,200	Allowance; Quantity depends on design
Non-Leasable	VT	3	Support	Service Elevators	5	700	3,500	Allowance; Quantity depends on design
Non-Leasable	VT	4	Support	Freight Elevators - Type 1	3	1,200	3,600	Allowance; Quantity depends on design; 10' x 24' cabs
Non-Leasable	VT	5	Support	Freight Elevators - Type 2	3	1,000	3,000	Allowance; Quantity depends on design; 8' x 16' cabs
Non-Leasable	VT	6	Support	Elevator Machine Rooms				
Non-Leasable				**Subtotal, Vertical Transportation**			21,300	

Table 15: Full building program – exterior spaces (structured)

Category	Code	#	Space Type	Space Name	Quantity	Size (Net SF)	Total (Net SF)	Notes
OTHER BUILT AREAS, EXCLUSIVE OF CONVENTION CENTER GROSS ENCLOSED AREA								
EXTERIOR SPACES - STRUCTURED								
Leasable	EXT	1	Public	Ballroom Event Terrace	1	10,000	10,000	Occupied roof space
Leasable	EXT	2	Public	Other Exterior Event Space			TBD	Occupied roof space
Non-Leasable	Ext	3	Maintenance	Green Roof			TBD	No pubic access
Non-Leasable	EXT	4	Support	Exhibit Hall laydown and crate stroage			TBD	
Non-Leasable	EXT	5	Support	Truck Parking Positions			TBD	12,000 SF of Exhibit space/per truck position
Non-Leasable	EXT	6	Support	Truck Access Decks			TBD	
Non-Leasable	EXT	7	Support	Truck Bridges			TBD	
				Subtotal, Structured Exterior Space			10,000	

Table 16: Full building program – exterior spaces (at grade)

Category	Code	#	Space Type	Space Name	Quantity	Size (Net SF)	Total (Net SF)	Notes
OTHER BUILT AREAS, EXCLUSIVE OF CONVENTION CENTER GROSS ENCLOSED AREA								
EXTERIOR SPACES - AT GRADE								
Non-Leasable	EXT	8	Support	Roadways and Driveways			TBD	
Non-Leasable	EXT	9	Support	Vegetated Landscape			TBD	
Non-Leasable	EXT	10	Public	Hard Landscape			TBD	
Non-Leasable	EXT	11	Support	Central Plant Chiller towers			10,000	
				Subtotal, At-Grade Exterior Spaces			TBD	

Appendix B
Real Estate

HR&A Analyze. Advise. Act.

Los Angeles Convention Center
Real Estate Market Opportunity and Revenue Analysis

June 21, 2016

HR&A completed a real estate market and financial analysis to inform the business plan for the proposed renovation of the Los Angeles Convention Center (LACC).

This analysis identified the market potential and value of land made available through a potential site reconfiguration of the LACC (LACC site). This analysis provides an illustration for concept planning and project financial analysis purposes. The exact site configuration and real estate program for the LACC site will be determined by the City of Los Angeles (City) and its chosen developer(s).

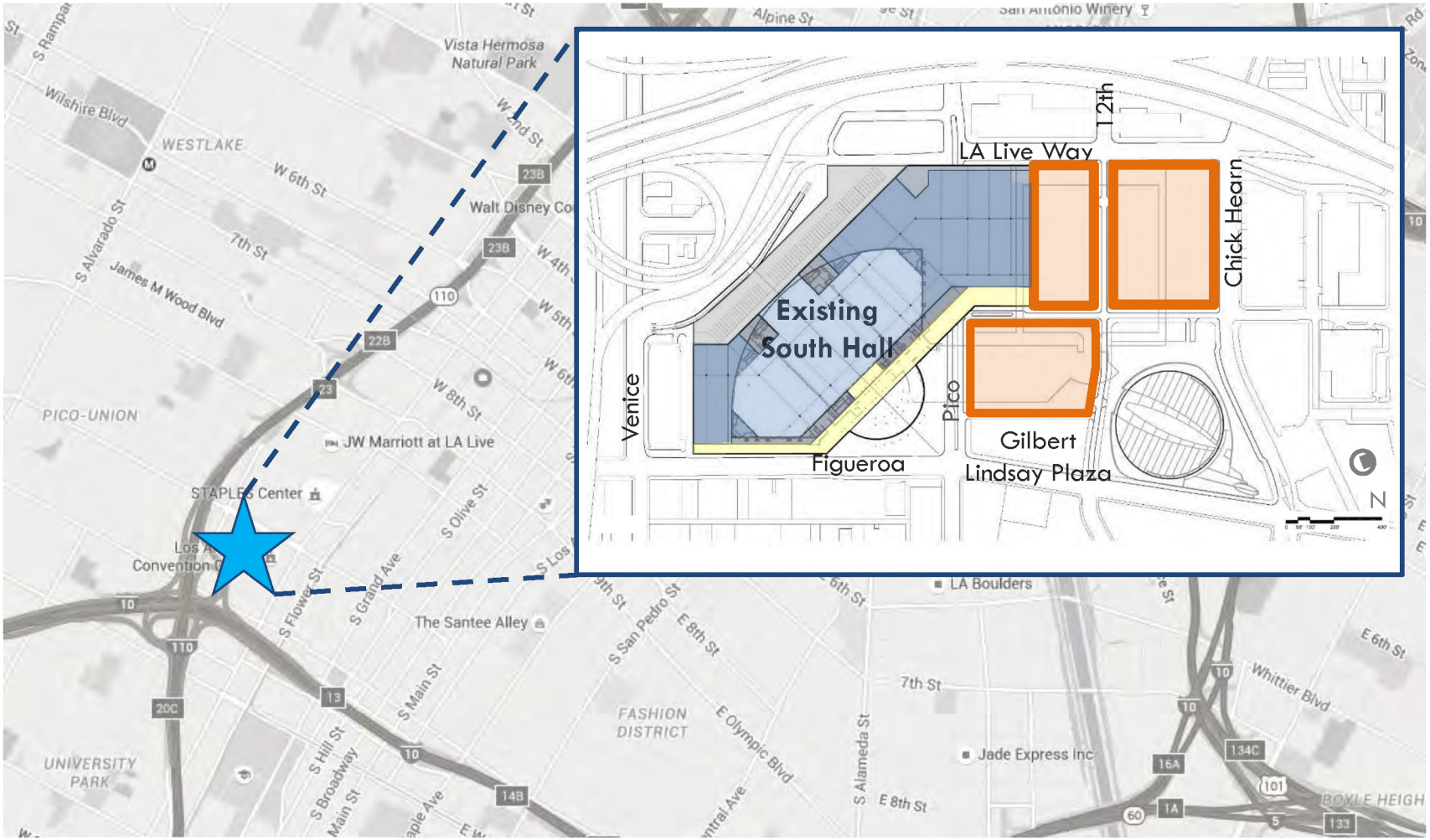
Real Estate Market and Demand Analysis

- **Understand potential for real estate development** on the LACC site and potential real estate/urban design character
- **Generate inputs for real estate revenue analysis**

Real Estate Revenue Analysis

- **Estimate value of the site** made available by Convention Center reconfiguration based on market demand and financial feasibility of real estate products.
- **Determine the potential revenue** the City could collect from a ground lease of the site, given an illustrative program, urban design and site configuration.
- Per LA City Council direction, **residential product was excluded from the analysis.** Short-term "serviced apartments," which resemble hotel products, were permitted.

The following analysis investigates the market potential for real estate development on land which may be made available at the LACC Site



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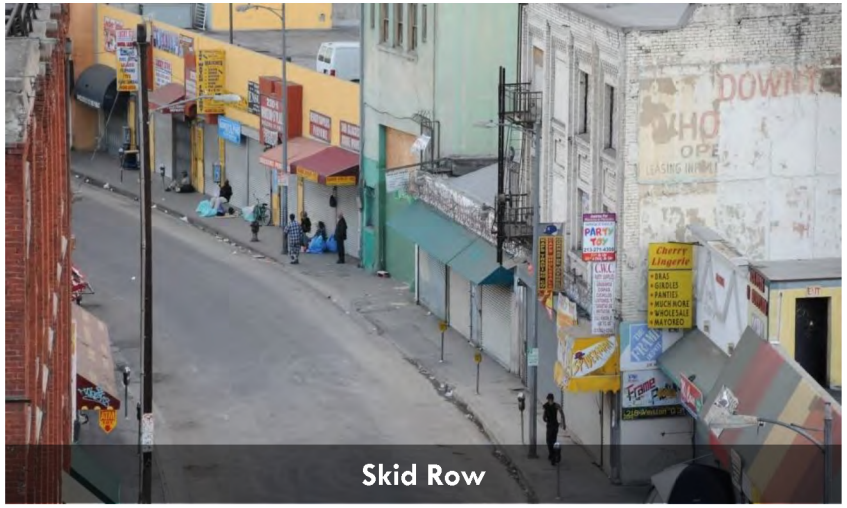
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Until recently, Downtown LA was a traditional 9-5 business district.

- **Downtown LA was overbuilt with office space.** A boom brought 8M SF between '88 and '92, as the Savings and Loan crisis ('89-'91) and the Great Recession ('07-'09) hit, much of the space was never absorbed.
- **Historically, Downtown LA offered little beyond a work environment.** With a limited audience that left at 6pm, little housing and a low-income population; major retailers were hesitant to locate in Downtown LA.
- **Change began with the Staples Center in 1999,** which sent a message that Downtown was ready for re-investment. The **Adaptive Reuse Ordinance (ARO)** in the same year made it easier to convert office space to housing.



Office Towers in the Financial District

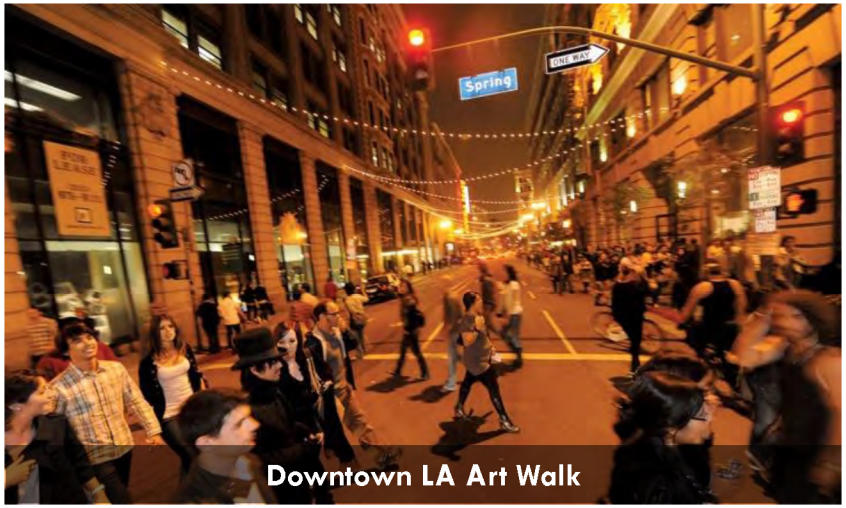


Skid Row

Over the past 15 years Downtown LA has become one of the most vibrant urban districts in the U.S.

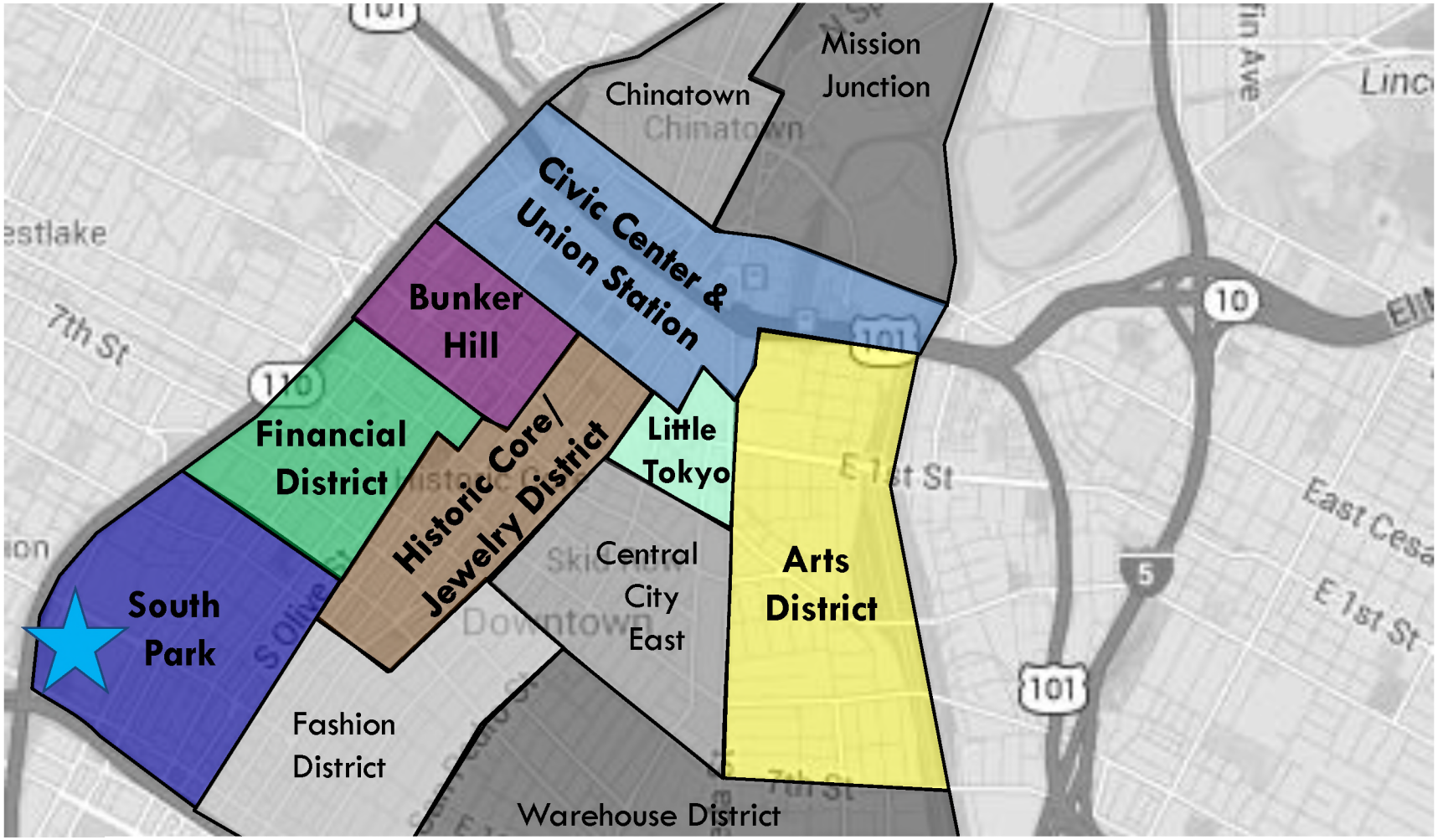
- **Resident population has grown exponentially to 63,000 residents,** transforming certain areas into 24/7 districts that feel safer and more interesting than ever before. Since 1999, Downtown LA has **added 23,000 residential units,** with another 10,000 under construction.
- **Eating and drinking establishments followed.** Downtown LA has become widely recognized as a restaurant and nightlife destination.
- **However, homelessness remains a serious public policy and marketing problem.** Downtown's homeless population is estimated to be over 10,000 on Skid Row alone.


Grand Central Market



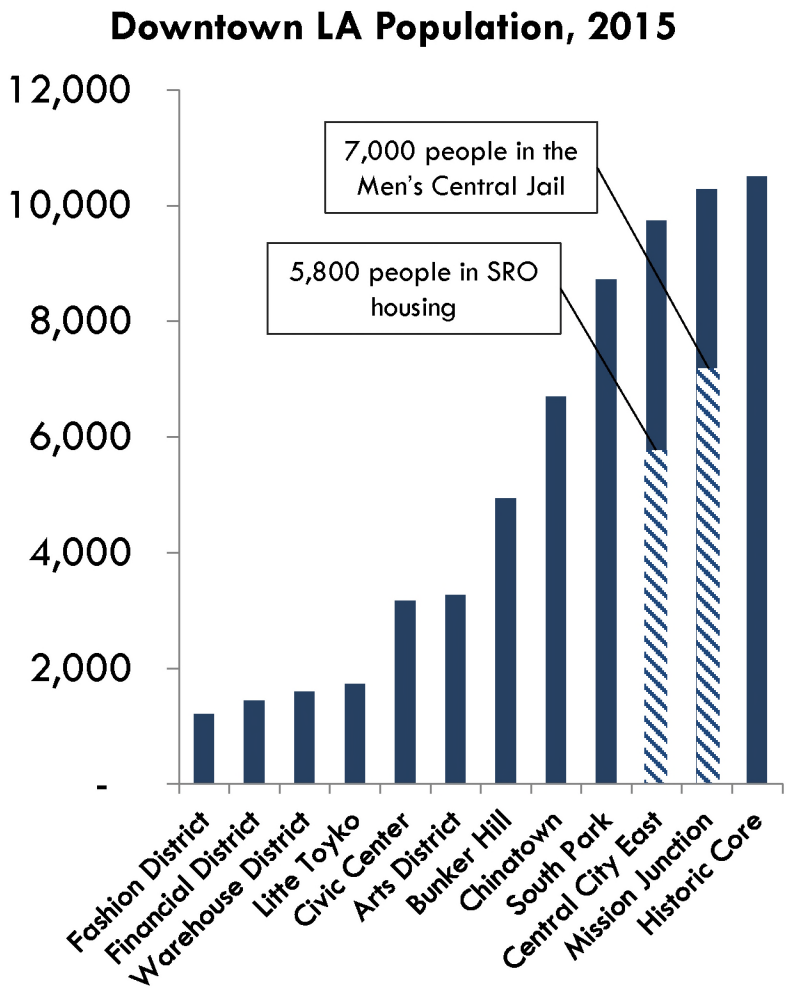
Downtown LA Art Walk

Downtown LA can be divided into 12 major sub-markets, six of which are the most relevant for this market analysis.



Downtown LA's residential population is concentrated in select sub-districts.

- As a whole, **downtown's population is currently 63,000,** but excluding those living in group quarters, the population is 46,970.
- **The sub-markets with the largest non-institutional/SRO populations are the Historic Core and South Park.**
- **The least populated sub-markets are the Fashion and Warehouse Districts,** traditionally where wholesale businesses have located, and the Financial District.

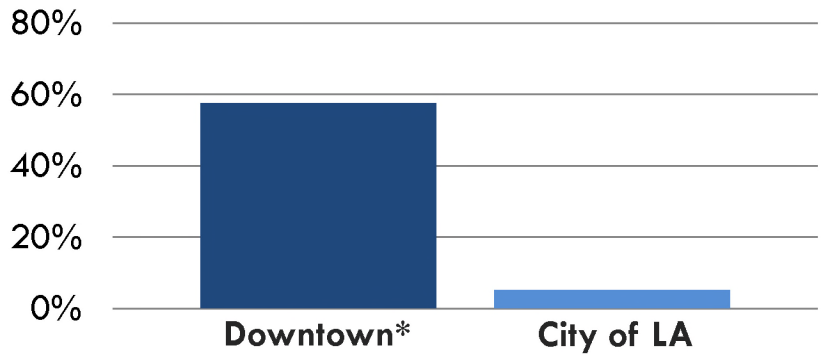


Source: ESRI

While the overall population is booming, certain sub-markets stand out for their growth; namely the Financial and Arts Districts, Historic Core, and South Park.

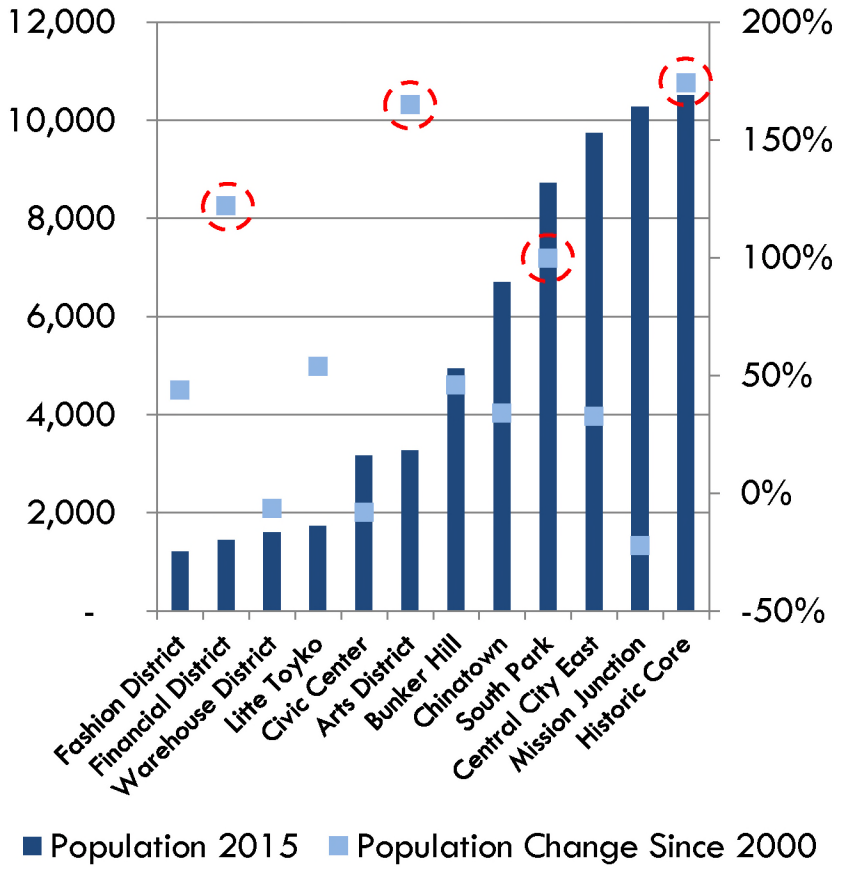
- As a whole and excluding the population living in group quarters, **Downtown LA's population has grown 57% since 2000,** compared to only 5% for the City of LA.
- The Historic Core and South Park have relatively large populations and they continue to attract more residents at breakneck speed.

Population Growth 2000 to 2015



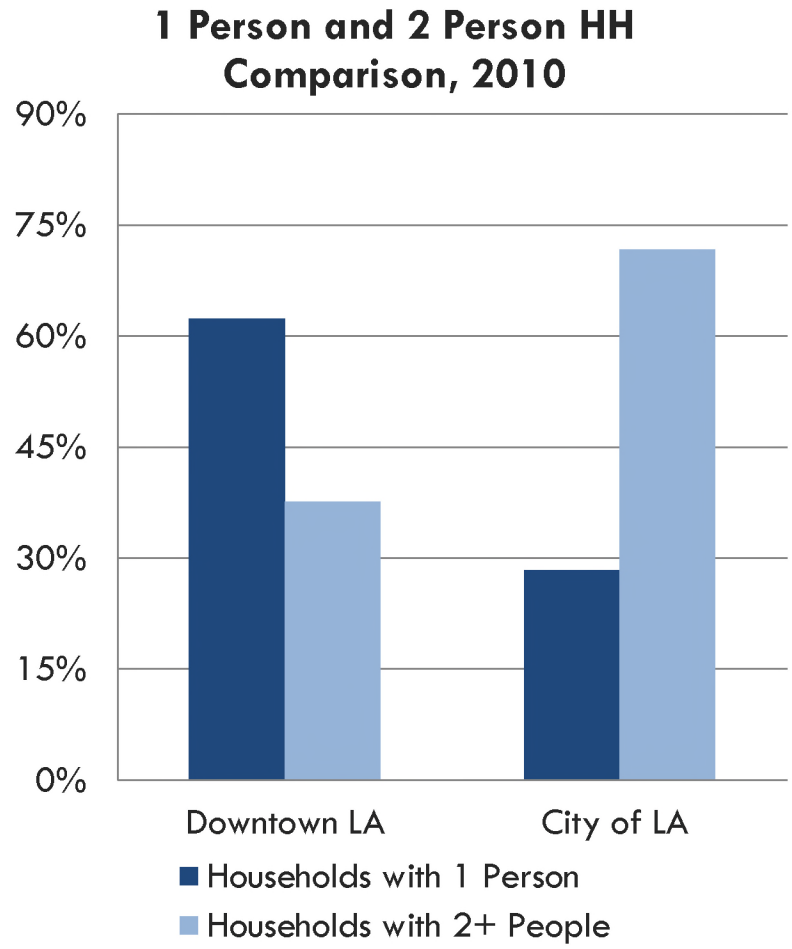
*Numbers exclude the population living in group quarters.

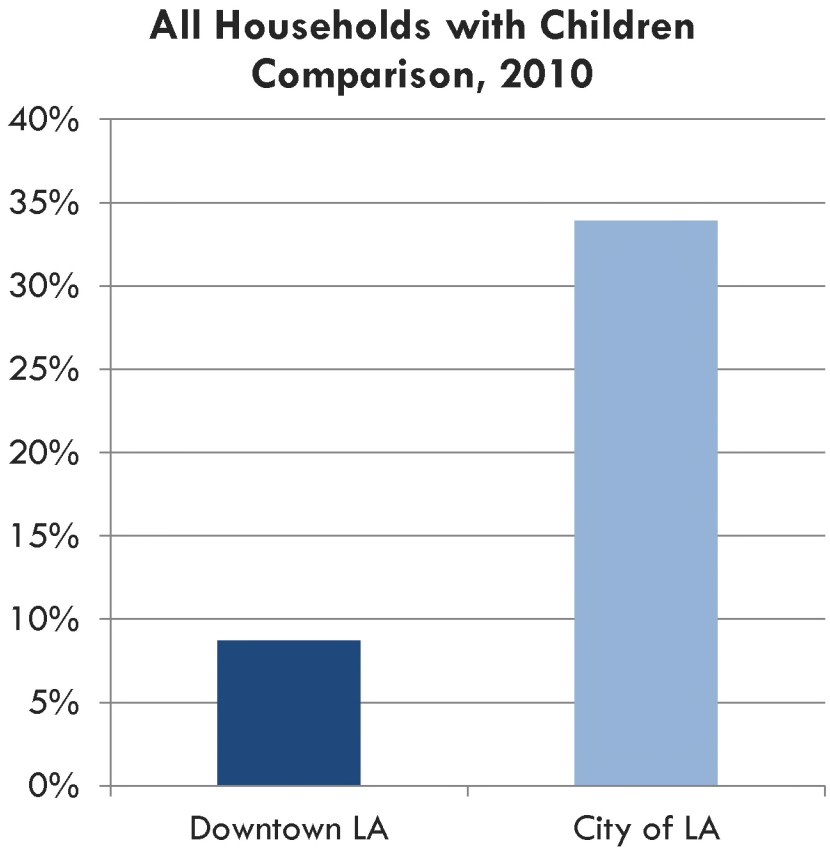
Population 2015 and Population Change 2000 to 2015



Source: ESRI

Most households are occupied by a single person; there are relatively few households with children compared to the City of LA.

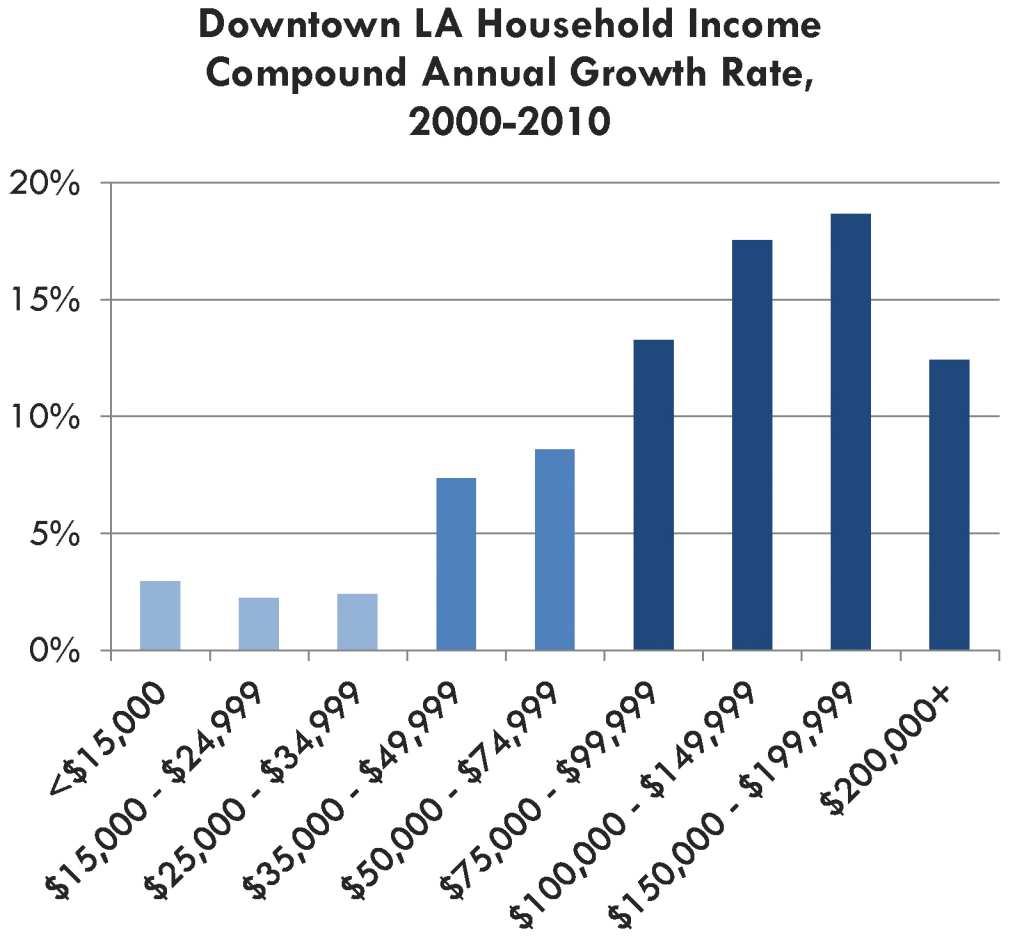




Source: ESRI

High income households are growing faster than any other segment. In South Park, households making over $100,000 grew by 42% between 2010 and 2012.

- **High income residents are moving to Downtown Los Angeles at a rapid pace.** Between 2000 and 2010, the number of households earning over $100,000 grew over 15% annually.
- Bunker Hill, Little Tokyo, and South Park have larger high-income brackets than Downtown LA at-large. **In both South Park and Little Tokyo, 9% of households earn above $150,000 annually.**

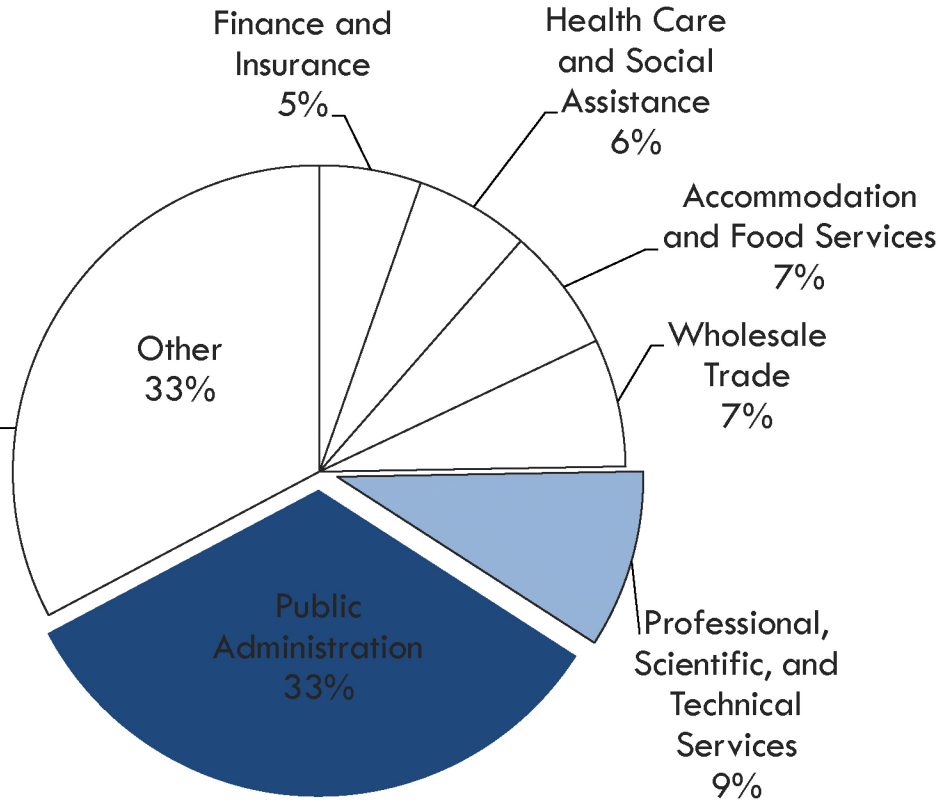


Sources: 2010 and 2012 American Community Survey, ESRI

Downtown LA has 319,000 jobs; the largest share is Public Administration, followed distantly by Professional, Science and Tech Services.

Percent of Other Jobs	
Natural Resources	0.1%
Construction	0.7%
Real Estate and Rental & Leasing	1.2%
Transportation & Warehousing	2.2%
Other Services	2.4%
Mgmt. of Companies	2.4%
Manufacturing	2.6%
Information	2.6%
Educational Services	2.7%
Retail Trade	3.0%
Administrative & Support	4.1%
Arts, Entertainment & Recreation	4.2%
Utilities	4.6%

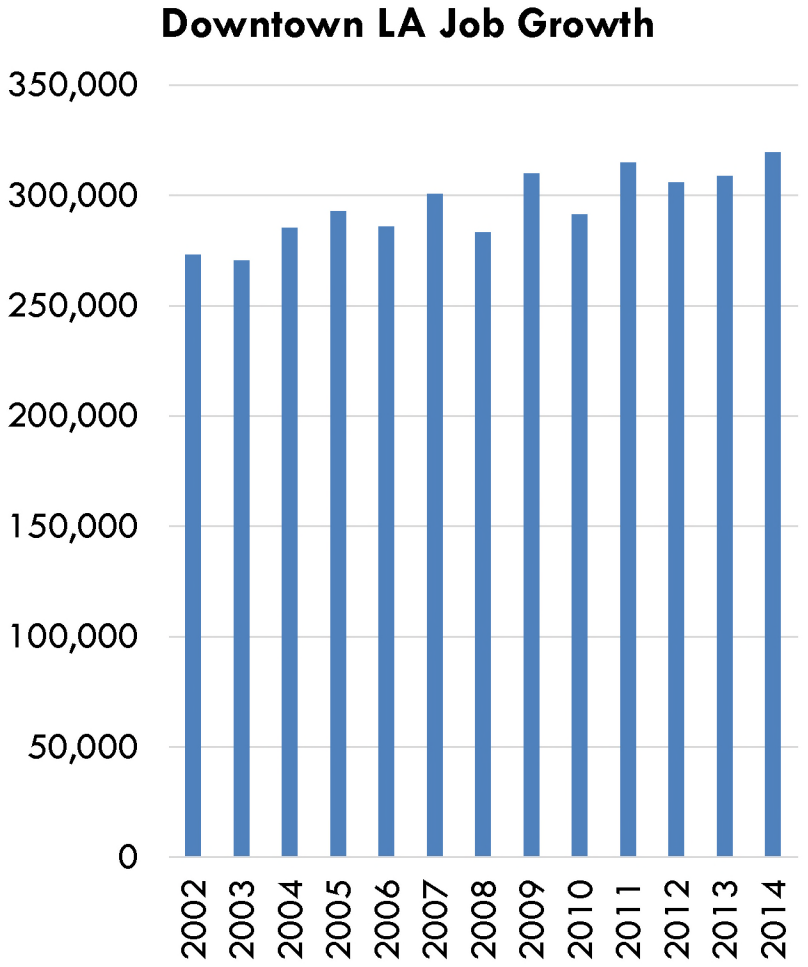
Downtown Employees by NAICS Industry



Sources: LEHD On the Map, ESRI

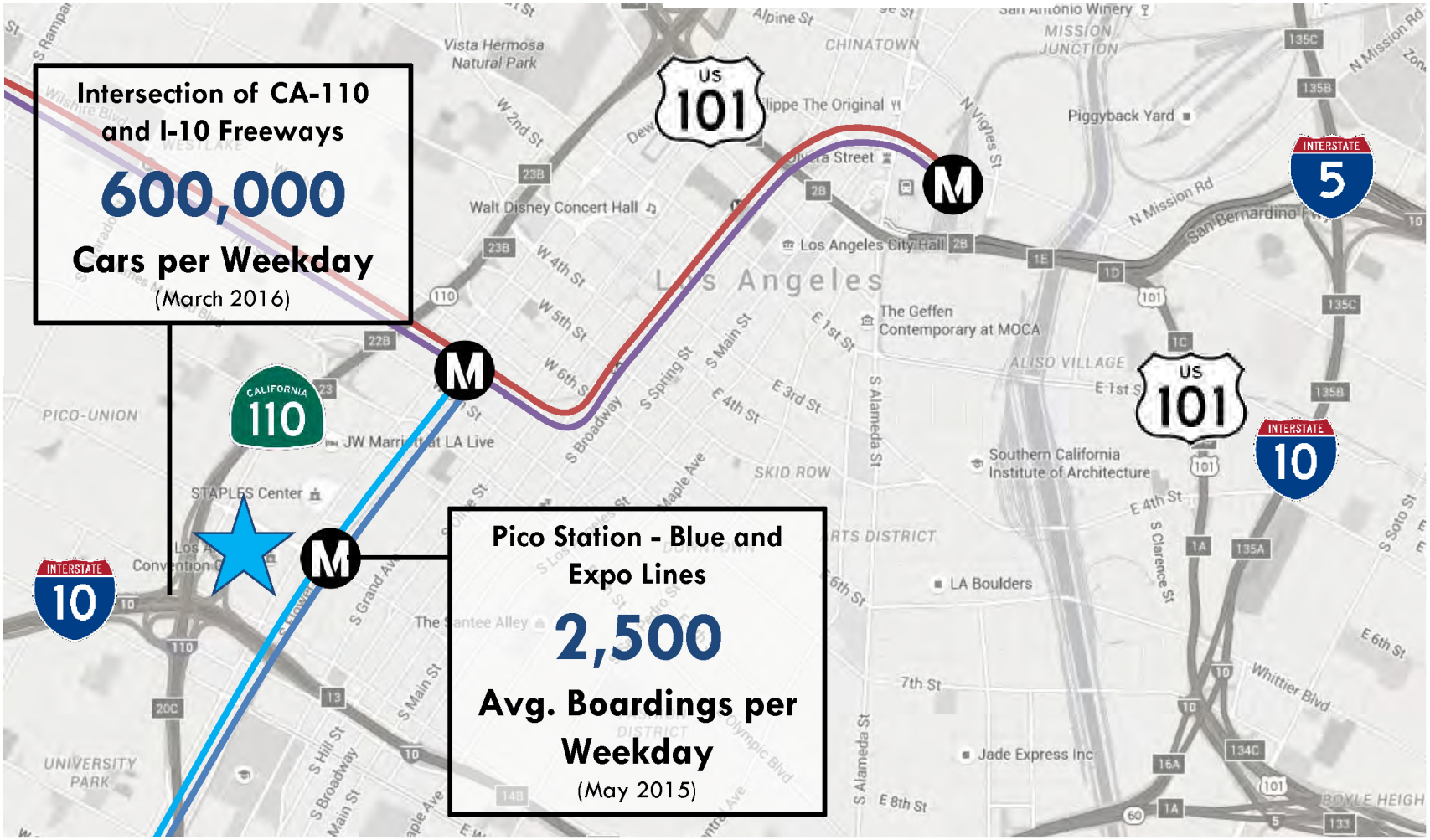
Downtown LA has added jobs in recent years, following regional trends. Job growth is expected to continue, and per capita incomes are rising.

- The Los Angeles area added 95,000 jobs in 2015, and California as a whole has outpaced the country in job growth for the past three years. **Southern California is expected to see continued, but slower economic and employment growth going forward.**
- **Professional and business services, retail trade,** and **the leisure and hospitality industries** are expected to see the strongest growth in SoCal.
- **Growth in per capita income in Southern California is well outpacing inflation,** and is expected to increase by 3.9% in 2016 and 4.5% in 2017.

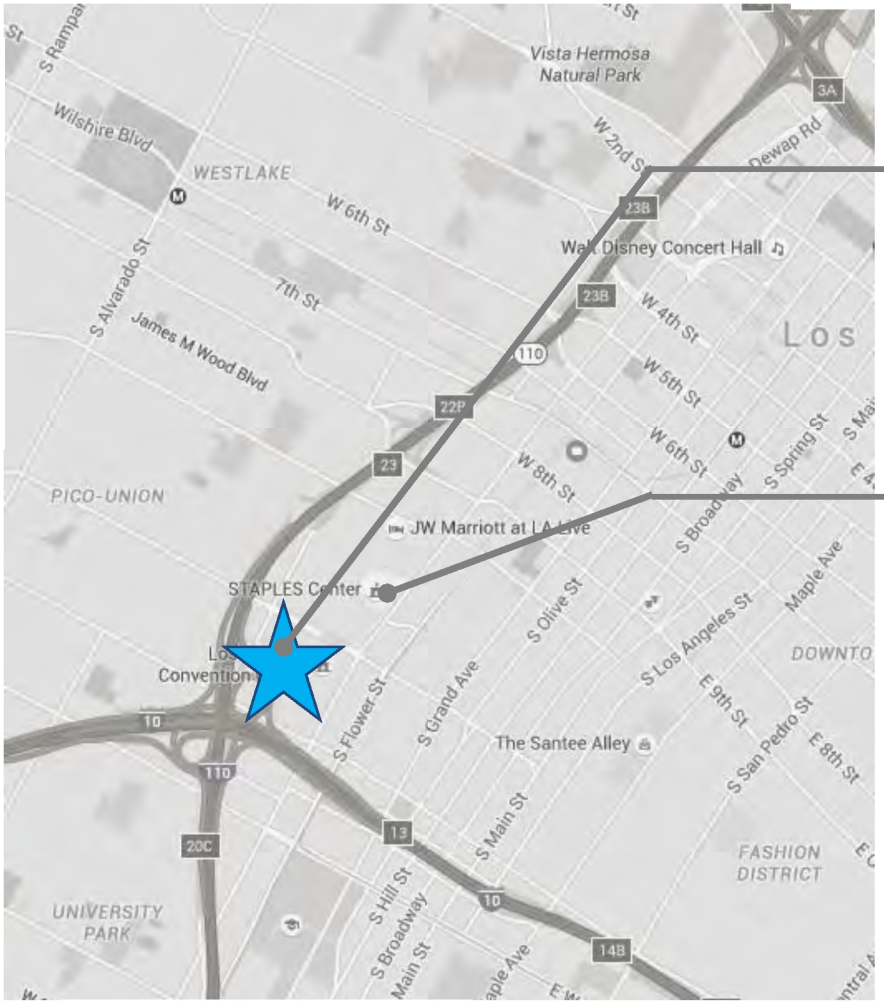


Sources: LEHD On the Map, LAEDC Economic Forecast, February 2016

Over 600,000 vehicles pass through the Convention Center area each week-day; the Expo Line expansion now provides direct transit access to the Westside.



Downtown LA's major venues attract upwards of 6 million visitors per year.



LA Convention Center

2 million

Annual Visitors



Staples Center and LA Live

4 million

Annual Visitors





The areas immediately northeast of the Convention Center are home to many attractions and amenities that consistently draw visitors and locals.



LA Live and Staples Center
Sports, Entertainment, and Dining

Financial District
Offices

Bunker Hill
Offices, Arts and Culture

Historic Core
Dining, Drinking, and Nightlife

South Park
Evolving Residential Neighborhood

Figueroa and I-10
Car Dealerships

However, these dynamic areas north of the Convention Center contrast with areas to the south that are still developing.

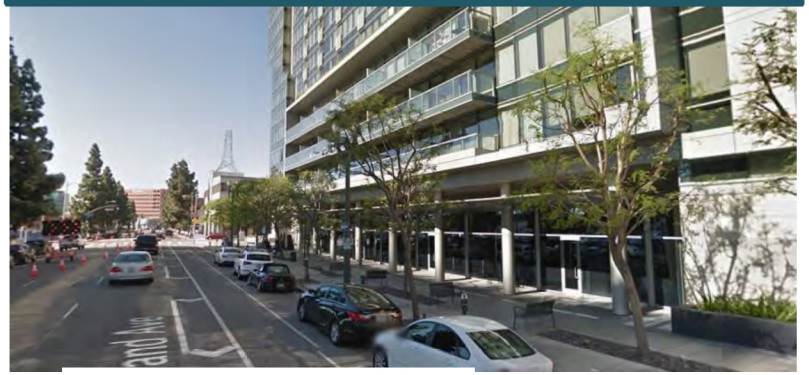
LA Live
Sports, Entertainment, and Dining



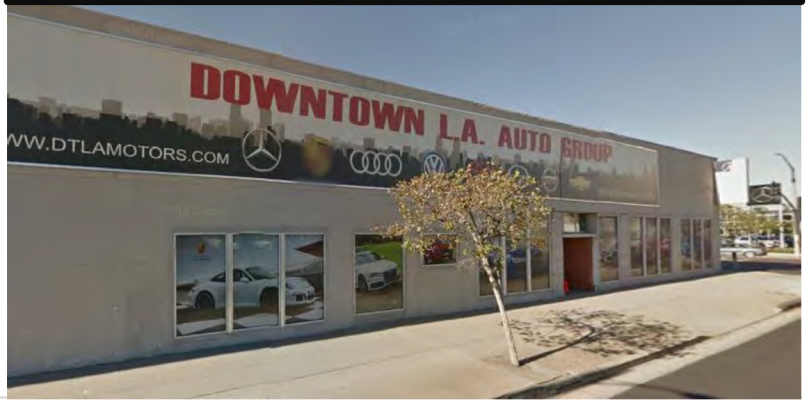
Financial District
Offices



South Park
Evolving Residential Neighborhood



Figueroa and I-10
Car Dealerships



A number of planned public and private investments will improve the Convention Center and LA Live visitor experience.

MyFigueroa Streetscape Plan

Plan to implement streetscape improvements such as bike lanes, cross walks, and trees.



LA Streetcar

Proposed streetcar line that would connect Historic Core to South Park and Jewelry District.



Avenue of Angels

Proposal to create a pedestrian-oriented street to connect the Financial District with LA Live.



Fig Central

Mixed-use development opposite of Staples Center with substantial retail planned.



Once the planned improvements around the Convention Center are implemented, it has the potential to be one of the most sought-after sites in Downtown LA.

The LACC Site is already well-connected to the region and adjacent to existing destinations.

- The site is **highly accessible and visible**, with good transit and freeway connections.
- LA Live and the Staples Center are adjacent to the site and are **one of LA's most vibrant entertainment destinations.**
- Most opportunity sites in South Park have been developed over the past decade and if reconfigured, **the LACC site would be one of largest potential sites in Downtown LA.**
- The size of the site provides an **opportunity to create a dynamic, mixed-use development.**

However, there remains significant competition from other sub-markets throughout Downtown LA.

- The site is currently **isolated from Downtown LA's employment, residential and cultural cores**, which may be mitigated by the completion of Oceanwide Plaza and Circa, creating a critical mass of activity.
- There may be **potential disturbances** from highway and event noise.

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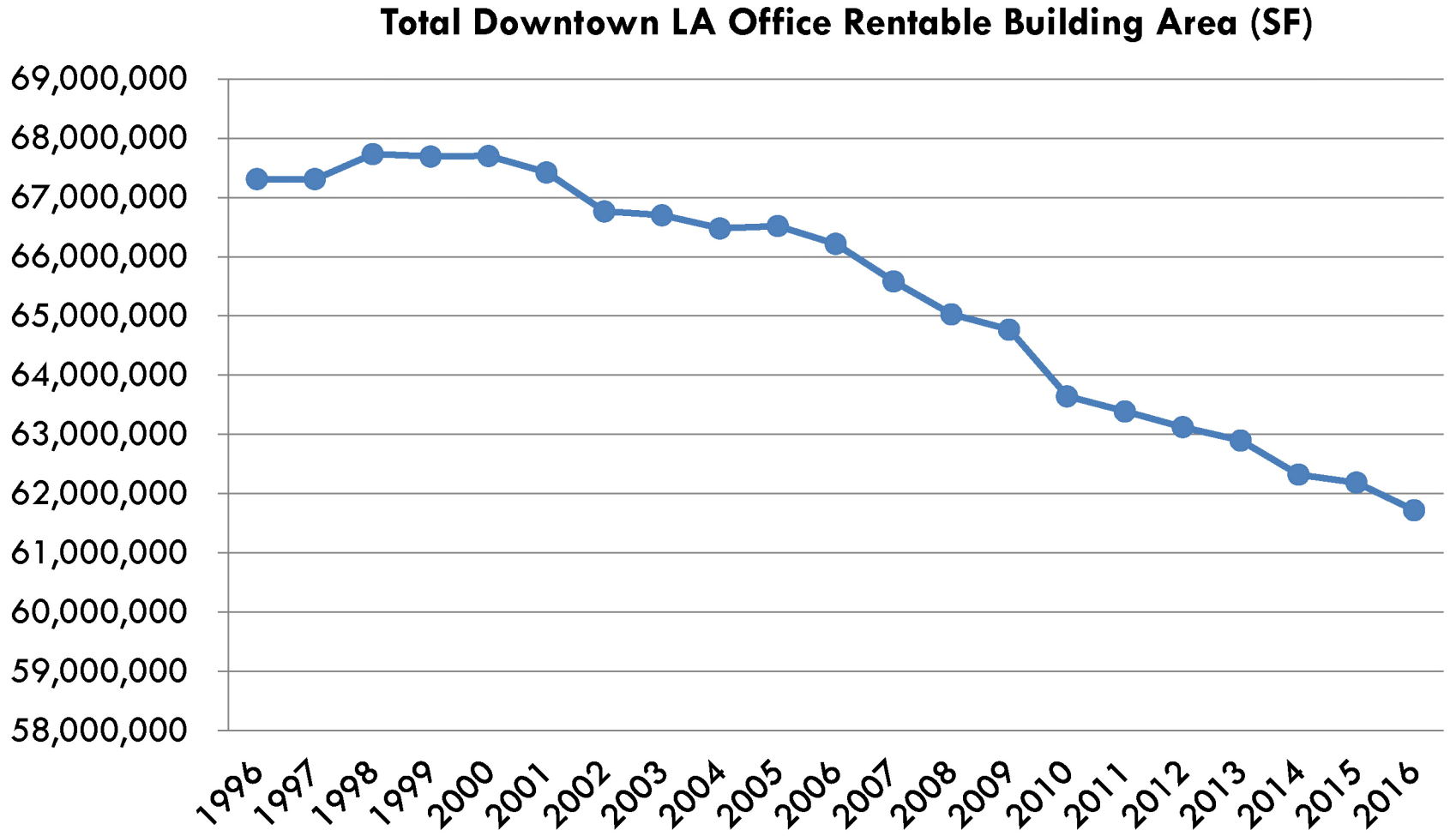
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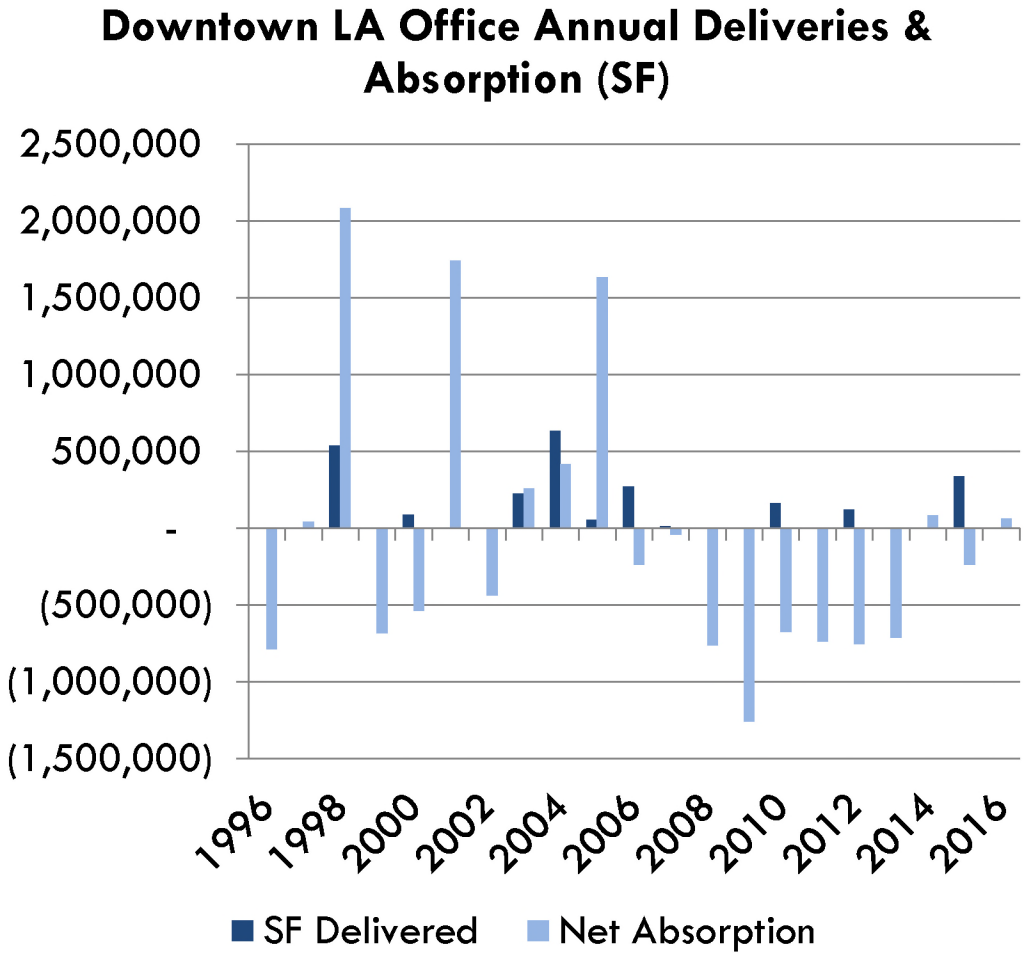
Downtown LA's current office inventory is 62M SF and has been decreasing steadily as older office buildings are converted to residential.



Sources: CoStar, HR&A Advisors

Annual net absorption has been largely negative since the Great Recession, reflecting tenants departing and older product being converted to residential.

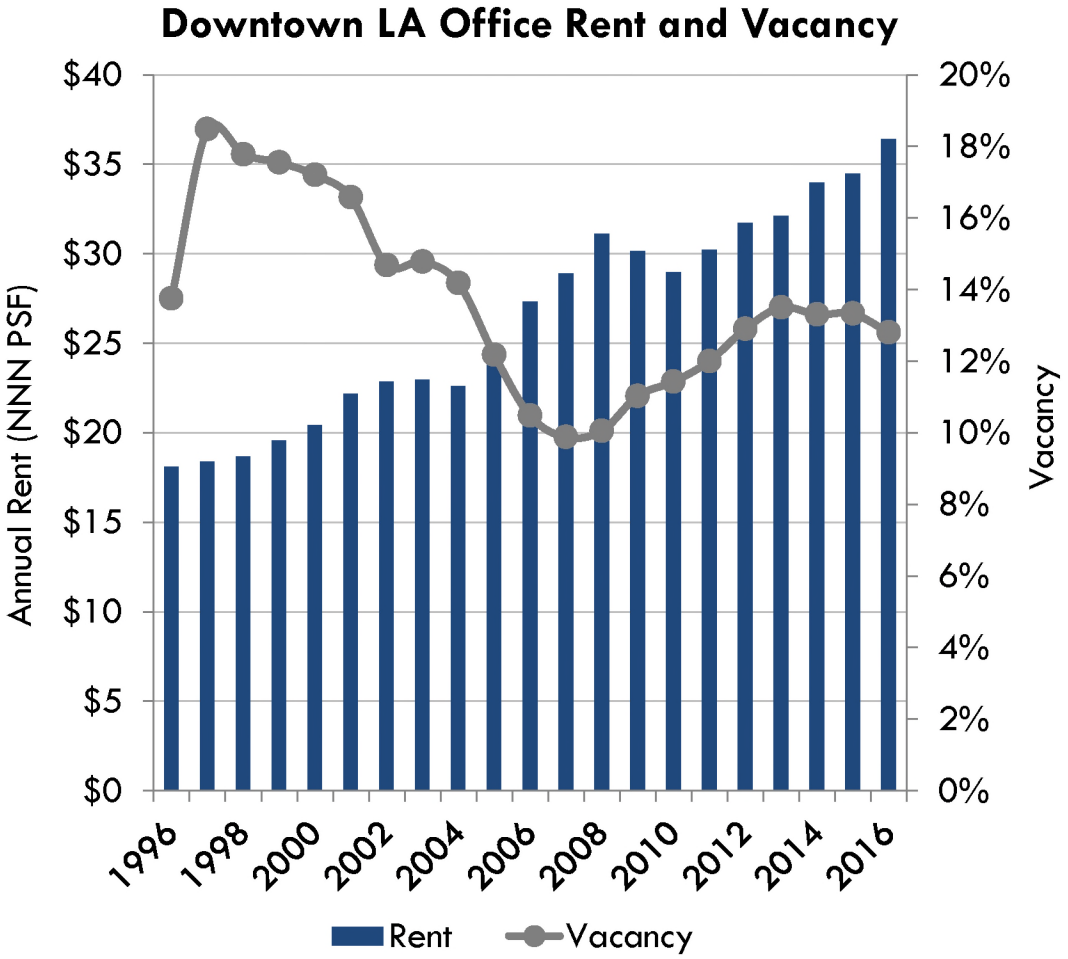
- **63% of rentable building area is in Class A office space**, most of which is located in the Financial District and Bunker Hill.
- Class B office space is somewhat more spread out, while **Class C office space is concentrated in the Historic Core where conversions to residential has significantly reduced inventory.**



Sources: CoStar, HR&A Advisors

Downtown LA's office market has improved significantly since the 1990s, but vacancies are still high.

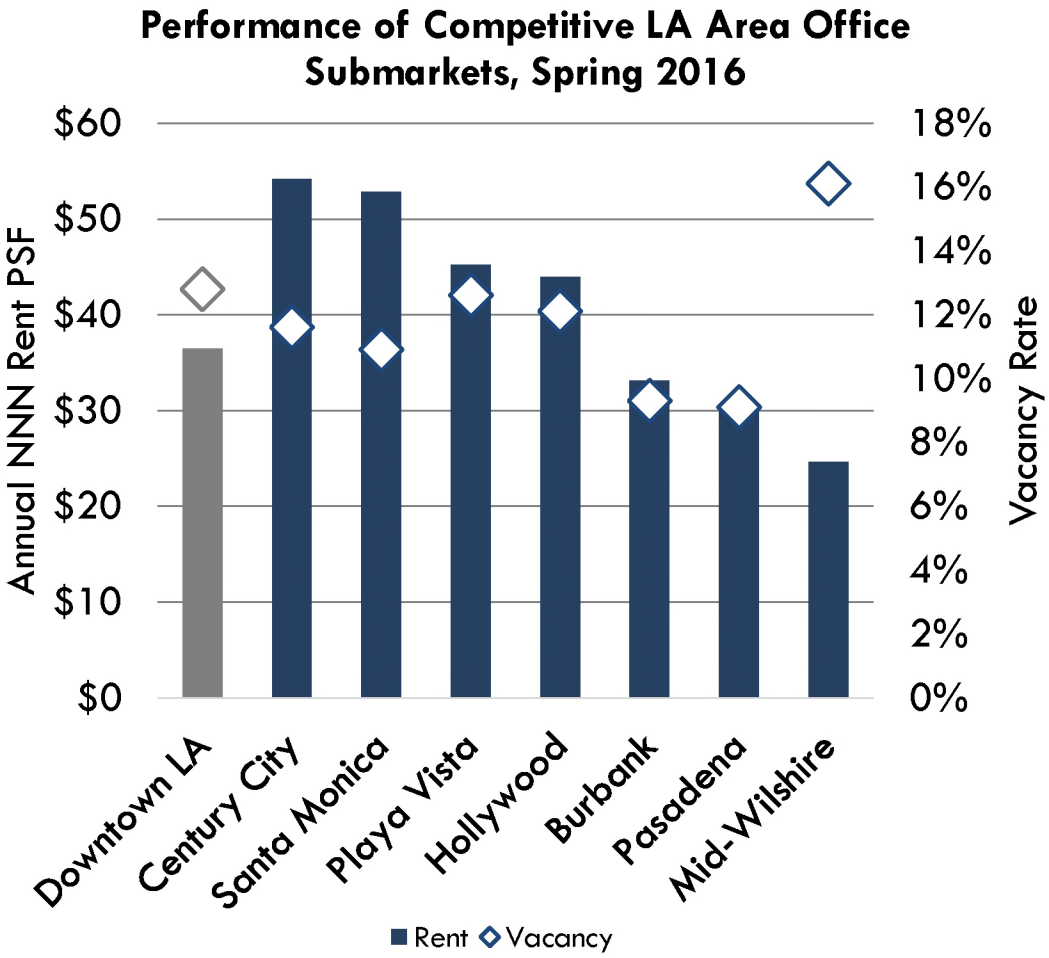
- Despite the decrease in inventory since the mid 1990s, **vacancy rates remain relatively high.**
- **Annual rental rates, however, have been increasing and are now above $35 PSF.** This is likely a reflection of the poorest performing office space being demolished or converted to another use.



Sources: CoStar, The Real Deal, HR&A Advisors

Downtown LA office rents are lower than Westside office markets and there is growing interest from tenants.

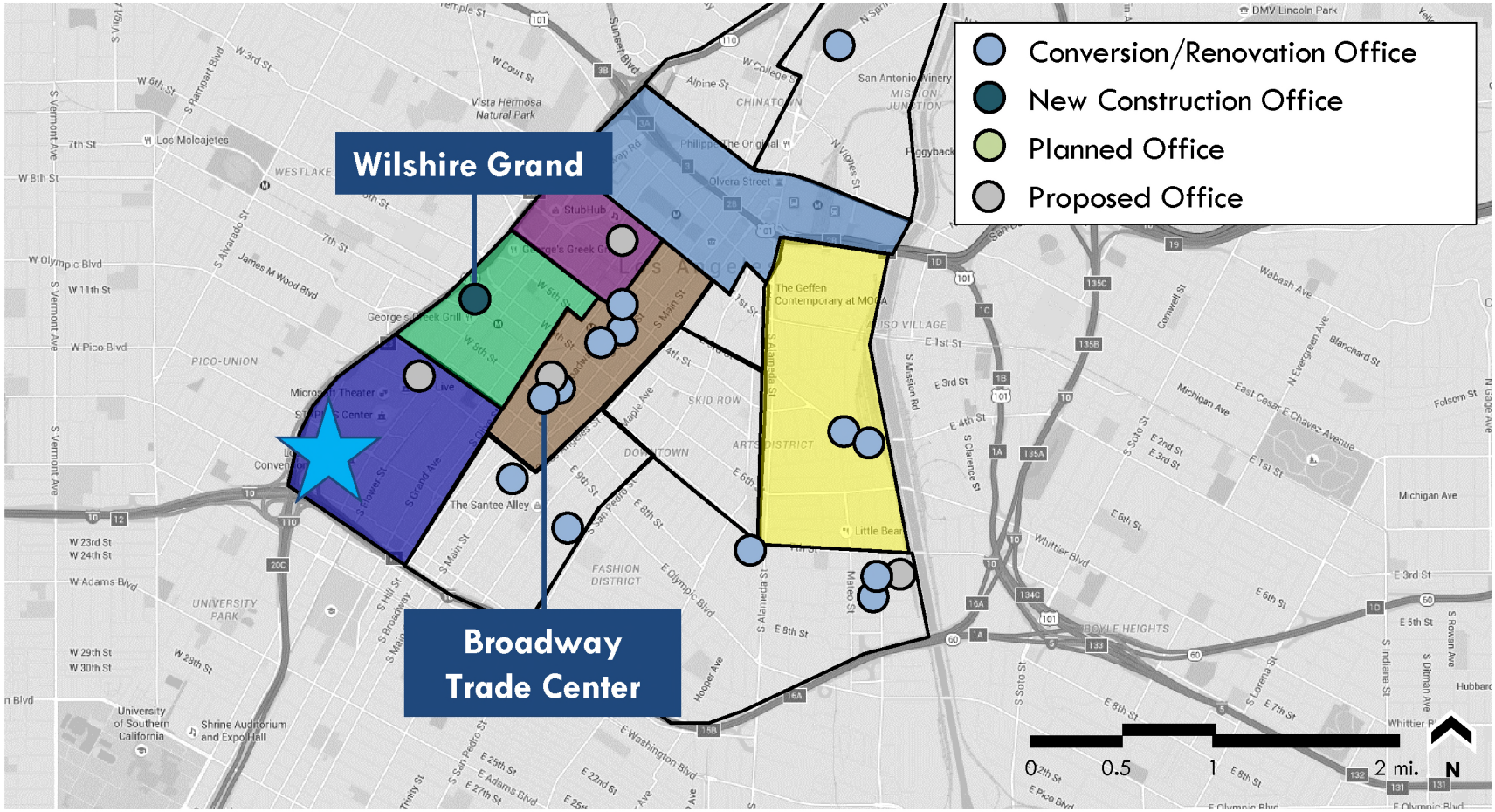
- Overbuilding of Class A properties in Downtown LA has meant that **there is little premium for high-quality space and high vacancies.**
- This trend may also be indicative of a **premium for creative office space in unique** and/or historic spaces that tend *not* to be classified as Class A.



Sources: CoStar, HR&A Advisors

There is significant development momentum in DTLA, with 2.5M SF of office space under renovation, but only 400K SF of Class A space under construction.

Under Construction, Conversion, Planned, and Proposed



Source: HR&A Advisors, CoStar

Office development at the LACC site will compete with character properties in Downtown LA, but typology is likely to resemble new product in Hollywood.







ICON Tower, Hollywood		
STORIES	GSF	FLOORPLATE
14	320,000	23,000 SF

5901 Sunset, Hollywood		
STORIES	GSF	FLOORPLATE
15	275,000	25,000 SF

Columbia Square, Hollywood		
STORIES	GSF	FLOORPLATE
6	250,000	42,000 SF

Office Conclusions | Downtown LA's office market is strengthening, but there is still a significant amount of both competitive and uncompetitive vacant space.

Downtown LA's office market performance is strengthening but still lags behind Westside levels.

- There are **high vacancies, especially in Class A product.**
- Office **rents do not yet support high-rise construction without subsidies.**

Near-term demand may be limited.

- The **pipeline of over 2.9 million SF in Downtown LA may take several years to be absorbed.**
- Most **demand is currently concentrated on the Westside,** although is moving eastward in search of cheaper product.
- There is a growing trend of creative office development (e.g 10-15 stories) in Hollywood at medium densities and significant development at lower densities (e.g 2-5 stories) in Playa Vista.

An innovative developer could capitalize on the LACC site's excellent access and on-site infrastructure.

- A developer **could appeal to creative and media tenants** drawn by adjacency to Live and Staples Center.
- **Shared parking with LACC could increase financial feasibility of mid-rise construction.**
- **As South Park's population grows, there is a potential to capitalize on Downtown LA's strong live-work ethos** on the LACC site.

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LACC Real Estate Revenue Analysis

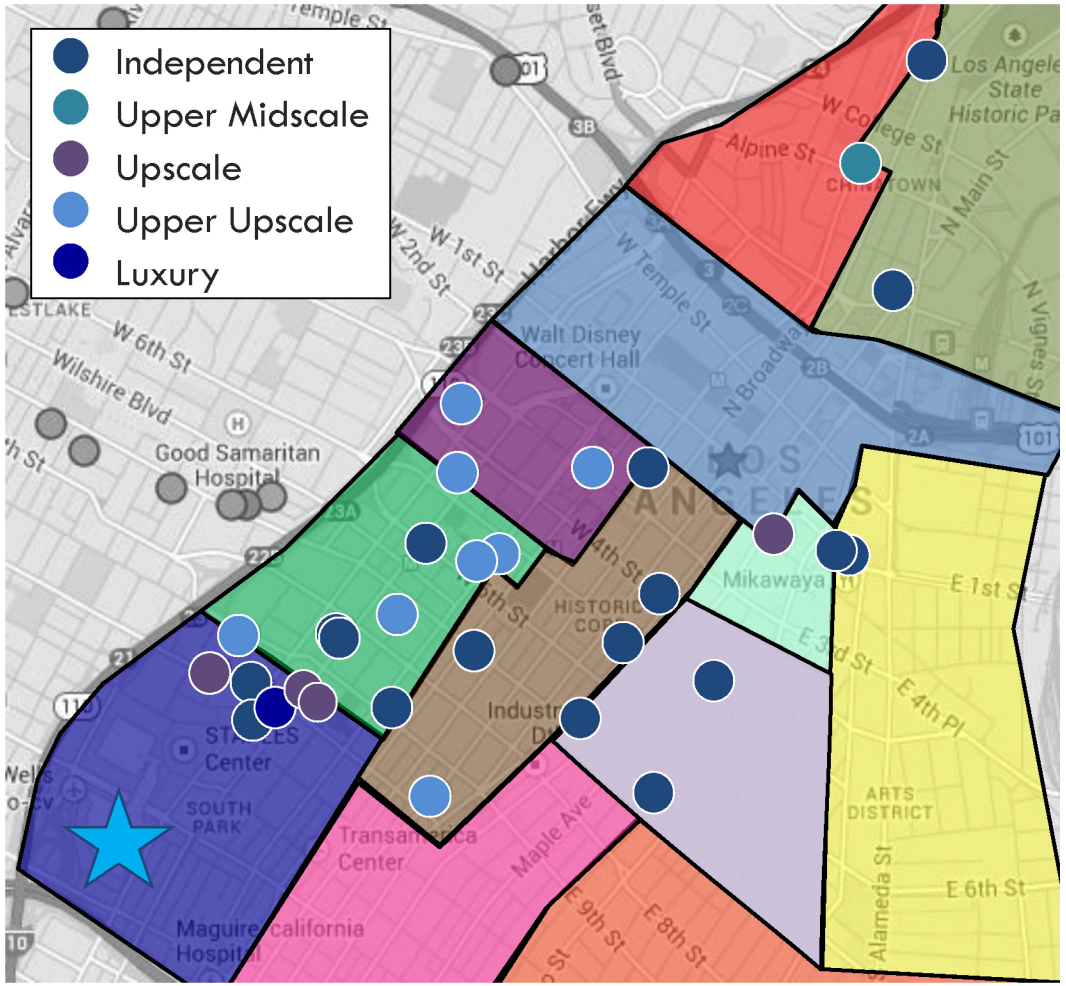
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Downtown LA currently has 29 hotels in operation with a total of 7,691 rooms.

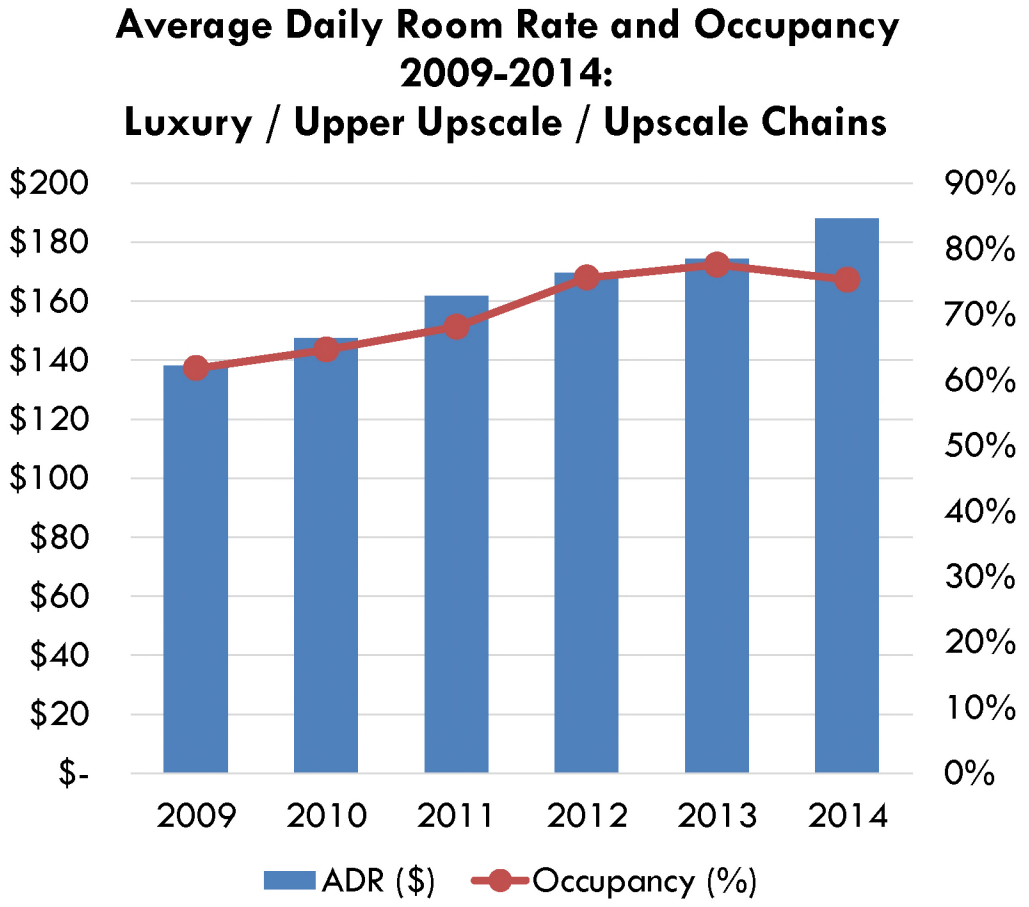
- **The market is dominated by upper upscale hotels,** which make up 48% of the market. Many of these large upper upscale hotels are older and are not commanding premium room rates.
- Luxury hotels account for another 16% of the market.
- There is a very **limited number of existing mid-scale and upper midscale rooms;** together, they make up only 2% of the market.



Source: Smith Travel Research (STR)

The Downtown LA luxury, upper upscale, and upscale hotel market has been performing much better since the Great Recession.

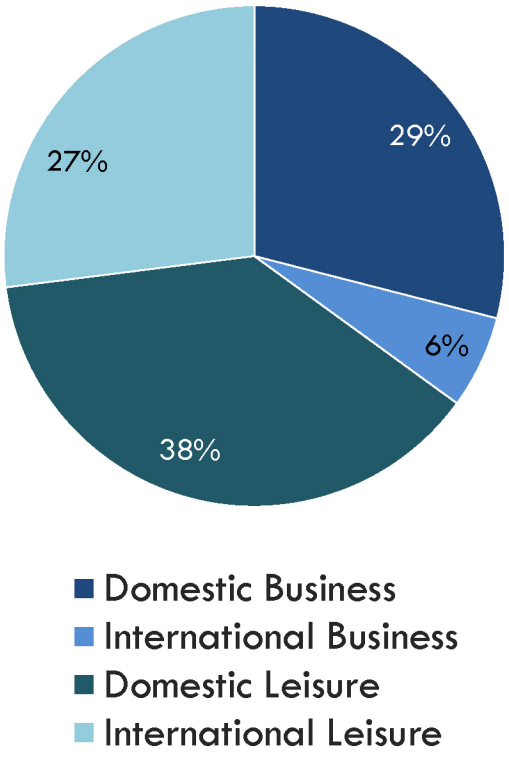
- At the tail end of the Great Recession in 2009, **the occupancy rate in upscale and higher-end hotels was 65%** and average daily room rate was $150 per night.
- **Since 2010, occupancy has climbed to 75% and room rates have climbed to $190;** occupancy is even higher in lower-end hotels, although daily room rates are lower.



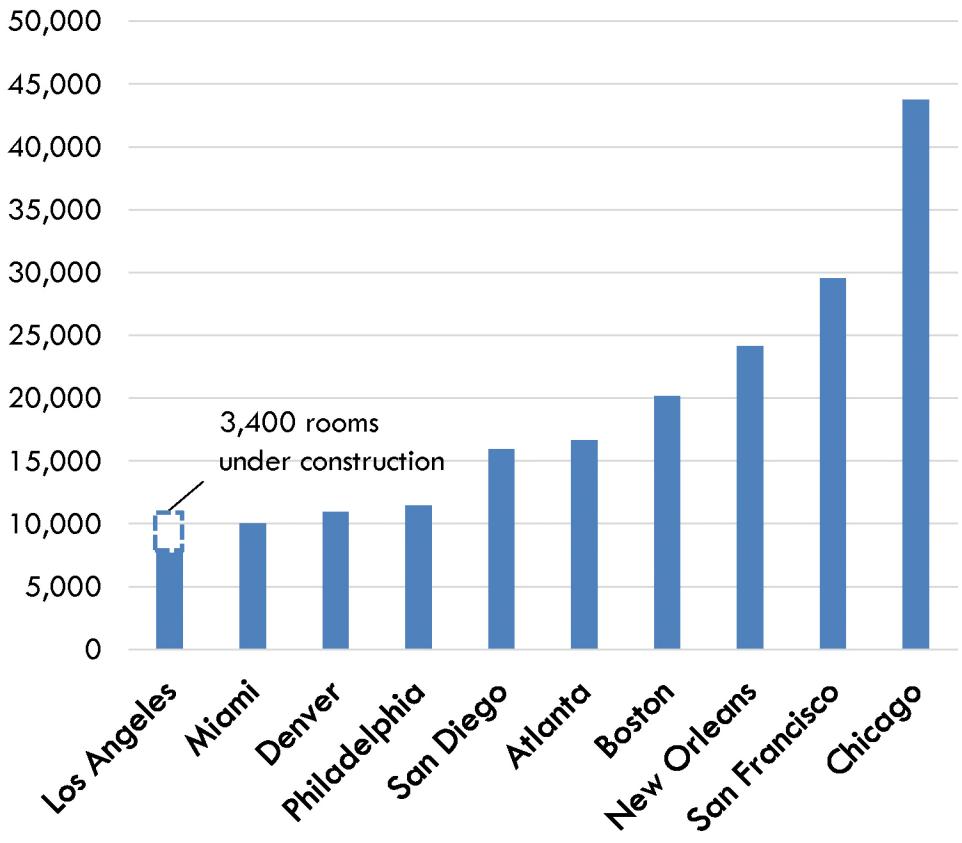
Source: STR

Downtown LA has historically had fewer rooms than other cities' downtowns, reflecting few tourist amenities and a modest capture of the region's visitor base.

Visitation to Los Angeles County by Trip Purpose



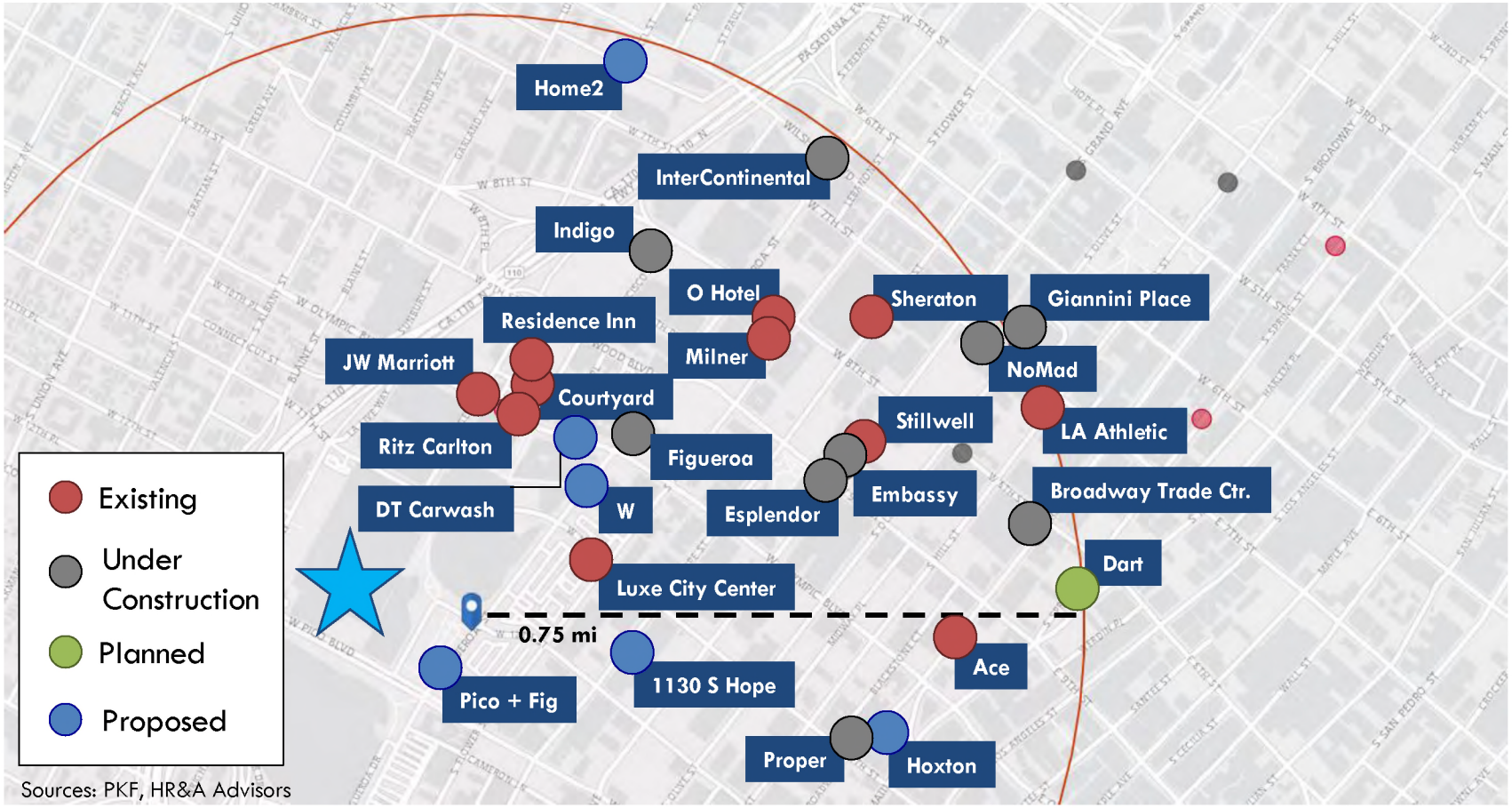
Hotel Rooms In or Adjacent to Central Business Districts



Source: STR

However, within walking distance of the Convention Center, there are 29 hotels with roughly 7,900 rooms existing or in some stage of planning or construction.

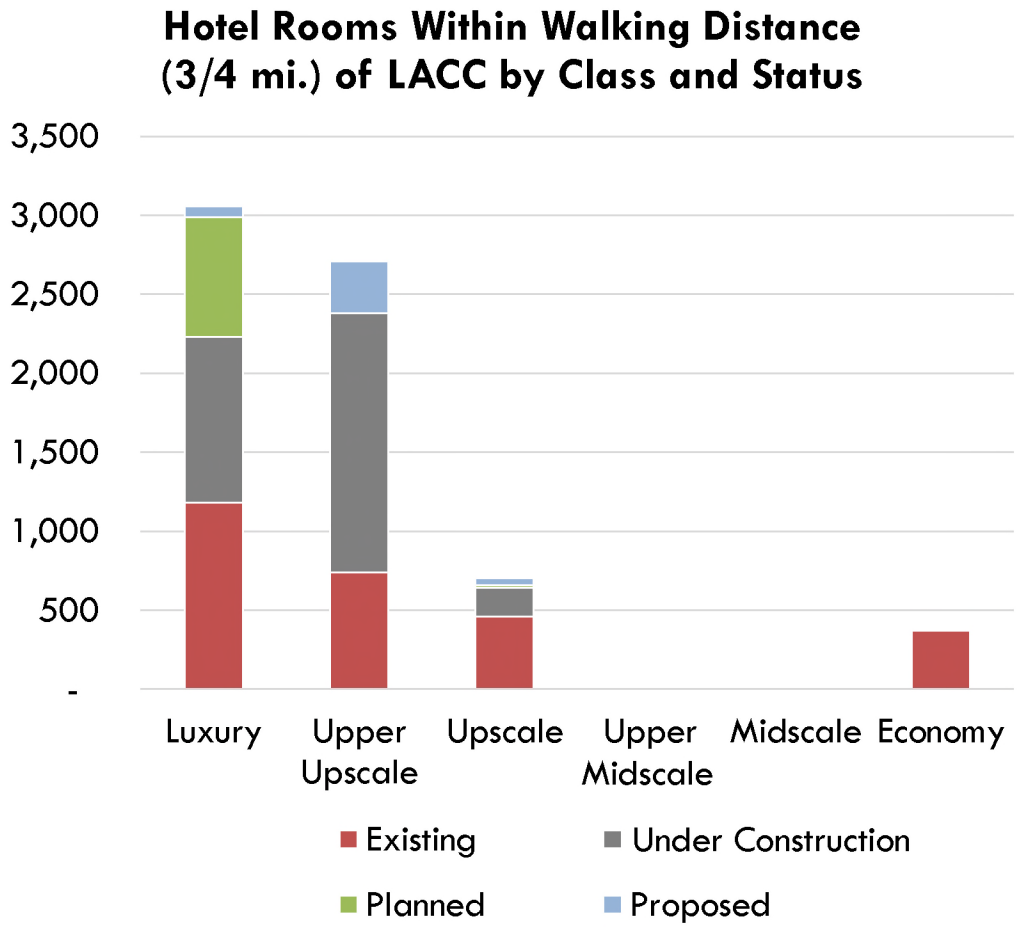
All Existing, Under Construction, Planned and Proposed Hotels within Walking Distance (3/4 mi.) of LACC



Sources: PKF, HR&A Advisors

Of the hotel rooms planned and proposed within walking distance of LACC, a significant number will be a luxury product, followed closely by upper upscale.

- **13 out of the 14 hotels built since 2000 are luxury, upper upscale, or upscale.**
- **The opening of the very large JW Marriott and Ritz Carlton in 2010 have brought more people and activities to Downtown,** thus improving the Downtown LA hotel market.
- It remains to be seen how the unprecedented pipeline of hotel product will affect hotel performance in Downtown LA.



Sources: STR, HR&A Advisors

There is a range of hotel classes around the LACC site; positioning and associated uses may determine the typology for product on the LACC site.







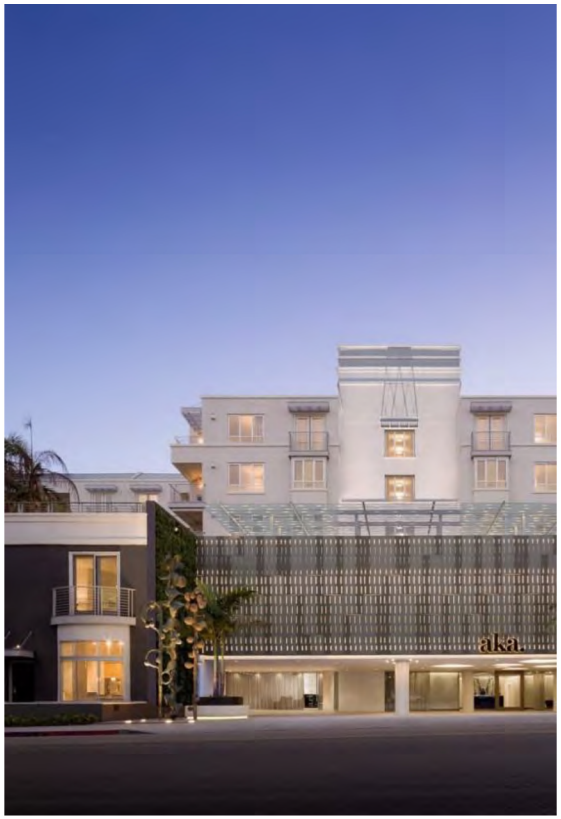
Hotel Indigo		
CLASS	ROOMS	GSF
Upscale	350	275,000 SF

Oceanwide Hotel		
CLASS	ROOMS	GSF (EST.)
Luxury	183	220,000 SF

JW Marriott		
CLASS	ROOMS	GSF (EST.)
Upscale	878	1,000,000

Additionally, high-end, short-term "serviced apartments" are growing in popularity in Downtown LA and other national gateway cities.

- **Serviced apartments are an emerging, but largely untested product in the United States,** but their flexibility to offer short and medium-term rentals has seen success.
- **A serviced product could be incorporated into a hotel, or could be a standalone branded or unbranded product.**
- **Serviced apartments generally collect transient occupancy tax (TOT) on stays of less than 30 days.**



AKA Beverly Hills		
STORIES	GSF	UNITS
19	TBD	145



Level DTLA		
STORIES	GSF	UNITS
32	320,000	300

Hotel Conclusions | Downtown LA's hotel market has grown very rapidly in recent years, reflecting increasing tourist interest and robust public subsidies.

There is significant immediate demand for new hotel rooms, but pipeline hotels will likely absorb most near-term demand.

- Over 3,000 rooms are under construction and another 3,000+ planned or proposed in Downtown LA.
- Almost all new supply is subsidized through tax subventions due to relatively low daily room rates and high land costs.

Sustained growth in demand is contingent upon the ability of Downtown LA to elevate its regional profile.

- This may happen through existing and new demand drivers such as the LACC which will contribute to a larger capture of regional demand.

Future developments must carefully assess market positioning.

- The vast majority of existing and pipeline hotels are upper upscale or above.
- There may be demand for midscale or upper midscale hotels, contingent on financial feasibility or subsidy.

Sources: PKF, HR&A

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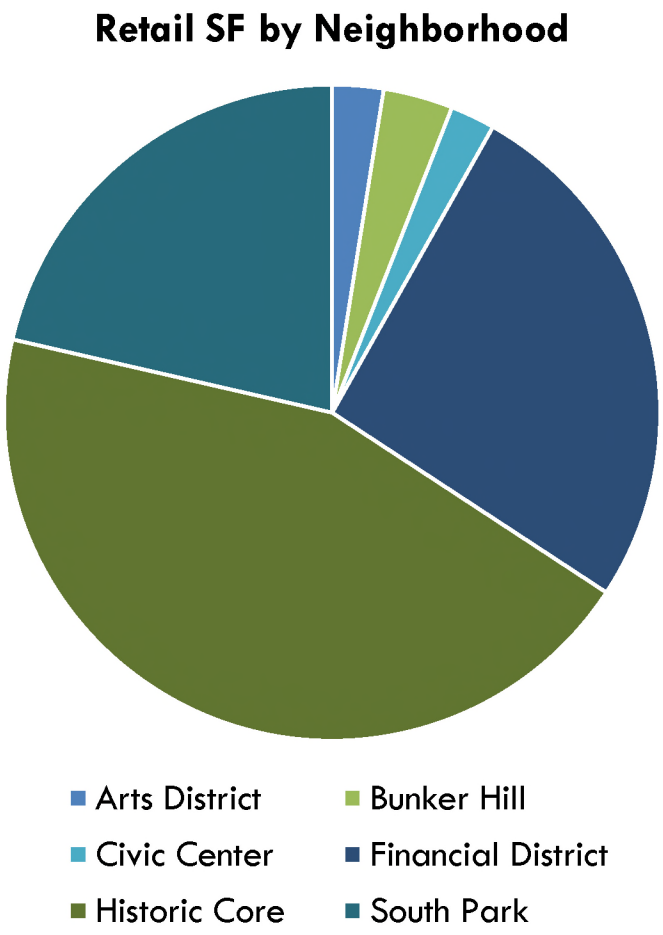
LACC Real Estate Revenue Analysis

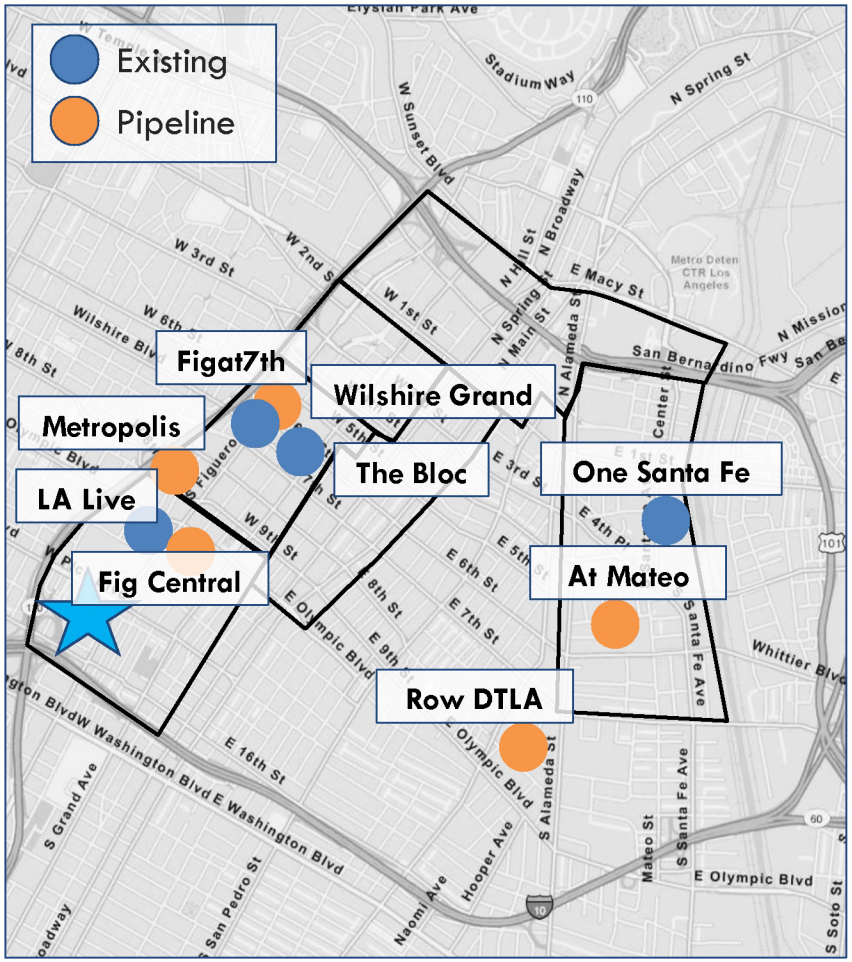
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Downtown LA has 6.2M SF of retail space, mostly in ground floor retail spaces in the Historic Core, but with an increasing number of high-profile retail centers.

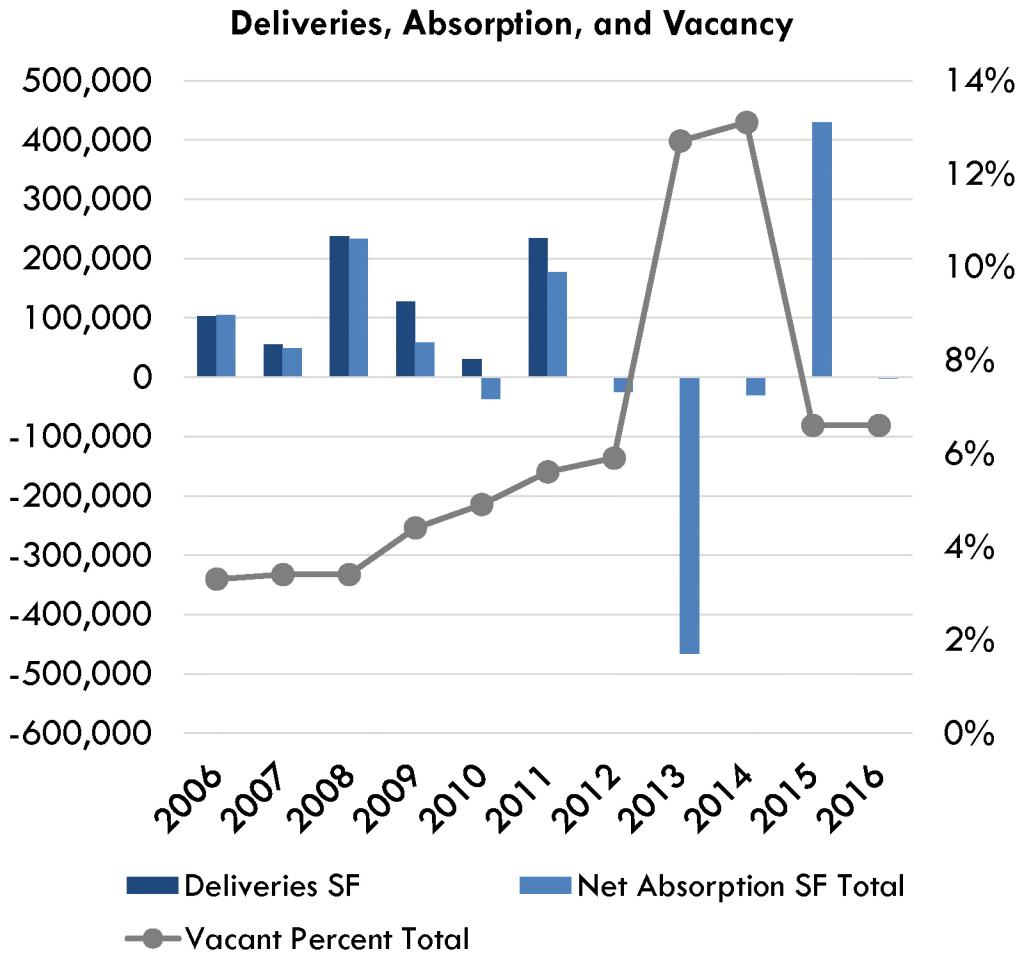




Source: CoStar

400,000 SF of retail has been absorbed in Downtown LA since 2014, driving down vacancy rates.

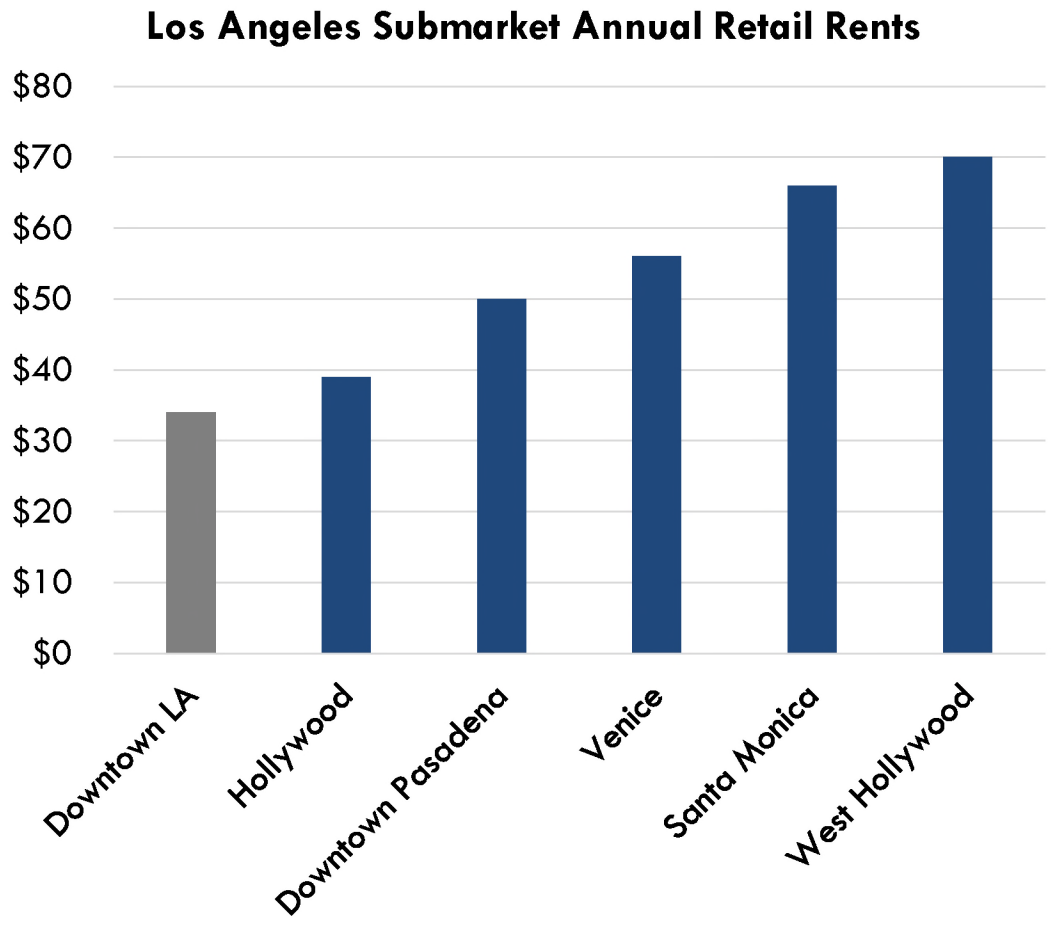
- **Retail vacancy was fairly low, at 3.5% in 2006**, but grew substantially during the Great Recession to roughly 6% and has not dropped to pre-Great Recession lows.
- **Current vacancies have recovered from an artificial bump** as the former Macy's Plaza/The Bloc development was vacated and re-leased.
- Although there has not been a significant amount of new development since the Great Recession, **there are over 2 million SF in the pipeline.**



Source: CoStar

However, annual retail rents in key LA submarkets are lower than other regional submarkets, reflecting lower-quality and wholesale retail tenants.

- With 1.3M SF of retail space and a growing number of residents, data suggests that **the South Park submarket is the best performing retail market in terms of rent and vacancy.**
- However, **demand and interest in Downtown LA is split between the Arts District, Historic Core and South Park**, as each area grows, targeting a unique product and audience.



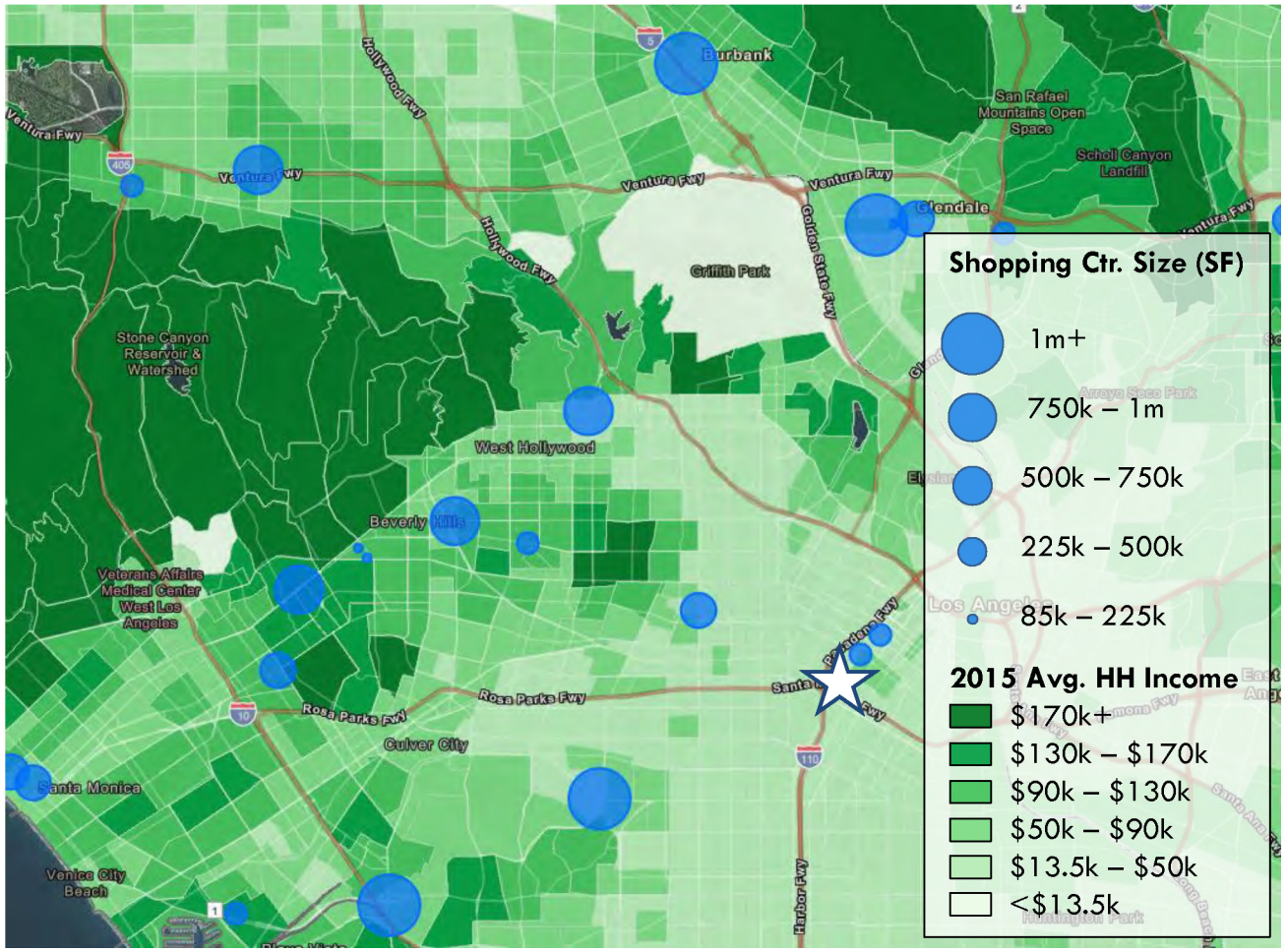
Source: CoStar

Although there are few large shopping centers near the LACC site, nearby household incomes are currently lower than on the Westside and Tri-City area.

- Apart from Fig at 7th and The Bloc, **there are no regional centers in or near DTLA.**
- Although there is a significant daytime population in Downtown LA, **overall HH incomes in surrounding neighborhoods are currently very low,** which may limit new retail potential.

Source: CoStar

Regional, Super Regional and Lifestyle Retail Centers in the LA Basin



The City of Champions project in Inglewood is poised to be a regional entertainment, dining & retail destination, and formidable competitor to LA Live.

- The 298-acre City of Champions project will be **anchored by an 80,000-seat NFL stadium as well as an indoor entertainment venue with seating for 6,000.**
- Additional planned uses include **890,000 SF of retail, 780,000 SF of office space, a 300-room hotel, 2,500 residential units,** and 25 acres of public parks.
- The project's **entertainment, dining, and retail uses will serve as a new regional attraction and likely as a competitor to LA Live.**







Source: Hollywood Park Land Company

The existing uses adjacent to LACC and planned development create the opportunity for a variety of retail environments.

Serve upper floors with amenities



One Santa Fe

Meet demand for small- to medium-format retailers



Westfield Topanga

Draw on and strengthen existing entertainment uses



Horton Plaza



Figat7th

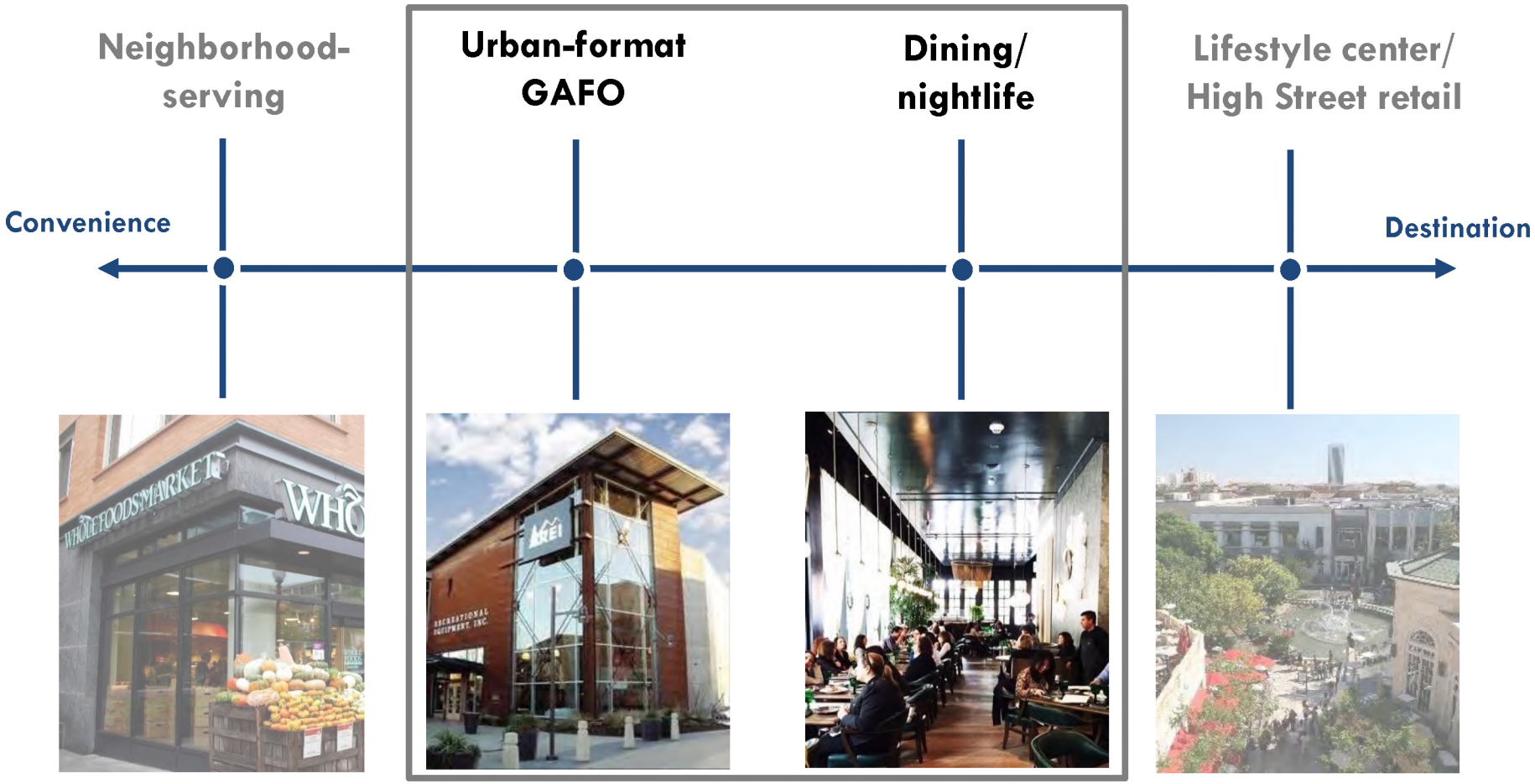


The Point, El Segundo



Ferry Building

Many retail categories are well-supplied near the site, but it could support both "urban format GAFO*" and programmed, "experiential" food/beverage uses.



*General merchandise, Apparel, Fashion and Other retail ("GAFO")

Retail Conclusions | Downtown LA is growing in regional prominence and the LACC site has the potential to capture retail growth, building on LA Live.

LA Live's success parallels the growth in popularity of open-air lifestyle centers in the region.

- LA Live's lack of substantial, traditional retail offerings could be a significant market opportunity, but **food & beverage uses will likely be the core retail product.**
- Market positioning will be highly-dependent on complementary land uses and location on the LACC site.

Downtown LA has not been a traditional retail destination, but is poised to transform with increasing visitation and good access.

- **Over 600,000 people drive past the LACC site every day**, and Downtown LA has a growing residential population.
- Retail rents have been stagnant in Downtown LA, but **new retail centers like Figat7th and the under-construction BLOC, Fig Central and Wilshire Grand suggest that development interest is growing** and well-designed centers can be successful.
- Mixed-use developments near the LACC site are expected to have large, high-end retail components that could help create a critical mass of retail in the area.

Retail can be an amenity that may support faster absorption and higher rents for other portions of mixed-use developments and at adjacent private development.

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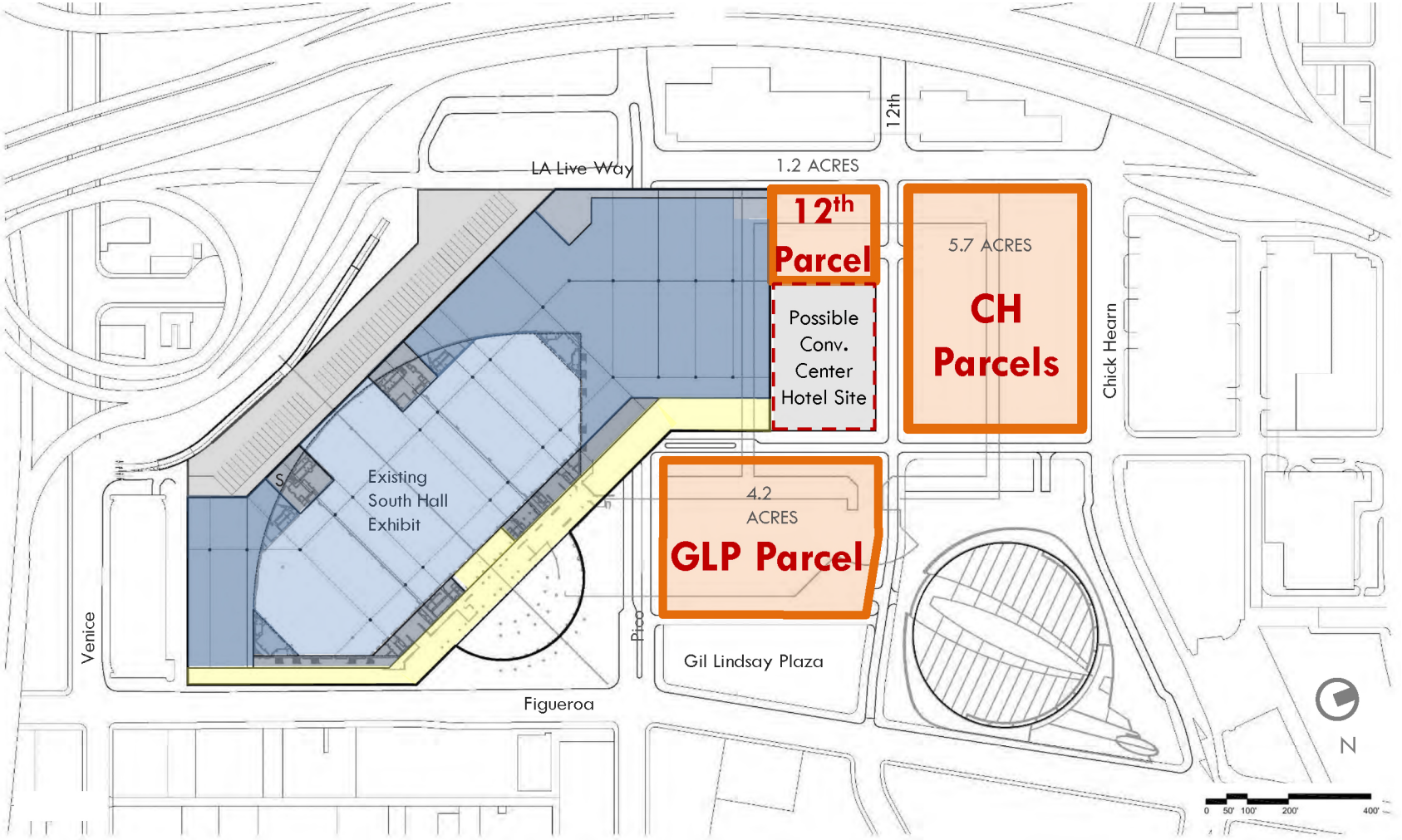
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A renovated and expanded Convention Center could make as much as 15 acres of land available for private real estate development.



Based on HR&A's demand analysis*, non-residential development on the LACC site is likely to be built out over 12 or more years.

- Development on Gilbert Lindsay Plaza (GLP), **bolstered by a vibrant retail and hotel component,** may kick-start development at the LACC site.
- Configuration of the 12th Street parcel excludes land for a potential convention hotel, which limits potential for a high-intensity office use.
- **The Chick Hearn (CH) parcel will need to be developed in multiple phases.**

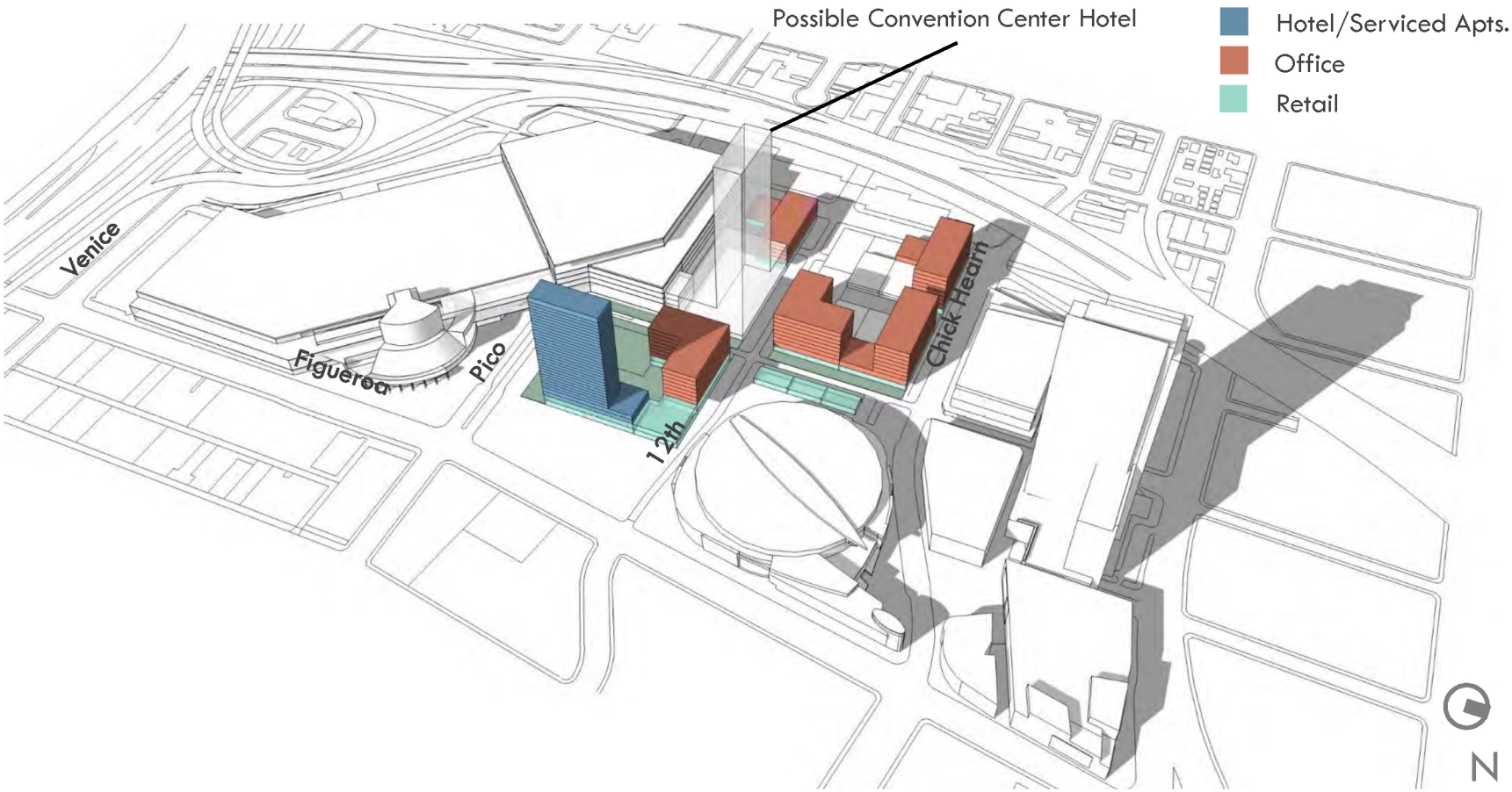
Illustrative Development Program ('000s SF)

Use	GLP	12th Street	CH (Phased)			Total
			1	2	3	
Office (SF)	250	125	250	250	250	**1,125**
Retail (SF)	150	10	15	15	15	**205**
Serviced Apt.	250/ 250 keys	-	-	-	-	**250**
Hotel	175/ 200 keys	-	-	-	-	**175**
Total	**825**	**135**	**265**	**265**	**265**	**1,755**
Acres	4	1	2	2	2	11
FAR Yield	5	2.5	3	3	3	3.5
Construction Start Year	2022	2024	2026	2030	2034	

*See Appendix 1 for details. The illustrative program is based on market-supportable office absorption, but does not necessarily reflect highest-and-best use.

A non-residential development program is likely to be developed at a lower density than most major projects in Downtown LA.

Illustrative Development Program



The City has a variety of options to monetize its land holdings.

One-Time Disposition

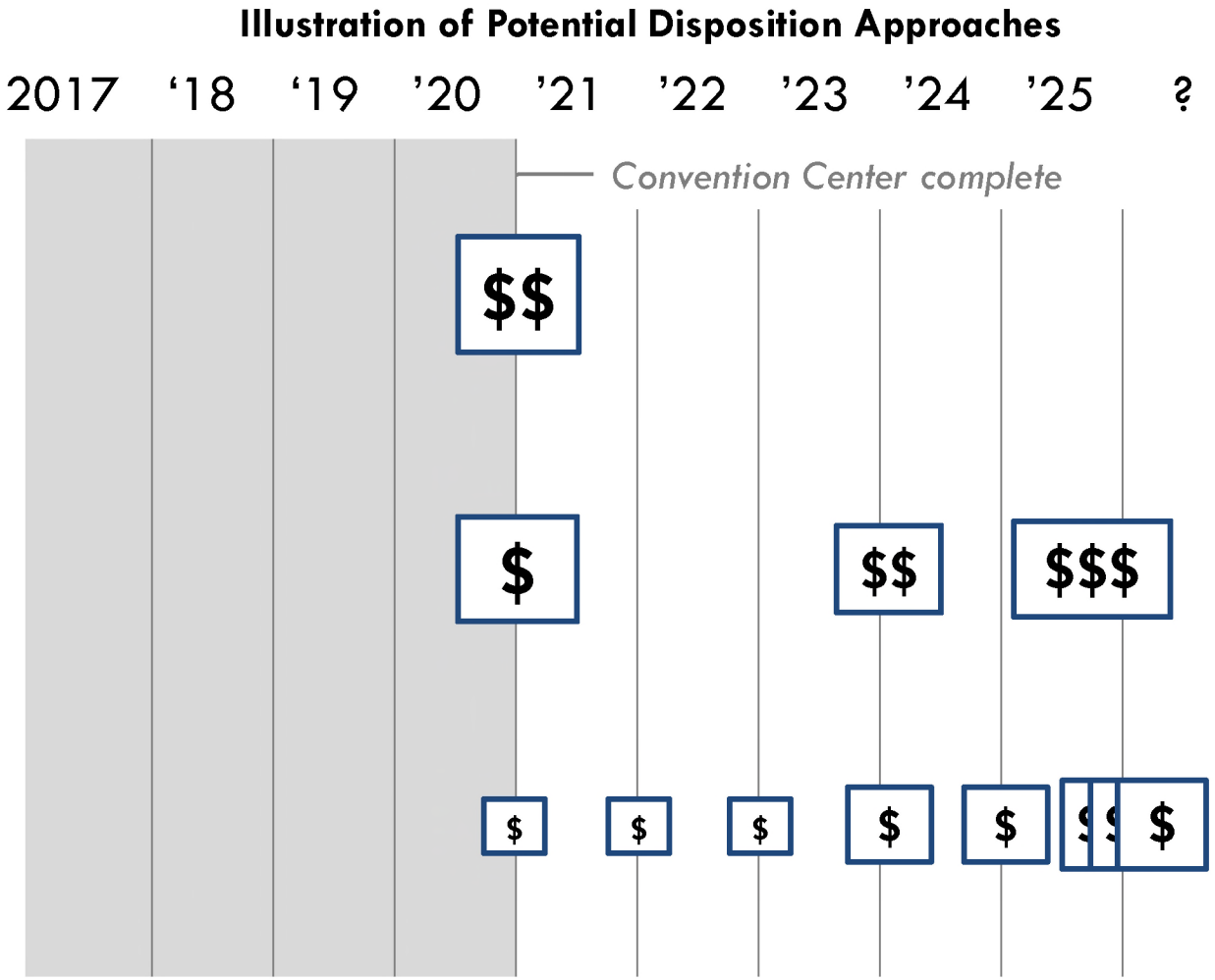
Disposition of all parcels close to when they become available for development

Phased Disposition

Market-aligned, phased disposition with a series of one-time payments

Ground Leases

Phased disposition w/ annual ground lease payments



The City can maximize value by taking on more development risk and receiving revenue over a long-term period.

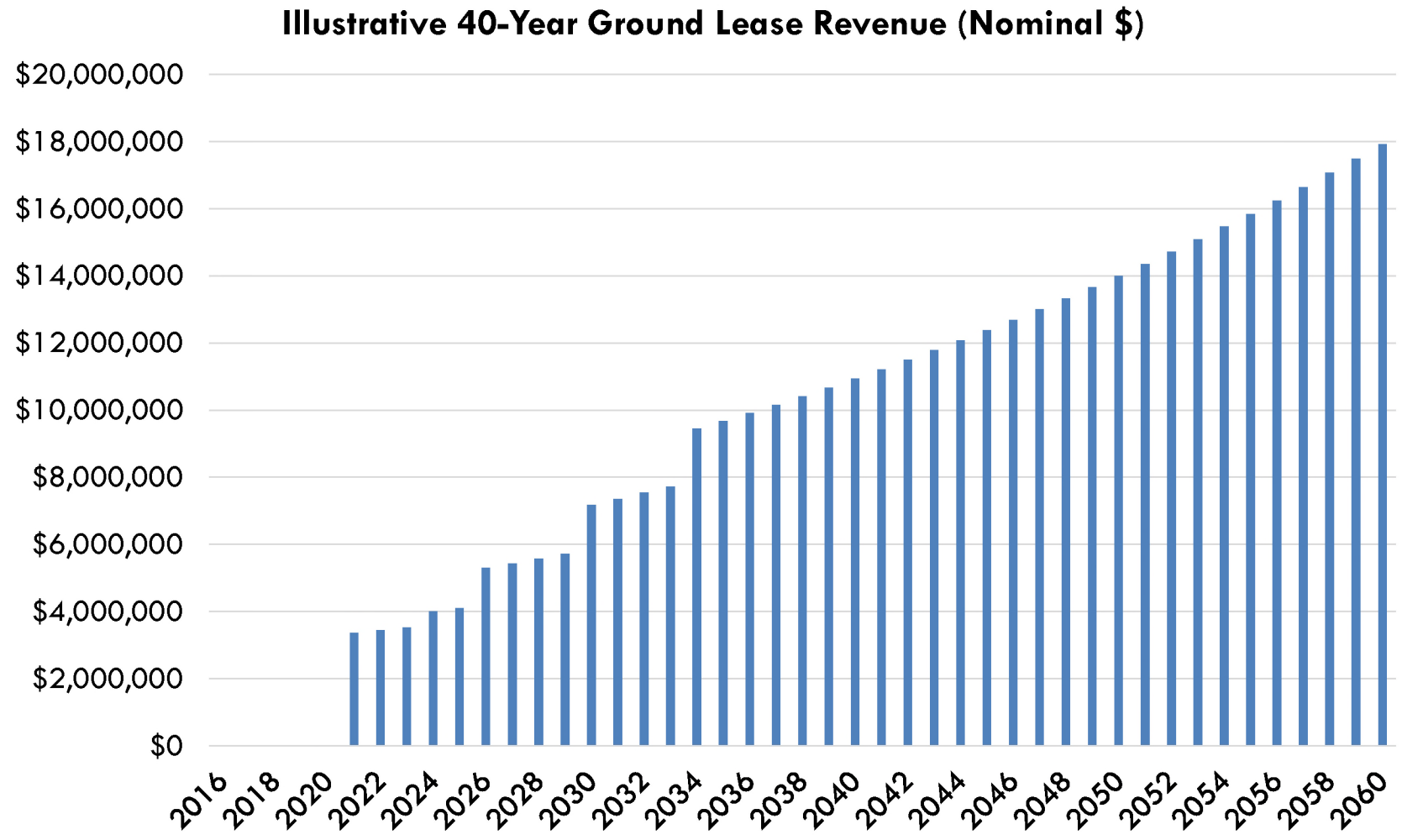
Net Present Value of Disposition Proceeds, 2016 $[1]

Parcel	One-Time Disposition	Phased Disposition	Ground Lease Revenue Years 1-40[2]	Future Ground Lease Revenue[3]
Gilbert Lindsay Plaza (GLP)	$60M	$60M	$70M	$25M
12th Street (12th)	$5M	$5M	$5M	$5M
Chick Hearn (CH - *3 Phases*)	$20M	$40M	$45M	$25M
Total Proceeds	**$85M**	**$105M**	**$120M**	**$55M**

- As shown in the *One-Time Disposition* approach, a **developer would discount the value of land by their cost of capital,** affecting the amount they would pay up front. The City would transfer all real estate risk to the selected developer.
- As shown in the *Phased Disposition* approach, **the City can realize more value by taking on master development risk.**
- **A ground lease allows the City to capture long-term upside** and benefit from its relatively low cost of capital.
- **Reducing parking could increase land marketability and value;** a 10% reduction in parking spaces could generate an additional $10 million in lease revenue, while a 50% reduction could generate an additional $60 million [4].

[1] Analysis methodology included in Appendix 2.
[2] Ground lease revenue available to the City from a series of leases, with the first being the GLP parcel, beginning at LACC completion.
[3] Estimated ground lease revenue from the remainder of the leases after availability payments have been retired. Assumption of a 99 year ground lease.
[4] Net present values.

Ground lease revenue will grow incrementally as new leases are initiated. After that, it is assumed that revenue will grow with inflation.



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In addition to land disposition proceeds, new development will generate tax revenue for the City.

- This analysis reflects **tax revenues to the City of Los Angeles at the stabilization of each parcel,** discounted to 2016.
- **Gilbert Lindsay Plaza generates roughly two-thirds of the revenue shown at right upon stabilization in 2024** because of the illustrative parcel's sizable development program and TOT-generating hotel and Serviced Apartments.
- **TOT estimates reflect a 50% subvention of City revenues,** aligned with similar deals in Downtown LA.

Estimated Annual Stabilized Year City of LA Tax Revenues (2016 $)[1]

Tax	Revenue
Property Tax/ Possessory Interest Tax[2]	$4M
Motor Vehicle License Fee (In Lieu)	$1M
Sales Tax	$0.5M
Transient Occupancy Tax (TOT)	$3M
Parking Tax	$0.5M
Gross Receipts	$1M
Subtotal	**$10M**
TOT Subvention	**($1M)**
Total	**$9M**

[1]Does not include Utility Users Fee revenues

[2]Based on capitalized value

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Office demand was calculated based on projected regional job growth, and assuming a growing capture in DTLA as Westside office markets reach capacity.

- LA Basin historic and projected job growth
- Office-using share of jobs
- Assumed SF of office space per employee
- Less absorption of LA Basin office vacant space, assuming structural vacancy
- Downtown LA capture based on share of historic job growth
- Less pipeline units
- Estimated LACC site capture

Net Demand

We project little short-term demand due to pipeline projects, but there is **potential to capture between 50-90k SF** of office space annually after 2020.

- Downtown LA's **capture of regional office-using employment growth is assumed to grow significantly** over the next decade.
- That said, the 3 million SF of **pipeline office development in Downtown LA will absorb all demand for office space between 2016 and 2020.**
- After 2020, the site may be able to capture between **50,000 - 90,000 SF of new office space annually.**

Downtown LA Office Demand

		Annual Demand 2020+
Office Square Feet per Employee		225
LA Basin Office-Using Job Growth		15,000
Supportable SF in the LA Basin		3,600,000
Fair Share Capture for Downtown LA	*15%+*	560,000
Less Current Vacant Office Space		*Varies*
Less Current and Unabsorbed Pipeline		*Varies*
Est. Supportable SF in Downtown LA		**450,000**
LACC Capture		
Low LACC Capture	*10%*	45,000
Medium LACC Capture	*15%*	70,000
High LACC Capture	*20%*	90,000

Hotel demand was calculated based on historic growth in room night demand in Downtown LA.

- Projected Downtown LA and County-wide room night growth
- Downtown LA Capture for County-wide room night demand
- Additional room night growth from LACC expansion
- Less existing and pipeline rooms (2020 and 2025)
- Supportable rooms at healthy vacancy rate

Net Demand

Pipeline hotel rooms are likely to absorb most demand through 2020; if vacancies remain the same, there may be demand in 2025 for one additional upscale hotel.

Unmet Upscale and Up Room Demand in Downtown LA (2016-2025)

		2016	2020	2025
Annual Room Night Demand	5.5%	2,200,000	2,600,000	3,200,000
Additional Demand from LACC Expansion		-	-	240,000
Supportable Rooms with Healthy Occupancy	75%	8,000	10,200	12,700
Less: Existing and Pipeline		(7,700)	(11,700)	(12,500)
Unmet Room Night Demand		**300**	**-**	**200**

- Downtown LA's **annual room night demand is assumed to continue to grow at 5.5% annually**, far outpacing regional room night growth.
- **Current pipeline product is likely to capture all near-term demand.**
- However, by 2025, demand will outpace supply, creating **unmet demand for one new hotel**; future demand will depend on Downtown LA's increasing regional prominence and future pipeline.

Retail demand was calculated through a "gap analysis" of unmet spending potential and estimates of hotel visitor and day-trip spending.

- Existing and future resident and employee spending potential
- Less current sales in South Park (and future sales at pipeline developments)
- Supportable space based on average retail sales per square foot by category
- Estimated capture based on site location of resident/employee spending potential
- Los Angeles hotel and day-trip visitor spending potential
- Supportable space based on average retail sales per square foot by category
- Estimated capture based on likelihood of existing LA Live spending capture

Gross Demand

Analysis indicates that there is unmet demand from nearby residents/employees. Strong retail offerings could capture a significant amount of visitor spending.

- There is significant unmet demand from current and future residents and employees within South Park for certain retail categories.
- However, **only a small share of neighborhood demand could be captured on the site** because of its relative isolation and offerings elsewhere in Downtown LA.
- A significant share of demand from visitors to LACC and LA Live could be captured with **a dynamic food/drink product and curated retail and entertainment** and good physical connections to LA Live and Staples Center.

South Park and LACC-Area Retail Demand (Current/Future)

Category	Supportable SF	LACC Capture	Site Potential
***Unmet** South Park Resident/Employee Spending Potential*			
General Merchandise	235,000 SF	10%	24,000 SF
Furnishings & Electronics	50,000 SF	25%	12,500 SF
Sporting, Books & Music	35,000 SF	25%	9,000 SF
Grocery	30,000 SF	0%	0 SF
LA Live and Convention Center Visitor Demand			
Restaurants and Bars	470,000 SF	20%	95,000 SF
Retail and Shopping	250,000 SF	15%	38,000 SF
Entertainment	75,000 SF	5%	4,000 SF
Total South Park/LA Live			**180,000 SF**

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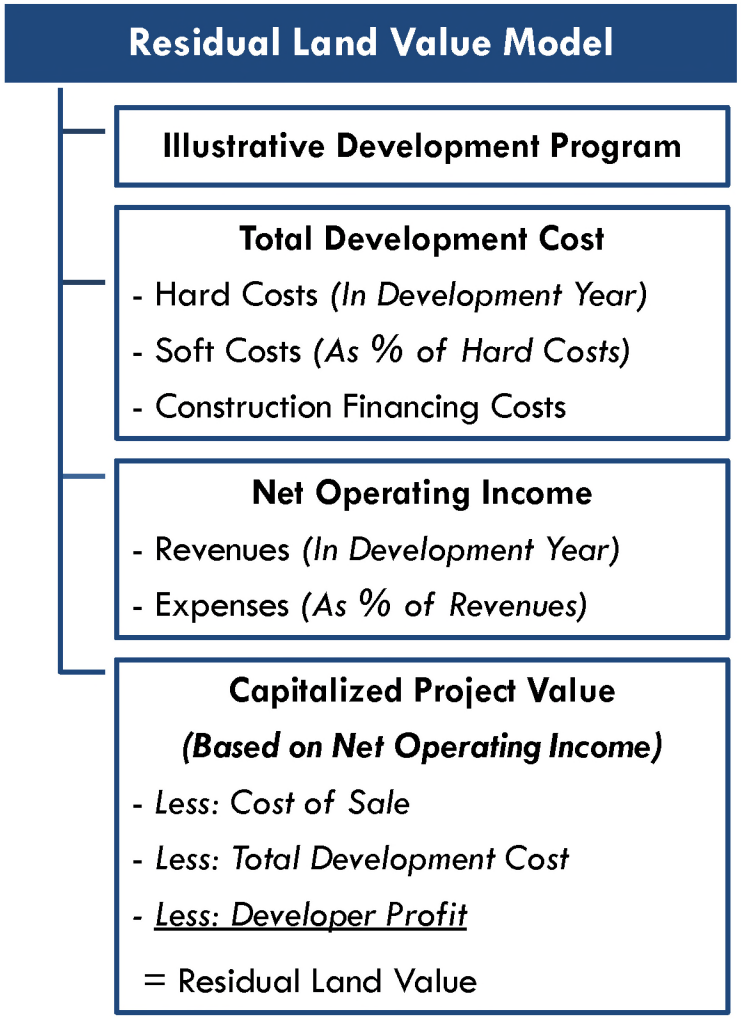
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To identify how a developer would value land, HR&A prepared a residual land value analysis for each of the five site parcels.

- A **residual land value analysis determines the land value by comparing market value against development costs.**
- The analysis **identifies net operating income and construction costs at the year of development** using assumptions for rent growth and cost growth.
- All land value estimates are illustrative; market conditions are subject to change, based on **market conditions and the program envisioned by the ultimate developer.**



Revenue assumptions are based on current market conditions and are assumed to grow at rates similar to historical trends.

Use	Rent (2016$)
Office	$4.00 PSF (Modified Gross)
Retail	$3.75 PSF (NNN)
Serviced Apt.	$3.80 PSF
Hotel	$250/night
Convention Hotel	$200/night

- Office, retail, serviced apartment **rents and hotel ADRs are assumed to grow at an average rate of 3.5% annually;** convention hotel ADRs are assumed to grow at 2%.
- **All rents assumed to grow by an additional 500 basis points in 2020** to reflect various neighborhood development milestones, including the opening of the regional connector, stabilization of Metropolis and Fig Central and a critical mass of occupied residential and retail product in South Park.
- **Parking revenues are assumed only for office and retail product;** parking revenues from hotel are included as non-room revenue.

Source: HR&A analysis of CoStar, STR and PKF current and historical data

In addition to revenue, residual land values are highly sensitive to development cost, parking requirements, occupancy, and cap rates.

Use	Total Development Cost/GSF[1]	Parking Ratio	Occupancy	Cap Rate
Office	$570	1/500 SF	90%	5.50%
Retail	$650	1/100 - 1/250 SF	95%	6.00%
Serviced Apt.	$520	1.0/Key	80%	4.25%
Hotel	$610	0.60/Key	75%	6.75%
Convention Hotel	$560	0.35/Key	70%	7.25%

- **Construction costs and tenant improvements assumed to grow at 3.2% annually.**
- **No shared parking is assumed.**

Average cost of $30K per structured stall, $35K per subterranean stall.

- **No affordable housing or affordable housing linkage fee are assumed.**

[1] Inclusive of associated parking costs

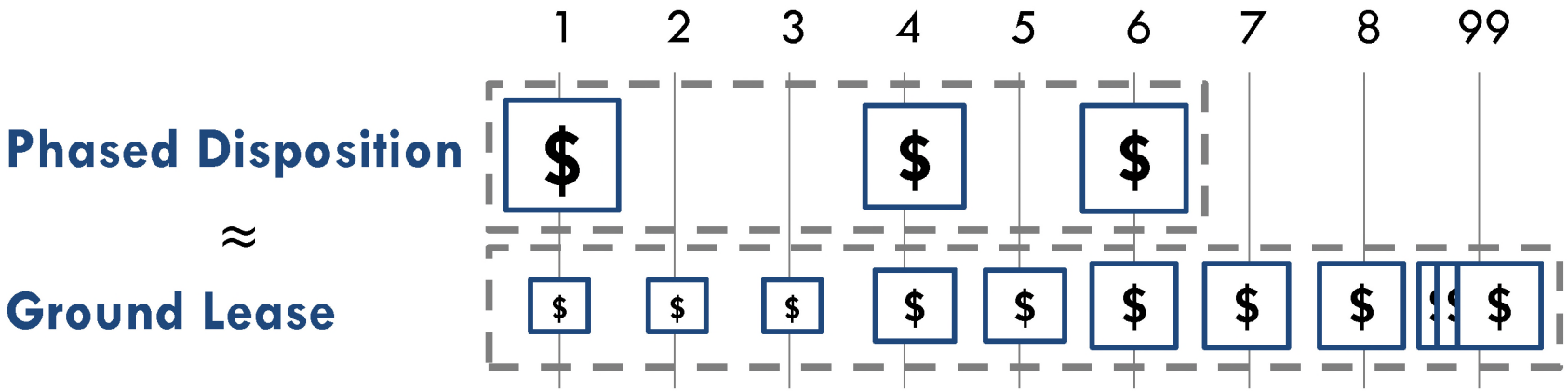
Sources: Marshall & Swift, LA Department of City Planning, CoStar, PKF, STR, RERC, HR&A Advisors

Residual land values were tested for current market conditions; recent land transactions in Downtown LA reflect residential land use.

Use	Estimated Residual Land Value / GSF Building Area	
Office	$25	
Retail	$60	
	Without TOT Subvention	*With 50% TOT Subvention*
Hotel w/ Serviced Apartments	$50	$90
Hotel	$0	$80
Convention Hotel	-$205	-$155

- The residual land values per gross square foot (GSF) of building area shown above are reflective of **current rents and construction costs.**
- Although close in value per GSF, **Serviced Apartments are able to generate greater land values** than Retail or Hotel because they can be developed at higher densities. Recent, large land sales in Downtown LA, including Metropolis and Oceanwide Plaza are between $60-$75/GSF and are driven by residential product.
- Even with a 50% TOT subvention, a **convention hotel would still require significant further subsidy.**`

The residual land value is often a basis for identifying a market-supportable ground lease payment.



- **Developers are likely to pay the same amount for a ground lease in net present value terms,** discounted at their weighted average cost of capital (assumed to be 8%), as compared to a fee disposition.
- Assuming annual payment growth tied to inflation, **a developer would make annual payments at roughly 5.5% of residual land value** at the time of disposition.
- Because the City will discount the value of payments at their cost of capital (assumed to be 5.5%), **the long-term value of a ground lease to the City may be greater than fee disposition.**
- **This analysis is a conservative estimate of revenue, as the specific ground lease structure will be negotiated at initiation;** key variables include annual payment, annual growth and participation in either building revenue or capital events.

Appendix C

Construction Phasing for the DBFOM Path

C. Construction Phasing for the DBFOM Path

The DBFOM option divides the project's construction into two phases (1A and 1B) with multiple stages within each phase. Construction activities will be scheduled to have minimal impact on the operation of the convention center and its loading docks. In fact, with the exception of stage 2.2, which has the shortest duration of all stages (1.5 months) and impacts 17 docks, all other stages will either have no impact or will increase the number of docks available for service. A description of all the construction stages is outlined below and includes illustrations highlighting the existing building, alongside any areas of demolition or construction that will occur during that stage of work. The colors depicted in each diagram represent the following:

Color legend for construction phasing figures:

- Existing
- Demolition
- Under Construction
- Enclosed Construction Complete
- Exterior Construction Complete

C.1 Phase 1A

In phase 1A, approximately 1.57m ft^2 of new space will be added to the South Hall, it includes a contiguous exhibit space, meeting rooms and ancillary spaces. At the end of construction phase 1A, convention center will be fully functional with a contiguous exhibit space of 494,000ft^2 During phase 1A, the contractor will be required to work around the event schedule having no or limited impact on the operations of LACC. The contractor would also be required to coordinate with concessionaires and food service providers and with the City to potentially consolidate events and vacate areas in anticipation of construction start of specific areas. In Arup's opinion, the above mentioned activities are critical to successfully implement phasing approach to construction. Phase 1A comprises three different stages of work.

C.1.1 Stage 1

In order to maintain business continuity during stage 1, new ramps will be constructed first and utilities will be relocated before demolition of the existing ramp and a portion of the West Hall. During this stage, the partial demolition of the West Hall and ramp and demolition of the existing ramp will be completed.

- Loading docks impacted: none (total 34 docks in service)
- Duration: 4.5 months
- Parking spaces available: 5,334

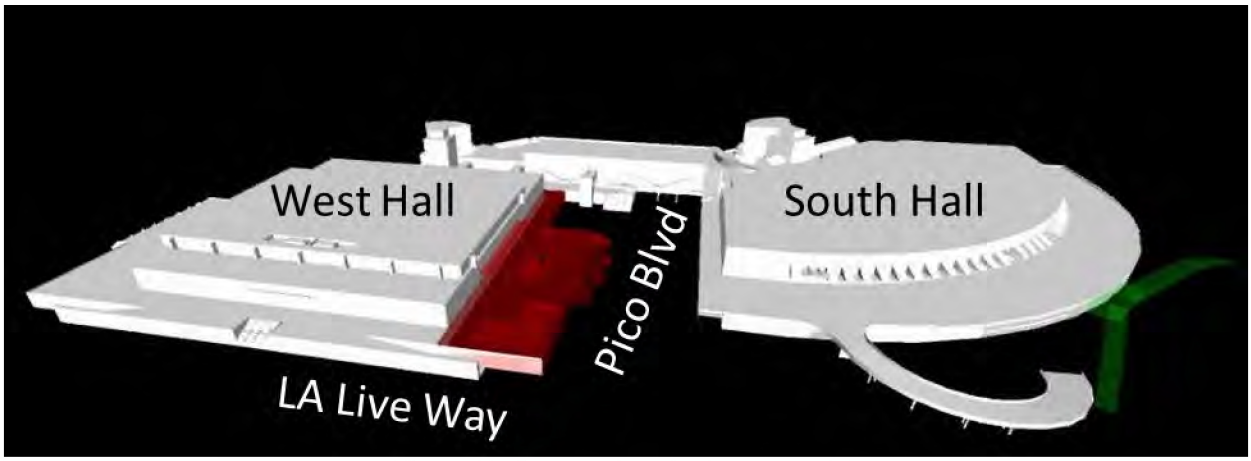


Figure 43: Construction phasing - stage 1.1

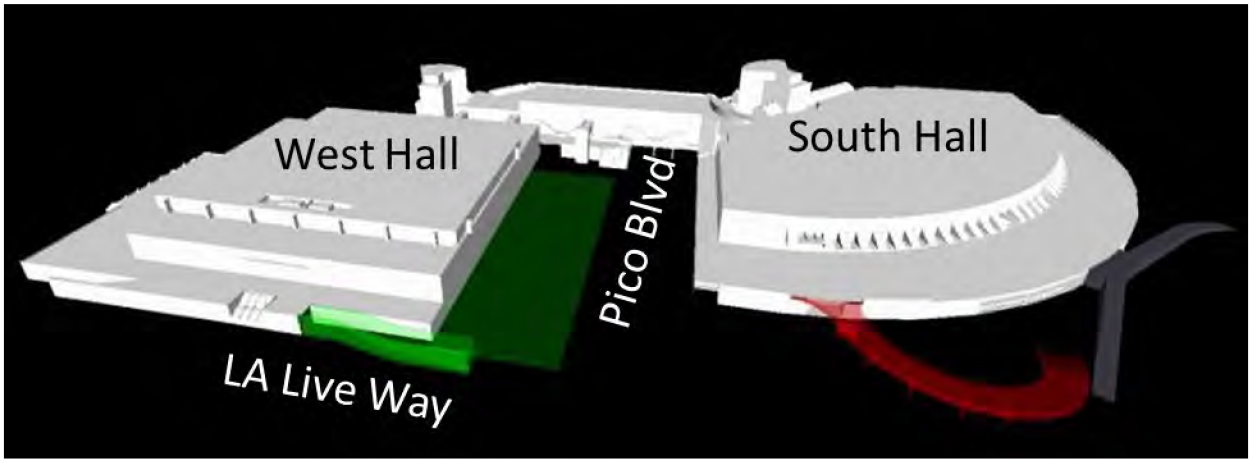


Figure 44: Construction phasing - stage 1.2

C.1.2 Stage 2.1

In stage 2.1, the off-ramp from L.A. Live Way to West Hall will be decommissioned and a temporary new ramp will be constructed to clear the footprint of the new extended South Hall as shown in Figure 45. The sidewalk on L.A. Live Way adjacent to West Hall will be utilized for the temporary ramp with minimal impact to vehicle traffic. Simultaneously, excavation, foundation work, and construction of South Hall extension near L.A. Live Way will be partially completed up to exhibit floor level and partially to deck level as shown in Figure 45. Construction of South Hall extension near 15th Drive will be done up to the deck level. Since South Hall will be constructed over the existing deck, structural elements will be strengthened prior to adding new structure. This phasing of construction work up to different floor levels is proposed to have no impact on facility operations and maintain business continuity. During stage 2.1, traffic on South Hall Dr. and Convention Center Dr. will be impacted.

- Loading docks impacted: none (total 34 docks in service)
- Duration: 5 months
- Parking spaces available: 5,247

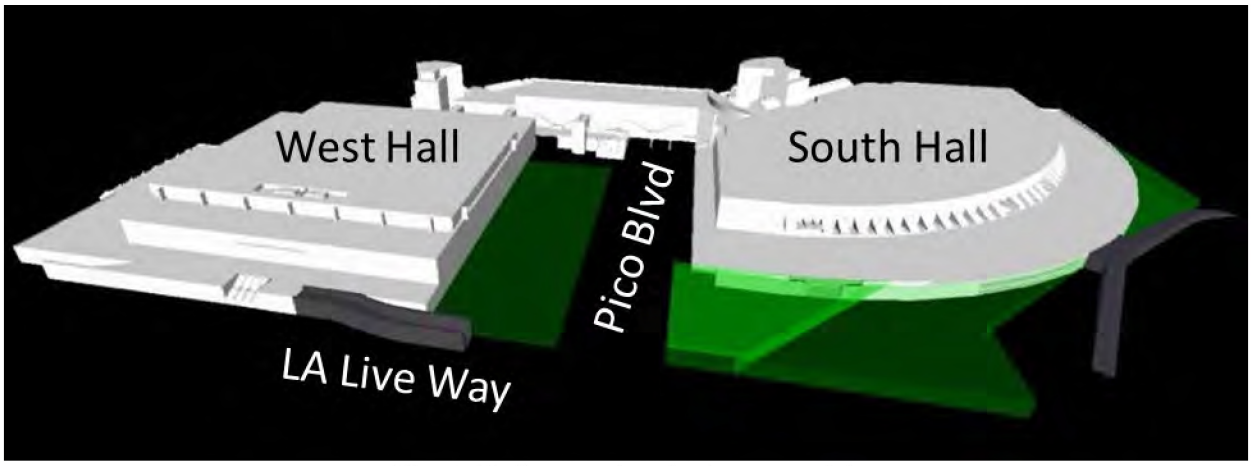


Figure 45: Construction phasing - stage 2.1

C.1.3 Stage 2.2

During stage 2.2, the South Hall extension will continue by constructing the deck up to exhibit floor level and adding new loading docks. Since this phase is short, the downtime of 17 loading docks is limited. Also, construction will continue near the West Hall, across Pico Blvd. without interruptions. Construction of different segments sequentially will enable business continuity.

- Loading docks impacted: 17 (total 17 docks in service)
- Duration: 1.5 months
- Parking spaces available: 5,247

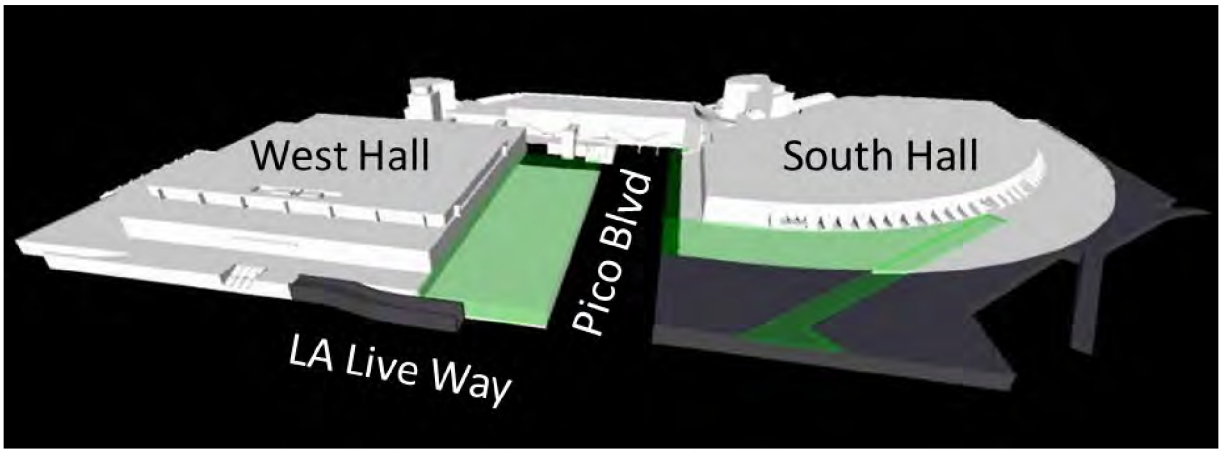


Figure 46: Construction phasing - stage 2.2

C.1.4 Stage 2.3

While in stage 2.3, seven new docks will be constructed. South Hall extension will continue by constructing the deck up to exhibit floor level near 15th Drive and new loading docks as shown in Figure 47. Simultaneously, construction of the South Hall exhibit space will continue near L.A. Live Street and a structure will be built up to exhibit floor level near the West Hall. Even though construction will be ongoing at two fronts, 41 loading docks will accessible to move material in and out of the exhibit space during events.

- Existing loading docks impacted: none

- New loading docks: 7 (total 41 docks in service)
- Duration: 7 months
- Parking spaces available: 5,247

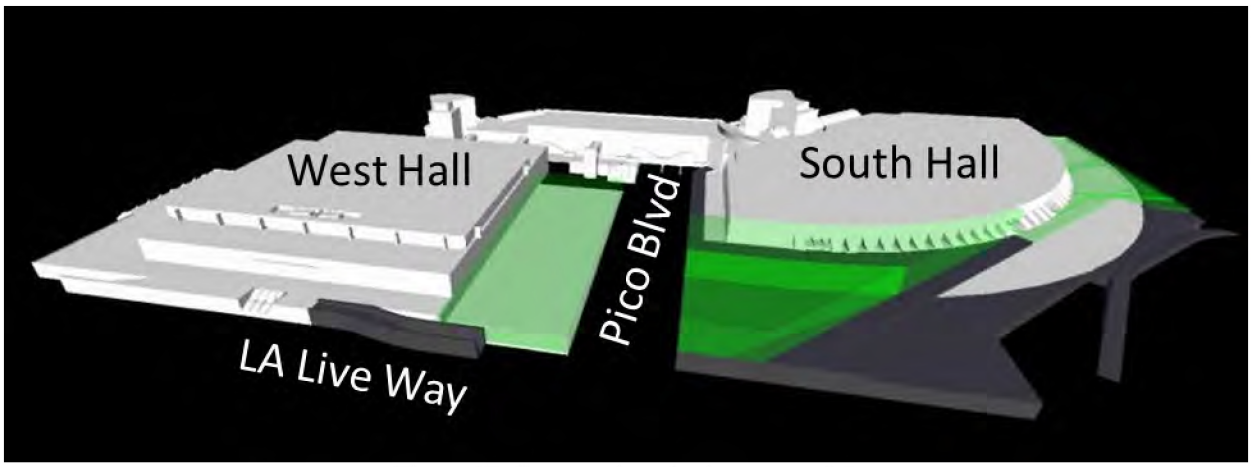


Figure 47: Construction phasing - stage 2.3

C.1.5 Stage 3.1

During stage 3.1, all 60 loading docks will be available to support operations at the South Hall. At this stage, construction of the South Hall exhibit space near Pico Blvd and 15th Drive will be completed and the integration of contiguous space will be available for use. Integration of the new space with existing exhibit space will be done with considerations for the event schedule.

- Loading docks impacted: none
- New loading docks: 19 (total 60 docks in service)
- Duration: 7.5 months
- Parking spaces available: 5,247

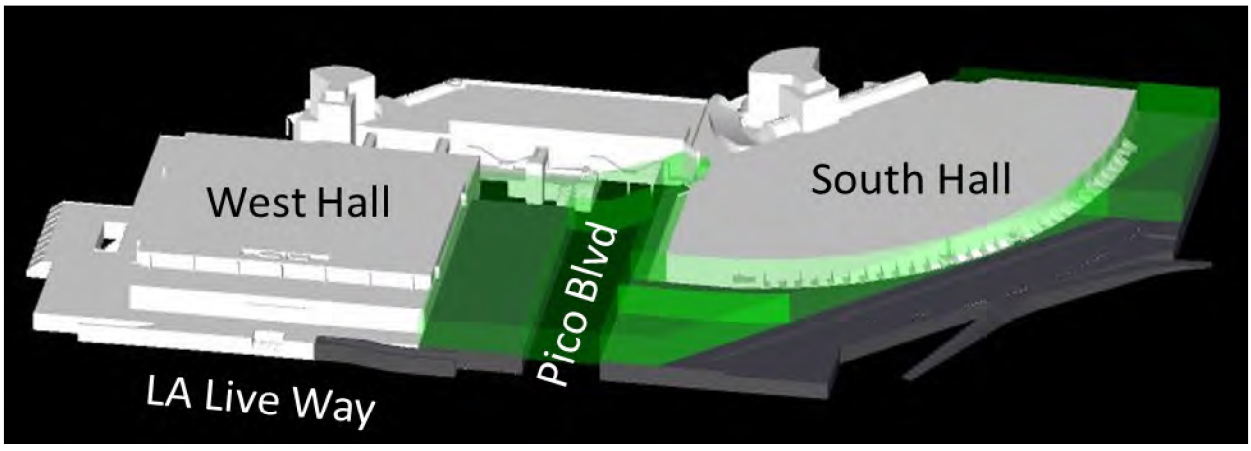


Figure 48: Construction phasing - stage 3.1

C.1.6 Stage 3.2

During stage 3.2, the construction of the levels above the South Hall exhibit space (meeting rooms, ballrooms, etc.) will be completed. During this phase no interruptions or impacts on the exhibit space below is expected. At the end of this phase the entire facility will be operational with all the new rooms available for use.

- Loading docks impacted: none (total 60 docks in service)
- Duration: 8 months
- Parking spaces available: 5,247

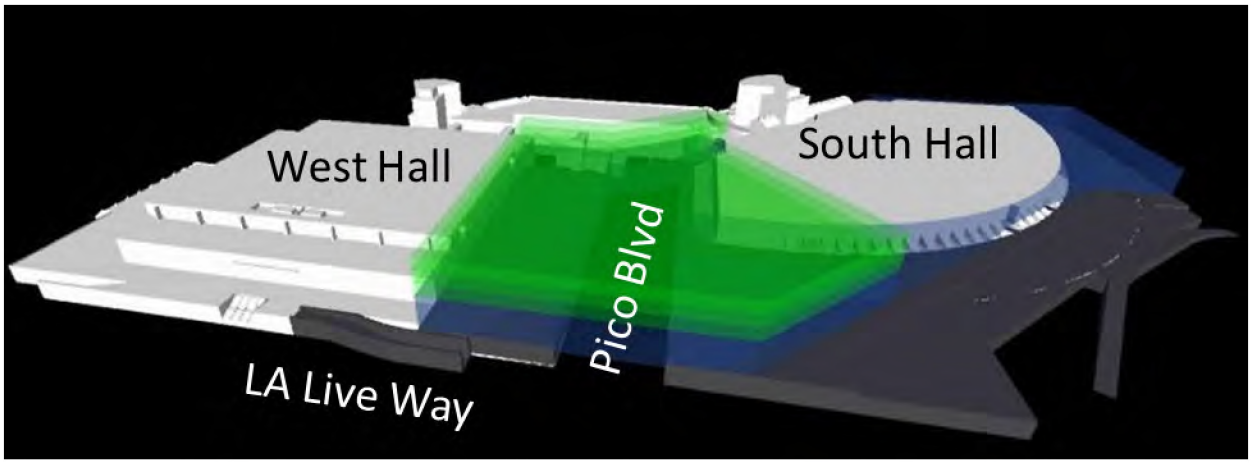


Figure 49: Construction phasing - stage 3.2

C.2 Phase 1B

In phase 1B, demolition of the West Hall and construction of additional 26,000 of exhibit space to South Hall will be done to complete the program and the new exhibit space available will be 520,000 ft^2. Construction phase 1B is non-critical and will have no impact to operations of the convention center. Phase 1B consists of one stage of work.

C.2.1 Stage 4.1

During phase 4.1, front concourse rooms and entire West Hall will be demolished and new surface parking lot will be constructed.

- Loading docks impacted: none (total 60 docks in service)
- Duration: 3 months
- Parking spaces available: 4,425

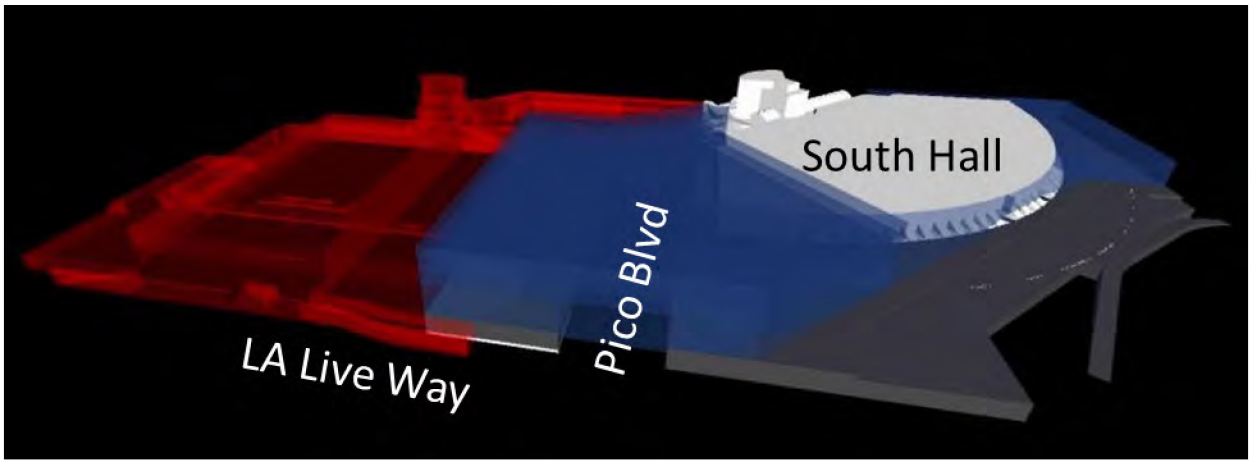


Figure 50: Construction phasing - stage 4.1

C.2.2 Stage 4.2

During phase 4.2, construction of the 26,000 ft^2 of exhibit space will be undertaken to complete the program and provide the space as required. Integration of the new space with already built exhibit space will be done with consideration of the event schedule. At the completion of this stage, all construction will be complete (see Figure 52).

- Loading docks impacted: none (60 dock in service)
- Duration: 7 months
- Parking spaces available: 5,500

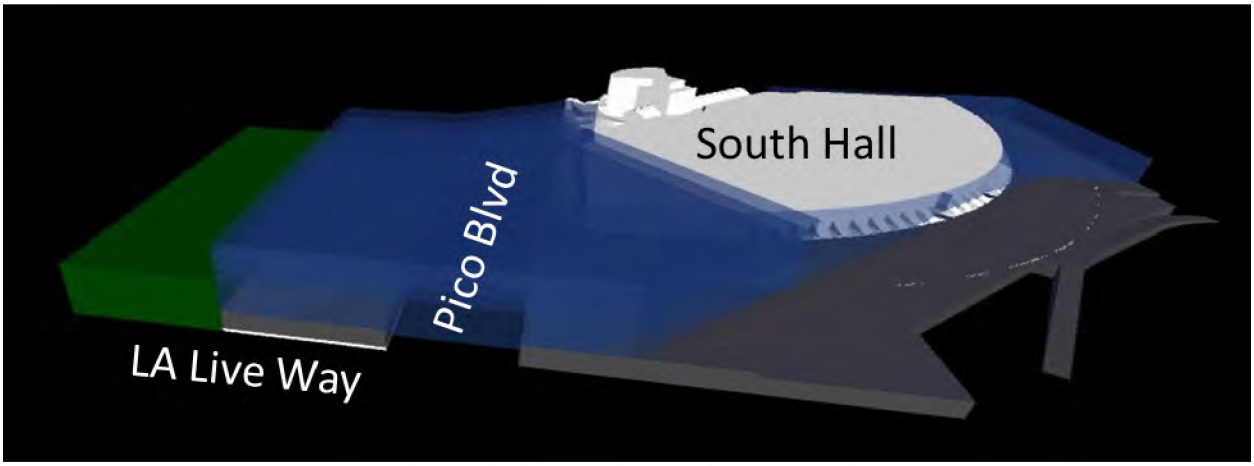


Figure 51: Construction phasing - stage 4.2

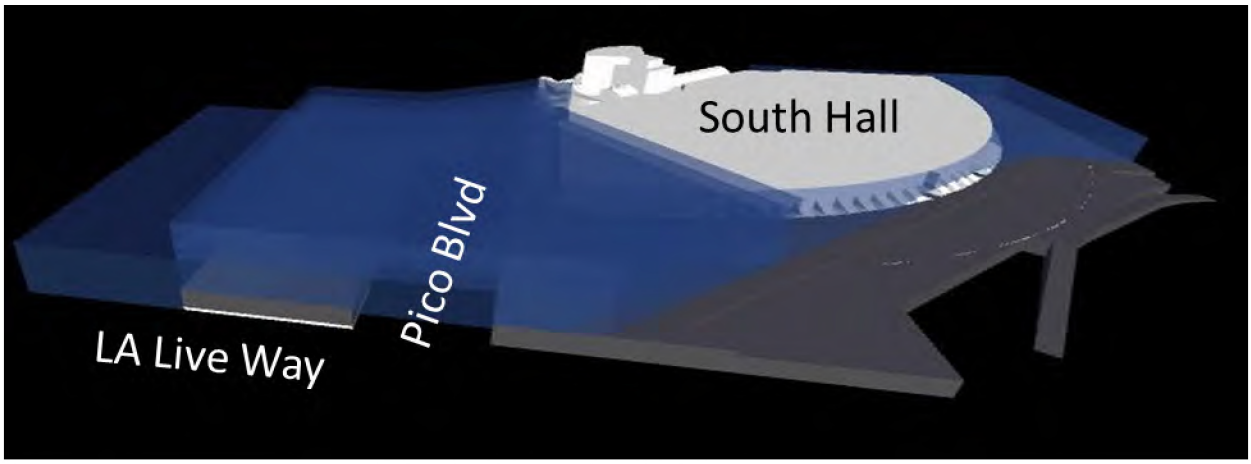


Figure 52: Construction phasing – at completion

Appendix D

Operations and Maintenance Costs

D. Operations and Maintenance Costs

Operating and maintenance costs are an important consideration in the analysis of different development paths, as different procurement methods may lead to different levels of expenditure due to the nature of the design proposed under each development path.

In order to analyze and forecast routine maintenance for each development path, a four step process was undertaken and is depicted in Figure 53 below. The first three stages were consistent for each development path, however the final step required a different approach for each development path option.

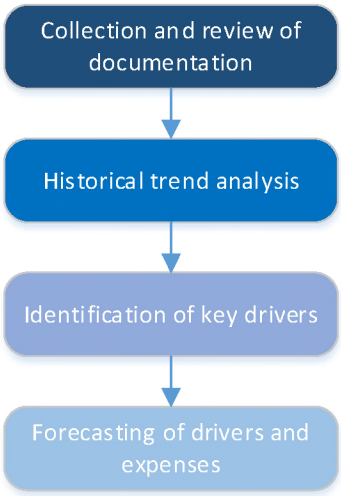


Figure 53: Process used to forecast operation and maintenance expenses

The 'Collection and review of documentation' involved examination of a number of key sources of information, including:

- Convention Center/ Convention and Tourism Development (CTD) annual budgets and Schedule 16 reports, 2006 – 2007 through 2015 – 2016
- The City's audited Comprehensive Annual Financial Report, 2005 – 2014
- LACC private operator's contractual documents and audited financial report 2014 – 2015
- LACC private operator's budget proposal 2016 / 2017
- Other expenses and historical figures provided by the LACC

Arup also engaged with the CAO and City departments to gain greater understanding of the historic maintenance and repairs on the center and to clarify differences in accounting across the different information sources. Combined, the information provided data for the two separate periods of operation, the Historical LACC operating phase (prior to FY 2014) and the LACC private operator's operating phase (which includes FY 15 actuals and the budgets forecast up to

FY 2019)[1]. It should be noted that following the appointment of the private operator, the facility was recognized as generating an operating surplus for the first time. A summary of the responsibilities for different operations tasks under the current agreements between the private operator and the City is displayed below.

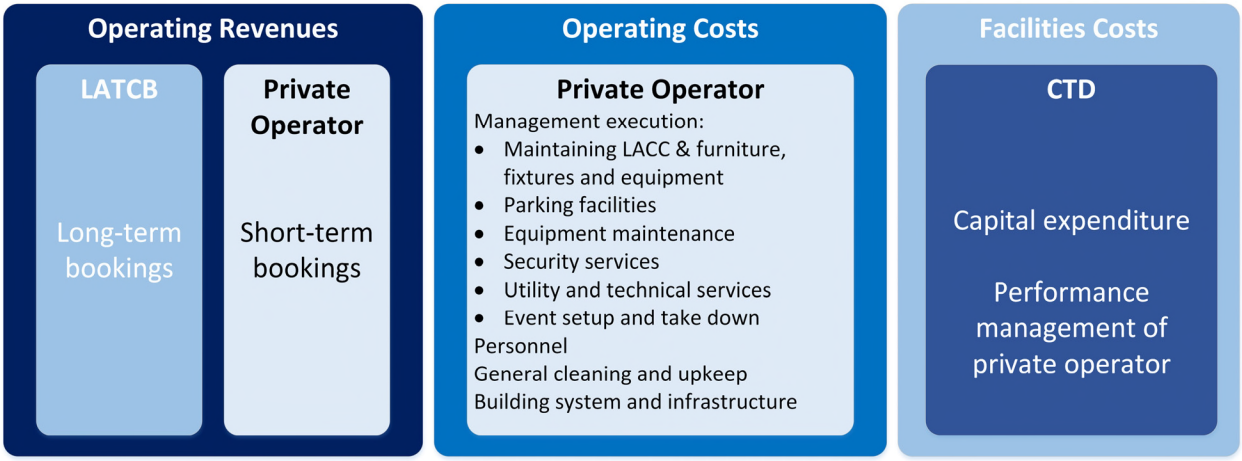


Figure 54: Current LACC operations

Following the collection of data, Arup analyzed the revenue and cost trends over time for each line item. This allowed us to combine and reclassify the line items according to their key drivers and in such a way that we could easily identify differences in costs across the different development paths, and see trends in the data.

The key cost and revenue item classifications used, including which items were considered in each is provided in Table 17 below.

Table 17: Cost and revenue items used in analysis

Cost / Revenue Item	Historic LACC Accounts – Line items	Private operator Accounts – Line items
Routine maintenance	Field equipment expense; Maintenance materials supplies and services; Operating supplies; Modifications repairs addition; Building operating equipment Staff salary and benefits associated with routine maintenance (Used the 'facilities and infrastructure maintenance' department salary figures from FY10 to FY14 to determine the average proportion of total salaries and benefits accounted for by that department as 18.8%).	Field Equipment; Modifications / Repairs; Maintenance Materials & Supplies; Operating Supplies; A & I (FY15 approved) Staff salary and benefits associated with routine maintenance (Operations department from private operator budget proposal - 14/15 final figures for salary, PT wages, Overtime, bonuses, payroll taxes and vacation expenses, used to calculate an average proportion of total salary accounted for by the operations department of 31%).

[1] Note that the FY 2014 year was the transitional period during which the City operated the LACC facility until December 2013 and the LACC private operator took over operations from that period onwards. Because of the dual operating responsibility during that financial year, we have elected to exclude it from the historical analysis.

Cost / Revenue Item	Historic LACC Accounts – Line items	Private operator Accounts – Line items
Energy	Historical accounts – 'water and electricity' line item Electricity is 93% of that line item (average from FY12 to FY16 figures from LACC). Actual electricity cost data supplied by LACC.	'Utilities' line item Used FY15 actual energy spend from LACC accounts, compared to the LACC private operator to determine that 88% accounted for energy.
General operations	Includes all other operational expenses except routine maintenance (and the associated labor for that department) and energy (including food and beverage expenses).	Includes all other operational expenses except routine maintenance (and the associated labor for that department) and energy (including food and beverage expenses).
Operating revenue	Receipts from LACC operations	Convention & trade show space rentals, net; Food and Beverages Revenue; Utility revenues, net; Parking revenues; Event Services revenues; Telecommunications revenues, net; Cell tower revenues; Advertising and sponsorship; Audio/visual revenues, net; Other income.

Analysis of the historical accounts allowed us to determine at a high level, the key drivers for each of the operations and revenue items. Information on the future outlook for each driver was then collected and used to forecast the expenses and revenues over time.

D.1 Traditional Path Option

Different assumptions were used to forecast the operations expenses and revenues for the Traditional Path and the DBFOM Path.

The Johnson Consulting report provided event forecasts for the LACC at the sixth year upon expansion, which should correspond to FY2026. For this reason, our forecasts have looked at two distinct forecast periods: FY2020 – FY 2026 when the number of events is growing to increase the utilization of the new space, and from FY 2026 onwards, when we consider the space to have reached a reasonable utilization level and no further growth in event numbers is likely.

The table below highlights the drivers used for each cost / revenue item within the Traditional Path, and the assumptions made for forecasting purposes, based on the historic analysis.

Table 18: Traditional Path cost and revenue drivers and forecast assumptions

Costs / Revenue Item	Driver (including source)	No.	Source
General Operations	Increase in the number of events FY 15 – FY 26	16%	Event numbers from the Johnson Consulting 2016 Report[2]
Routine Maintenance	Increase in gross floor area from the expansion activities	33%	Floor areas calculated from Populous design documents
Energy	Increase in gross floor area from the expansion activities	33%	Floor areas calculated from Populous design documents
Revenue	Historical margin above operating costs	4.3%	LACC private operator budget proposal 2016/17 (FY 15 to FY19 average).

The long term forecast for FY 2026 onwards assumes no net growth in the real value of operating costs. From that point only inflation will increase costs.

D.2 DBFOM Path Option

The assumptions used to forecast the operations costs and revenues for the DBFOM Path differ from the Traditional Path option in two key ways:

- An efficiency factor is forecast for the routine maintenance line item due to the assumed modernity of the facility and the fact that newer buildings and facilities have generally lower maintenance and repairs.
- An energy efficiency factor to represent the reduction in energy costs associated with a more efficient and new energy system on site. This efficiency has been applied to the portion of the energy costs associated with the base building, rather than the proportion associated with events.

Both of these assumptions have been factored in to the forecast for the DBFOM development path.

Table 19: DBFOM cost and revenue drivers and forecast assumptions

Costs / Revenue Item	Driver (including source)	No.	Source
General Operations	Increase in the number of events FY 15 – FY 26	16%	Event numbers from the Johnson Consulting 2016 Report[3].
Routine Maintenance	Increase in gross floor area from the expansion activities	36%	Floor areas calculated from HOK design documents.
	Efficiency factor due to newer facility	10%	Professional judgment – research suggested this could be as high as 30% for new facilities compared to those over 10 years old.

[2] C.H. Johnson Consulting Inc., *Los Angeles Convention Center Expansion Market Impact Analysis Update* (April 25, 2016).
[3] Ibid.

Costs / Revenue Item	Driver (including source)	No.	Source
Energy	Increase in gross floor area from the expansion activities	36%	Floor areas calculated from HOK design documents
	Proportion of energy costs associated with the base building	88%	Provided by LACC during teleconferences.
	Efficiency factor due to newer plant	30%	Arup mechanical engineering analysis.
Revenue	Historical margin above operating costs	4.3%	LACC private operator budget proposal 2016/17 (FY 15 to FY19 average).

As with the Traditional Path option, the long term forecast for FY 2026 onwards assumes no net growth in the real value of operating costs. From that point, only inflation will increase costs.

Appendix E
Economic Development

E. Economic Development

Johnson Consulting was commissioned by the City of Los Angeles in April 2016 to update and expand a prior analysis prepared by Convention, Sports and Leisure (CSL) International regarding the economic benefits associated with the LACC expansion project. Both CSL and Johnson Consulting developed their estimates for the LACC expansion project based on the baseline economic and fiscal impact of the facility (i.e., year 2015).

CSL performed a preliminary economic and fiscal impact analysis of the LACC expansion project by measuring spending, jobs, and taxes generated by a certain set of events (city-wide events and events occurring in exhibit halls only)[4]. Johnson Consulting performed a more detailed economic and fiscal impact analysis for the LACC expansion project by measuring spending, jobs, and taxes drawn by *all* types of revenue-generating activities hosted at the LACC[5]. Johnson Consulting's study thus focused on assessing the amount of spending, jobs, and taxes generated by both citywide and non-citywide events (i.e., trade shows, consumer/public shows, assemblies, meetings, filming, and parking).

Johnson Consulting's analysis assumes that the LACC expansion project meets the expansion program developed jointly by CTD and the BOE. As a result, the outcomes from Johnson Consulting's analysis represent the economic and fiscal impacts of the LACC expansion project envisioned in the two development options. However, the economic and fiscal impacts of DBFOM Path development option expand beyond the LACC expansion project and include the benefits associated with the real estate development.

E.1 Traditional Path Option

Johnson Consulting first analyzed the baseline economic and fiscal impact of the LACC in the year 2015, before projecting the economic and fiscal impacts of the LACC expansion project. Their projections are provided for the sixth year upon expansion, which is deemed to represent a typical business year. As a result, the differential between the 2015 figures and the estimations for the sixth year after expansion constitutes the economic and fiscal impacts of the LACC expansion project.

Table 20 below summarizes the findings of Johnson Consulting, as shown on page 33 of their study *Los Angeles Convention Center Market and Impact Analysis Update*. Johnson Consulting estimates that the expansion project will enable LACC to secure 30 additional events (both citywide and non-citywide) every year when compared to 2015. This increase in LACC activity will boost total local spending from convention guests and organizers. Spending is projected to increase by $171m between 2015 and the sixth year upon expansion, and total $581m by the sixth year upon expansion.

This enhanced spending will translate into additional jobs, earnings, and tax revenue. Increased spending drawn by the LACC expansion project is projected to translate into 3,000 additional full-time equivalent jobs, totaling 10,200 jobs sixth year after expansion. Similarly, earnings

[4] CSL International, *Preliminary Market and Economic Impact Analysis for Potential Los Angeles Convention Center Development* (August 7, 2015)

[5] C.H. Johnson Consulting Inc., *Los Angeles Convention Center Expansion Market Impact Analysis Update* (April 25, 2016).

based on total spending will grow from $272m in 2015 to $385 the sixth year after expansion. Finally, the study highlights the total fiscal impact based on total spending as $33.2, which is $9.8m above than the $23.4m generated by the facility in 2015.

Table 20: Economic and Fiscal Impact Analysis for LACC[6]

		Updated estimates – all events	
		2015	Sixth year upon expansion
Events (number of events)	Citywide	27	40
	Non-citywide	290	307
	Total	**317**	**347**
Visitation (000s of people)	Events attendees	1,903.9	2,262.2
	Exhibitors and show managers	198.0	271.7
	Total	**2,101.9**	**2,533.9**
Room nights (000s of nights)	Citywide	365.0	548.3
	Non-citywide	100.2	107.9
	Total	**465.2**	**656.2**
Direct spending ($m)	Hotel	$96.0	$136.0
	Restaurant	$76.0	$102.0
	Entertainment	$22.0	$33.0
	Retail	$14.0	$17.0
	Auto rental	$7.0	$10.0
	Other local transit	$12.0	$17.0
	Other industries	$25.0	$40.0
	Total direct spending	**$252.0**	**$356**
Total spending ($m)	Multiplier	1.63	1.63
	Total spending	**$410.0**	**$581.0**
Direct earnings and employment	Earnings ($m)	$167.0	$236.0
	Employment (FTE)	4,400	6,200
Earnings and employment based on total spending	Earnings ($m)	$272.0	$385.0
	Employment (FTE)	7,200	10,200
Direct fiscal impact ($m)	LA sales tax	$1.0	$1.4
	Hotel motel tax – LA	$12.7	$18.1
	Sales tax – indirect spending	$0.3	$0.4
	LA business tax	$0.01	$0.02

[6] C.H. Johnson Consulting Inc., *Los Angeles Convention Center Expansion Market Impact Analysis Update* (April 25, 2016).

		Updated estimates – all events	
		2015	Sixth year upon expansion
	LA parking user tax	$0.3	$0.4
	Total	**$14.3**	**$20.3**
Fiscal impact ($m) based on total spending	LA sales tax	$1.6	$2.2
	Hotel motel tax – LA	$20.7	$29.5
	Sales tax – indirect spending	$0.5	$0.7
	LA business tax	$0.02	$0.03
	LA parking user tax	$0.5	$0.7
	Total	**$23.4**	**$33.2**

E.2 DBFOM Path Option

The economic and fiscal impacts for the DBFOM Path development option are drawn from both the LACC expansion project and the real estate development presented in Section 5.3 and Appendix B. As a result, Arup combined the results for the Johnson Consulting analysis for the LACC expansion project (as presented in Table 20) with the economic and fiscal impacts of the real estate development, which were estimated by the Arup team.

As for the LACC expansion project, the real estate development generates four types of economic and fiscal impacts:

- On-site spending;
- Employment;
- Earnings;
- Fiscal impact from different land use types.

To estimate the economic and fiscal impacts of the real estate development, the Arup team generated a potential land use plan for the site. This land use plan was developed based on HR&A's real estate market analysis, and is by no means prescriptive of the type of real estate development that may be built on site. It is rather indicative of the type of development that may take place and was only developed to estimate the real estate development's *potential* economic and fiscal impact.

Table 21: Potential land use for the real estate development

Land use (ft^2)	Near-Term (2020-2025)	Future (2025-2040)	Total
Retail	160,000	45,000	205,000
Branded residential	250,000 (250 keys)	-	250,000
Office	375,000	750,000	1,125,000

Land use (ft^2)	Near-Term (2020-2025)	Future (2025-2040)	Total
Hotel	175,000 (200 keys)	-	175,000
Total	1,135,000	550,000	1,755,000

The Arup team then categorized land uses to refine the earnings and employment profiles of these real estate products according to industry types. We used the 2007 the North American industry classification system (2007 NAICS)[7] as detailed below and within Table 22.

- Retail:
  - 50% of total retail square footage (102,500 ft^2 total) was allocated to dry retail (NAICS codes: 442-4, 446-8, 451, 453-454).
  - 50% of total retail square footage (102,500 ft^2 total) was allocated to F&B retail (NAICS code: 445, 7221-4).
- Branded residential: no employment nor jobs were linked to this land use.
- Office: all square footage for office was allocated to professional, scientific, and technical services (NAICS code: 54).
- Hotel: all square footage for hotel was allocated to accommodation (NAICS code: 723).

Table 22: Description of 2007 NAICS used in the land use plan

Land Use	Categorization	NAICS Code	Description
Retail	Dry retail	442	Furniture and Home Furnishings Stores
		443	Electronics and Appliance Stores
		444	Building Material and Garden Equipment and Supplies Dealers
		446	Health and Personal Care Stores
		447	Gasoline Stations
		448	Clothing and Clothing Accessories Stores
		451	Sporting Goods, Hobby, Book, and Music Stores
		453	Miscellaneous Store Retailers
		454	Nonstore Retailers
	F&B retail	445	Food and Beverage Stores
		7221	Full-Service Restaurants
		7222	Limited-Service Eating Places
		7223	Special Food Services
		7224	Drinking Places (Alcoholic Beverages)

[7] For more information on NAICS, visit: http://www.census.gov/eos/www/naics/

Land Use	Categorization	NAICS Code	Description
Office	Professional, scientific, and technical services	54	Professional, scientific, and technical services
Hotel	Accommodation	721	Accommodation

Arup then conducted research about the likely ratio of employees per square foot for each land use, as well as average annual salaries for each NAICS category. Using data from the US Green Building Council and the Bureau of Labor Statistics the total employees and earnings associated with the real estate development were calculated.[8] [9] Our analysis shows that the real estate component of the DBFOM Path could capture 4,564 jobs on-site and equate to approximately $250m in earnings. Results are presented in Table 23.

Table 23: Real estate development-based employment and earnings

	Retail		Office	Hotel	Total
	Dry retail	F&B retail			
Square footage (total)	102,500	102,500	1,125,000	175,000	-
Average employee/ ft^2 *	485	150	220	1 employee per room	-
Employment (FTE)	199	645	3,520	200	4,564
Average annual salary / employee**	$21,500	$21,500	$63,500	$25,000	-
Earnings (2016 $m)	$4.3	$13.9	$223.5	$5.0	$246.6

*see footnote 8
**see footnote 9

After having estimated the employment and earnings associated with the real estate development, Arup evaluated on-site spending drawn by the real estate mix-user.. According to a study conducted by Accounting Principals in 2012[10], 50% of the American workforce spends approximately $20 per week on coffee, and 66% of working Americans spend $37 every week to buy lunch. As a result, we estimate annual spending for office employees to represent $6.1m. These assumptions are summarized in Table 24.

Table 24: Local annual expenditures on LACC campus[10]

	% of office workers	Weekly expenditures	Yearly local expenditures ($m)
Coffee expenditures	50%	$20	$1.8
Lunch expenditures	66%	$37	$4.3
Total			**$6.1**

[8] United States Green Building Council, 2008, *Building Area per Employee by Business Type* (May 13, 2008)
[9] Bureau of Labor Statistics, National Industry-Specific Occupational Employment and Wage Estimates (May 2015) http://www.bls.gov/oes/current/oessrci.htm
[10] Accounting Principals, 2013, *Workonomix Survey 2013*, March 13 2013, http://www.accountingprincipals.com/Documents/downloads/workonomix_spending_habits.pdf

The spending, employment, and captured by the real estate development presented in Table 23 and Table 24 are summarized in Table 25.

Table 25: Spending, employment, and earnings associated with the real estate development of the DBFOM Path[11]

		(2016 $m)
Spending ($m)	Real estate-related spending	$6.1
Employment (jobs)	Real estate-related employment	4,564
Earnings ($m)	Real estate-related earnings	$246.6

To estimate the additional tax revenue for the City, the Arup team conducted a key tax revenue analysis at the stabilization of each parcel, discounted to 2016. Taxes included in the analysis are: property tax/possessory interest tax, motor vehicle licensing fee, sales tax, TOT, parking tax, and gross receipts. Our analysis shows that the real estate component of the DBFOM Path will generate $9.0m of annual additional gross tax revenue for the City. Results are presented in Table 26.

Table 26: Gross City tax revenue for the real estate development of the DBFOM Path[12]

	(2016 $m)
Property tax / Possessory interest tax	$3.8
Motor vehicle licensing fee (in lieu)	$1.0
Sales tax	$0.5
TOT	$2.0
Parking tax	$0.5
Gross receipts	$1.3
Net tax proceeds	**$9.0**

Combining the economic and fiscal impacts from both the LACC expansion project and the real estate development, our analysis suggests that, altogether, the DBFOM Path will generate $177m of additional total spending (compared to 2015). It will also translate into 7,564 additional jobs on-site and $360m in additional earnings. Finally, the DBFOM Path development option equates to a net increase in gross tax revenue for the City of $18.8m. Table 27 summarizes the economic and fiscal impact of the DBFOM Path development option.

Table 27: Economic and fiscal impact analysis of the DBFOM Path development option[13]

			2015	Sixth year upon expansion
LACC expansion	Events (events)	Citywide	27	40
		Non-citywide	290	307
		Total	**317**	**347**

[11] Arup analysis
[12] HR&A analysis
[13] C.H. Johnson Consulting Inc., *Los Angeles Convention Center Expansion Market Impact Analysis Update* (April 25, 2016).

			2015	Sixth year upon expansion
	Visitation (people)	Events attendees	1,903,938	2,262,170
		Exhibitors and show managers	197,987	271,734
		Total	**2,101,925**	**2,533,904**
	Room nights (nights)	Citywide	365,040	548,320
		Non-citywide	100,160	107,870
		Total	**465,200**	**656,190**
	Spending	**Total spending**	**$410**	**$581**
	Earnings and employment based on total spending	**Earnings**	**$272**	**$385**
		Employment (FTE)	**7,200**	**10,200**
	Tax revenue (2016 $m) based on total spending	LA sales tax	$1.6	$2.2
		Hotel motel tax – LA	$20.7	$29.5
		Sales tax – indirect spending	$0.5	$0.7
		LA business tax	$0.02	$0.03
		LA parking user tax	$0.5	$0.7
		Total	**$23.4**	**$33.2**
Real estate development	On-site spending (2016 $m)	**Total**	-	**$6.1**
	Earnings and employment	**Earnings (2016 $m)**	-	**4,564**
		Employment (FTE)	-	**$246.6**
	Tax revenue (2016 $m)	Property tax / possessory interest tax	-	$3.8
		Motor vehicle licensing fee	-	$1.0
		Sales tax	-	$0.5
		TOT	-	$2.0
		Parking tax	-	$0.5
		Gross receipts	-	$1.3
		Total	-	**$9.0**

Appendix F

Risk Allocation Matrix

F. Risk Allocation Matrix

F.1 Traditional Path Option

In order to analyze the true project costs under the each delivery method, the Arup team held a risk identification workshop. This workshop which determined over fifty risk factors that could impact the project costs or schedule. The risk associated with each factor was then allocated to either the public sector, the private sector or shared amongst the two parties. The result of this analysis for the CM/GC model is shown on the below table. As it could be observed on the table, due to the CM/GC contractor's limited involvement with the project, there is still a significant number of factors that would need to be retained by the city.

Table 28: Traditional Path Risk Allocation Matrix

Item #	Risk category	Risk description	Public	Shared	Private	Notes
Government Policy and Strategy						
1	Program definition and specifications do not meet public sector needs due to change in preferences	Risk that the project is delivered according to required specifications but does not meet the public service needs of the Sponsors (e.g. NSF, interior finish quality, occupancy requirements, operational needs) in the near-term (due to insufficient definition of needs) or long-term (due to functional or preferential changes over time).	X			The City will retain the risk of any changes to the program scope under the CM/GC model.
2	Public sponsor does not make payment(s) required to fund the Project, including Debt service and future lifecycle requirements	Risk that future Councils do not make the necessary appropriation(s) to pay all Project related obligations	X			This will delay or cancel the project which will ultimately impact the city
3	Possessory interest tax	Risk that the possessory interest tax requirements change or their application by the tax assessor changes	X			
4	Change in required O&M practices or standards	Risk that City requests changes	X			The risk of changes in the project scope that are imitated by the City will be retained by the city.
Political Risk (change in tax, law, regulation)						
Project Discriminatory						

Item #	Risk category	Risk description	Public	Shared	Private	Notes
5	Discriminatory change in law/policy	Risk that there is a change in law or government policy, which could not be anticipated at contract signing, and which is directed specifically and exclusively at the project	X			
6	Legal challenge of basis to CM/GC	Risk that an outside party challenges the legality of the statutory framework for project delivery	X			This risk factor will impact the city's procurement and could result in cancellation of project.
Non-Project Discriminatory						
7	Non-discriminatory change in law/ policy	Risk that there is a change in law or government policy, which could not be anticipated at contract signing	X			
8	Change in tax legislation	Risk that the tax requirements change	X			The City will be fully responsible to finance the project and any impacts to tax requirements will be absorbed by the city.
Appropriation Risk						
Program Management						
9	Sponsor oversight	Risk that the appropriate level of City oversight and guidance is not achieved and that decisions are not made in a timely manner	X			This is a risk that will be retained by the City since it is best equipped to address any project delay issues that may stem from its staff.
Interface						
10	Public engagement	Risk that public outreach effort is not deemed sufficient by the public or key stakeholders. Shared in the sense that different stakeholders will be reached out by the public and private	X			This risk will be fully retained by the City since public outreach is to be conducted by them.
11	Interface contracts impact schedule, O&M	Risk that interface contracts (e.g., between designer, builder, operator and project company) are unclear, delayed, or otherwise result in the appropriate level of asset quality not being achieved	X			
Procurement						

Item #	Risk category	Risk description	Public	Shared	Private	Notes
12	Contract Award/Commercial Close Delay	Risk that award of contract is delayed	X			Added transaction costs to the Procurement
Design and Construction						
14	Property boundaries	Risk that the project boundaries and the ownership of the parcels included in the Project Agreement are incorrect as disclosed by the City (easements, Caltrans, City planning dept., air rights)	X			This risk is retained by the City since it has the best knowledge of its own right of way as well as those adjacent to it.
15	Geotechnical	Risk that the geotechnical conditions vary from those disclosed on the baseline conditions report	X			The City will retain risks associated with site conditions and the CM/GC contractor is not impacted by this risk factor.
16	As-built conditions	Risk that as-built conditions vary from the actual conditions	X			Considering that the City provides as-built plans, risks associated with pre-existing site conditions will be owned by the city.
17	Archeological	Risk of archeological discoveries	X			This risk is retained by the City since it has knowledge of previous archeological sites in the area
18	Hazardous materials	Risk of hazardous materials being uncovered that vary from those assumed by the hazardous mat report	X			This risk will be retained by the City in this model since pre-existing site conditions are determined by the city.
19	Utility relocations	Risk that utilities and utilities connection vary from those assumed by the utilities report		X		Utilities report is most likely conducted after performing an outreach to all utility companies. If the utility companies' reports vary from site conditions, it will be their responsibility to restore the utility.
20	Construction permits & approvals	Risk that necessary approvals are materially delayed or are obtained with unanticipated conditions, subject to the City being held to a reasonability standard regarding timeliness and conditions of approval		X		

Item #	Risk category	Risk description	Public	Shared	Private	Notes
21	CEQA approval	Risk that the Project does not achieve environmental approval/certification or there is a legal challenge	X			If CEQA approval is not obtained, the project could not be procured. Therefore the risk is retained by the city.
22	Design, performance and errors and omissions	Risk that the design developed by the private sector of the facility does not meet the design specifications or that there are errors or omissions	X			The City retains the risk under this model since the CM/GC contractor is only responsible for the construction of the project.
23	Construction means and methods	Risk that events occur during construction that prevent the facility from being delivered on time and within budget			X	This risk will be transferred to the contractor since the City does not enforce construction means and methods on the CM/GC contractor.
24	Quality	Risk that design or construction quality does not meet the specifications of the City			X	The CM/GC contractor is responsible to construct the project in accordance to the city's quality requirements.
25	Cost overrun risk during construction	Risk that the actual project costs are higher than anticipated or budgeted and not due to Public sponsor changes	X			
26	Construction contractor default	Risk that developer does not delivery contracted services to specification requirements			X	This risk is retained by the bond company assuming that the amount of the guarantees is sufficient to pay contractor replacement costs.
27	Availability of suppliers/equipment and price changes in materials and labor	Risk associated with construction costs being higher than estimated by the construction contractor		X		
28	Timely completion of the facility	Risk that the construction schedule is longer than anticipated (at no fault or action of the City)		X		
29	Existing facility latent defects	Risk that patent or latent defects are discovered after Occupancy Date but prior to expiration of the respective statute of limitations	X			The City will retain the risk of any defects in the pre-existing condition of the facility.
30	New facility latent defects	Risk that patent or latent defects are discovered after Occupancy Date but		X		By law, the contractor is responsible for latent defects

Item #	Risk category	Risk description	Public	Shared	Private	Notes
		prior to expiration of the respective statute of limitations				up to 10 years after project completion.
31	Business continuity during construction	Risk that LACC is closed more than 6 months.		X		
32	Force majeure – industrial/labor relation	Risk that a strike, industrial action, or civil commotion impedes availability of the asset or adequate level of service	X			Force majeure risk is unpredictable by both parties but since there is no long term obligation by the Private Contractor it will be bear mostly by the City
33	Force majeure - acts of God	Risk that structural elements, new and existing, are damaged due to an Act of God, such as a seismic or other event	X			Force majeure risk is unpredictable by both parties but since there is no long term obligation by the Private Contractor it will be bear mostly by the City
34	Force majeure - terrorism	Risk that a terrorist act or threat renders LACC unusable due to physical damage or a closure directive from authorized source (e.g., Mayor, State Governor or military personnel)	X			Force majeure risk is unpredictable by both parties but since there is no long term obligation by the Private Contractor it will be bear mostly by the City
O&M						
35	Rehabilitation and replacement costs	Risk that the design or construction specifications result in poor asset performance and/or higher than anticipated maintenance and refurbishment costs	X			The contractor in the CM/GC model is not involved with the project after its construction. Therefore, all operations and maintenance costs will be retained by the City during this phase.
36	Specific equipment continuous upgrade	Risk that specific equipment is not subject to continuous upgrade	X			
37	General capital maintenance/lifecycle cost schedule	Risk that capital maintenance to the structure and systems of the building does not meet O&M or handback requirements.	X			
38	Preventative/periodic maintenance	Risk that periodic maintenance of the building is not adequate to sustain the service requirements	X			
39	Level of service	Risk that public sponsor level of service	X			

Item #	Risk category	Risk description	Public	Shared	Private	Notes
		requirements are changed or that performance of the asset does not meet the changed requirements				
40	Unanticipated operating costs	Risk that the operating costs will be higher than projected due to inflation factor or because of inaccurate estimates and assumptions, affecting utility and maintenance costs.	X			
41	Operator failure (failure of subcontractors)	Risk that a the operator and/or subcontractor may fail financially or may fail to provide contracted services to specification	X			
42	Default of property management	Risk of bankruptcy or default of building maintenance company	X			
43	Hazardous materials determination	Risk that construction materials used in the Project are subsequently determined to be hazardous	X			
44	Force majeure – industrial/labor relation	Risk that a strike, industrial action, or civil commotion impedes availability of the asset or adequate level of service	X			
45	Force majeure - acts of God	Risk that contracted service delivery (pre- or post-completion) is not met because of an Act of God such as a seismic or other event	X			
46	Force majeure - terrorism	Risk that a terrorist act or threat renders civic Center unusable due to physical damage or a closure directive from authorized source (e.g., Mayor, State Governor or military personnel)	X			
Asset Ownership						
47	Remaining useful life is insufficient	Risk that the hand back requirements are not sufficient to meet the needs of the City once the	X			Risk of the asset's ownership is fully retained by the City under the CM/GC model

Item #	Risk category	Risk description	Public	Shared	Private	Notes
		Project Agreement expires				
Financing						
48	Debt sizing and financing costs	Risk that the market changes requiring more debt and/or at a higher cost	X			The contractor in the CM/GC model will have no involvements with the project's financing and all of that risk is retained by the city.
49	Financial close delay	Risk that market demand is lower than expected, thereby delaying City's ability to secure financing	X			
51	Refinancing risk	Risk that the market changes are not favorable to the City's long term financial plan	X			The City will bear the burden of refinancing risk
52	CPI inflation (O&M including repair and replacement) cost escalation after financial cost	Risk that the inflation forecast moves outside the assumption range causing higher than anticipated costs	X			This risk only applies if the City finances upfront all Lifecycle requirements and places those funds in a dedicated escrow account.

F.2 DBFOM Path Option

Similar to the CM/GC model, a risk identification workshop was held for the DBFOM model and evaluated over fifty risk factors that could impact the project costs or schedule. The risk associated with each factor was then allocated to either the public sector, the private sector or shared amongst the two parties. As it could be observed on the table, the DBFOM model transfers many of the risk factors to the private sector. The delivery model's transfer of design, construction and operations risk to the private party while retaining much of the political and governmental risk with the public sector allows risk factors to be assigned to the parties that are most capable to mitigate them.

Table 29: Risk Allocation Matrix for the DBFOM Path

Item #	Risk category	Risk description	Public	Shared	Private	Notes
Government Policy and Strategy						
1	Program definition and specifications do not meet public sector needs due to change in preferences	Risk that the project is delivered according to required specifications but does not meet the public service needs of the Sponsors (e.g. NSF, interior finish quality, occupancy requirements, operational needs) in the near-term (due to		X		The private developer will maintain the facility for a number of years after its completion. Therefore the risk of not meeting LACC's public sector requirement will have a direct impact on the developer's return. After the developer's long term contract

Item #	Risk category	Risk description	Public	Shared	Private	Notes
		insufficient definition of needs) or long-term (due to functional or preferential changes over time).				is over, those risks will be transferred to the city.
2	Public sponsor does not make payment(s) required under the Project agreement	Appropriation risk; Risk that future Councils do not make the necessary appropriation(s) to make the APs to the Developer, triggering a default under the contract provisions		X		This is a shared risk since the private developer is dependent on the City's APs to continue operations and the City is dependent on the developer to complete the project on-schedule.
3	Possessory interest tax	Risk that the possessory interest tax requirements change or their application by the tax assessor changes	X			
4	Change in required O&M practices or standards	Risk that City requests changes	X			
Political Risk (change in tax, law, regulation)						
Project Discriminatory						
5	Discriminatory change in law/policy	Risk that there is a change in law or government policy, which could not be anticipated at contract signing, and which is directed specifically and exclusively at the project	X			Since risk factor will be stemmed from the city, they would retain this risk and are best equipped to handle it.
6	Legal challenge of basis to the P3	Risk that an outside party challenges the legality of the statutory framework for project delivery	X			This could potentially prevent the project to be procured using the P3 method. However, considering that the model has now been used throughout California and the country, this factor has a small probability of occurrence.
Non-Project Discriminatory						
7	Non-discriminatory change in law/ policy	Risk that there is a change in law or government policy, which could not be anticipated at contract signing			X	The private party would retain this risk.
8	Change in tax legislation	Risk that the tax requirements change		X		While the City will retain this risk, it will also impact the developer's operation which

Item #	Risk category	Risk description	Public	Shared	Private	Notes
						makes this risk factor a shared one.
Appropriation Risk						
Program Management						
9	Sponsor oversight	Risk that the appropriate level of City oversight and guidance is not achieved and that decisions are not made in a timely manner	X			This is a risk that will be retained by the City since it is best equipped to address any project delay issues that may stem from its staff.
Interface						
10	Public engagement	Risk that public outreach effort is not deemed sufficient by the public or key stakeholders. Shared in the sense that different stakeholders will be reached out by the public and private		X		Both the developer and the City will work together to distribute accurate information to the public in a timely fashion. Lack of proper outreach could delay the project which impacts both parties.
11	Interface contracts impact schedule, O&M	Risk that interface contracts (e.g., between designer, builder, operator and project company) are unclear, delayed, or otherwise result in the appropriate level of asset quality not being achieved			X	The private developer will manage design, construction, maintenance and financing contracts. Therefore they would retain this risk and are best equipped to address it.
Procurement						
12	Contract award/commercial close delay	Risk that award of contract is delayed		X		Added transaction costs for both parties
13	Financial close delay	Risk that Financial Close is delayed		X		Added transaction and/or financing costs for both parties
Design and Construction						
14	Property boundaries	Risk that the project boundaries and the ownership of the parcels included in the Project Agreement are incorrect as disclosed by the City (easements, Caltrans, City planning dept, air rights)	X			This risk is retained by the City since it has the best knowledge of its own right of way as well as those adjacent to it.

Item #	Risk category	Risk description	Public	Shared	Private	Notes
15	Geotechnical	Risk that the geotechnical conditions vary from the specified geotechnical baseline		X		The private developer is responsible for the design and construction of the project. They are also responsible to obtain the necessary material testing in order to develop an accurate understanding of the project site. This risk is therefore transferred to them since they are best equipped to address it, up to a geotechnical baseline specified by the owner. If the actual conditions encountered exceed the baseline, then a risk sharing formula applies with pre-specified thresholds to incentivize mitigation of the cost and schedule consequences of the risk.
16	As-built conditions	Risk that as built drawings vary from the actual conditions	X			This risk is retained by the City since it has knowledge of previous engineering plans for the project.
17	Archeological	Risk of archeological discoveries	X			This risk is retained by the City since it has knowledge of previous archeological sites in the area
18	Hazardous materials	Risk of hazardous materials being uncovered that vary from those assumed by the hazardous mat report		X		Similar to geotechnical testing, the private developer is responsible to perform its own hazmat testing and determine potential risks associated with this element, up to and including the conditions disclosed by the owner. Transferring all the risk to the private developer most likely does not represent good value for money for the owner.
19	Utility relocations	Risk that utilities and utilities connection vary from those assumed by the utilities surveys and report			X	Utilities surveys and report is most likely conducted after performing an outreach to all utility companies. If the utility companies' reports vary from site conditions, it will be their responsibility to restore the utility.
20	Construction permits & approvals	Risk that necessary approvals are materially delayed or are obtained with unanticipated		X		

Item #	Risk category	Risk description	Public	Shared	Private	Notes
		conditions, subject to the City being held to a reasonability standard regarding timeliness and conditions of approval				
21	CEQA approval	Risk that the Project does not achieve environmental approval/certification or there is a legal challenge	X			If CEQA approval is not obtained, the project could not be procured. Therefore the risk is retained by the city.
22	Design, performance and errors and omissions	Risk that the design developed by the private sector of the facility does not meet the design specifications or that there are errors or omissions			X	Since the private developer is designer/contractor on the project, this risk is transferred to them.
23	Construction means and methods	Risk that events occur during construction that prevent the facility from being delivered on time and within budget			X	This is risk generated from the developer's techniques and is also transferred to them.
24	Quality	Risk that design or construction quality does not meet the specifications of the City			X	The project will have performance metrics in the specifications which will hold the private developer for all quality issues throughout construction and maintenance.
25	Cost overrun risk during construction	Risk that the actual project costs are higher than anticipated or budgeted and not due to Public sponsor changes			X	Estimating the total project costs is part of the developer's responsibility. Any cost overrun risks will therefore be transferred to the private party.
26	Construction contractor or subcontractor bankruptcy or default	Risk that the construction contractor or subcontractors file for bankruptcy or otherwise defaults and has to be replaced. This could result in delays to the delivery of the facility and additional costs			X	This risk is held by the bond company
27	Availability of suppliers/equipment and price changes in materials and labor	Risk associated with construction costs being higher than estimated by the construction contractor			X	
28	Timely completion of the facility	Risk that the construction schedule is longer than			X	Based on data compiled

Item #	Risk category	Risk description	Public	Shared	Private	Notes
		anticipated (at no fault or action of the City)				
29	Existing facility latent defects	Risk that patent or latent defects are discovered after occupancy date but prior to expiration of the respective statute of limitations	X			
30	New facility latent defects	Risk that patent or latent defects are discovered after occupancy date but prior to expiration of the respective statute of limitations			X	By law, a contractor is responsible for latent defects up to 10 years after project completion.
31	Business continuity during construction	Risk that LACC is closed more than 6 months.			X	
32	Force majeure – industrial/labor relation	Risk that a strike, industrial action, or civil commotion impedes availability of the asset or adequate level of service		X		Force majeure risk is unpredictable by both parties and is therefore shared
33	Force majeure - acts of God	Risk that structural elements, new and existing, are damaged due to an act of God, such as a seismic or other event		X		Force majeure risk is unpredictable by both parties and is therefore shared
34	Force majeure - terrorism	Risk that a terrorist act or threat renders LACC unusable due to physical damage or a closure directive from authorized source (e.g., Mayor, State Governor or military personnel)		X		Force majeure risk is unpredictable by both parties and is therefore shared
O&M						
35	Rehabilitation and replacement costs	Risk that the design or construction specifications result in poor asset performance and/or higher than anticipated maintenance and refurbishment costs			X	
36	Specific equipment continuous upgrade	Risk that specific equipment is not subject to continuous upgrade			X	
37	General capital maintenance/lifecycle cost schedule	Risk that capital maintenance to the structure and systems of			X	

Item #	Risk category	Risk description	Public	Shared	Private	Notes
		the building does not meet O&M or handback requirements.				
38	Preventative/periodic maintenance	Risk that periodic maintenance of the building is not adequate to sustain the service requirements			X	Assumes that private partner will be responsible for this item even when short term booking may not be within its responsibilities.
39	Level of service	Risk that public sponsor level of service requirements are changed or that performance of the asset does not meet the changed requirements	X			This risk factor would be a modification to the scope of work initiated by the City and would therefore be retained by them.
40	Unanticipated operating costs	Risk that the operating costs will be higher than projected due to inflation factor or because of inaccurate estimates and assumptions, affecting utility and maintenance costs.			X	
41	Operator failure (failure of subcontractors)	Risk that a the operator and/or subcontractor may fail financially or may fail to provide contracted services to specification			X	
42	Default of property management	Risk of bankruptcy or default of building maintenance company			X	
43	Hazardous materials determination	Risk that construction materials used in the Project are subsequently determined to be hazardous			X	
44	Force majeure – industrial/labor relation	Risk that a strike, industrial action, or civil commotion impedes availability of the asset or adequate level of service		X		Force majeure risk is unpredictable by both parties and is therefore shared
45	Force majeure - acts of God	Risk that contracted service delivery (pre- or post-completion) is not met because of an Act of God such as a seismic or other event		X		Force majeure risk is unpredictable by both parties and is therefore shared
46	Force majeure - terrorism	Risk that a terrorist act or threat renders LACC unusable due to physical damage or a closure		X		Force majeure risk is unpredictable by both parties and is therefore shared

Item #	Risk category	Risk description	Public	Shared	Private	Notes
		directive from authorized source (e.g., Mayor, State Governor or military personnel)				
Asset Ownership						
47	Remaining useful life is insufficient	Risk that the hand back requirements are not sufficient to meet the needs of the City once the Project Agreement expires			X	This risk will be held by the private developer since the specifications will involve performance metrics that would need to be met prior to transferring the asset back to the city.
Financing						
48	Debt sizing and financing costs	Risk that the market changes requiring more debt and/or at a higher cost			X	Risk matrix assessment and financial modeling
49	Increased Project costs	Risk that Project costs significantly increase between commercial close and financial close, and financial close does not occur		X		Depending on the factors that would result in the delay, this risk may be shared by both parties
50	Financial close delay	Risk that market demand is lower than expected, thereby delaying Developer ability to secure financing		X		Depending on which party caused the delay.
51	Refinancing risk	Risk that the market changes are not favorable to developer financial plan			X	The private developer will bear the burden of refinancing risk
52	Credit quality	Risk that the appropriate credit quality is not achieved			X	
53	CPI inflation (O&M including repair and replacement) cost escalation after financial cost	Risk that the inflation forecast moves outside the assumption range causing higher than anticipated costs			X	

Appendix G

Summary of Outreach Effort for the DBFOM Path

G. Summary of Outreach Effort for the DBFOM Path

G.1 DBFOM RFI Summary

G.1.1 Background

In April 2016, a Request for Information (RFI) was issued by the City of Los Angeles to evaluate the market's interest in a DBFOM procurement approach for the project. The purpose of the RFI was also to consider the optimal risk allocation model and the headline deal structure terms for a potential DBFOM procurement.

Sixteen responses were received from a variety of respondents including P3 developers, real estate developers, large convention and exhibition venues operators, P3 investors and lenders, real estate investors and lenders, and construction companies. Arup arranged one-on-one meetings with most of the respondents in the following week, during which the respondents provided more in-depth feedback.

G.1.2 Summary of the RFI response and One-on-one Meetings

The following outlines a summary of the responses that were received during the engagement activities.

- Some respondents raised concerns on the parallel CEQA/EIR process during procurement. Initiating procurement before the CEQA approval increases total project risk. Private proposers are concerned about bidding cost recovery once CEQA application is delayed/disapproved. Moreover, lenders would be reluctant to commit on the financing given the uncertain timeline of the CEQA process.
- Most respondents have concerns around City's Convention hotel plan and are unwilling to take hotel occupancy risk based on the reasons that:
    1. Market analyses (e.g. the CSL Preliminary market study[14]) have shown that there will be a sufficient supply of hotel rooms in the LACC district in near future, delivered by current hotels and other real estate in development;
    2. A 1000+ rooms hotel will require approximately 3 to 4 acres of real estate which may greatly constrain future expansion plans for the LACC or other types of real estate;
    3. The impact of the LACC modernization and expansion program on new hotel room demand is uncertain.
    4. Significant subsidy from City will most likely be needed for the convention hotel to be built.
- Most respondents would prefer a separate procurement for the real estate development and the LACC expansion and modernization project, because:

[14] CSL International, 2015, *Preliminary Market and Economic Impact Analysis for Potential Los Angeles Convention Center Development* (August 7, 2015).

1. convention center and real estate are different types of asset with different development cycles/perspectives, different lender's requirements and different expected return for equity investor's;
2. Separate procurement encourage maximum competition for each.
3. It is more difficult to determine the land value of the real estate parcels in a combined procurement. Generally speaking, keeping two project contractually independent avoid unnecessary bifurcation.

- Most respondents expect the project (or the LACC expansion and modernization project) to be an orthodox social infrastructure AP P3 with no revenue risks components. There is no substantial interest on taking the operation revenue.
- Several respondents suggest the City to have a master plan or land use plan in place with detailed specifications and zoning before tendering to private developers.
- Respondents have concerns around the real estate development entitlement. They expect all entitlements in place upfront for the land uses, otherwise the land value will take higher discount.
- Several respondents would like to explore the possibility to sell LACC's air rights and Floor Area Ratio (FAR) as a major revenue source of the project, as there are developers of nearby parcels actively looking to acquire air rights and FAR.
- Several respondents expressed the concerns on complexity for keeping convention center business continuity during construction.
- Most respondents confirmed the necessity of stipend for lost bidders since it shows commitment from the City and also encourage proposer to invest more on their bids. Some suggest multiple stages scheme for stipend.
- Some respondent suggest City (and P3 developer) to take equity in real estate development to align interest and share upside.
- Some respondent emphasized the need for political support for P3 model.

G.2 Stakeholder Meetings Feedback

G.2.1 Hotel Developers

Key takeaways from the stakeholders meeting with hotel developers, held May 11, 2016 at the LACC are summarized below:

- If Chick Hearn is closed to traffic, then site is less desirable
- Figueroa site connects well to South park neighborhood
- Proximity to LACC and visibility are key criteria, Figueroa site less so
- Interest in branded residential (rental or for sale), corporate too
- Improve walkability and discourage/avoid cut-through traffic

- Retail and activation of ground level, lifestyle aspects with events
- Preference for continued arrangement for event bookings
- Bring Southern California experience to LACC campus, and promote outdoor activities

G.2.2 Client Advisory Committee

Key takeaways from the stakeholders meeting with the client advisory committee, held May 11, 2016 at the LACC are summarized below:

- Business continuity is critical, City to drive LACC construction (not the market)
- Draw more live events on Georgia Street, and encourage walkability
- Mixed-use development needs to extend L.A. Live into the LACC site
- Scheme B provides good space contiguity and room for future expansion (1m ft^2)
- Positive views on centralized meeting rooms (especially for Scheme B)
- Some expressed interest in additional block of meeting rooms
- Scheme C brings more light into the LACC and creates an event terrace

G.2.3 Community

Key takeaways from the stakeholders meeting with the community, held May 12, 2016 at the LACC are summarized below:

- Preference to keep Gilbert Lindsay Plaza where it is (i.e., connected to the neighborhood)
- Urban grid reconnection is positive, use shared street typology
- Discourage cut-through traffic on 12th Street into Pico-Union area
- Check applicable zoning for the site
- Keep in mind multi-model mobility plan

Appendix H

Commercial Structure for the DBFOM Path

H. Commercial Structure for the DBFOM Path

H.1 DBFOM Project Company

The DBFOM Path requires the establishment and incorporation of a project company, typically a special purpose vehicle (SPV), and involves the establishment of a number of contractual agreements among the different parties to allocate specific risks and responsibilities over the project phases: design and construction, operation, and hand back.

The SPV (labelled as the DBFOM Project Company in Figure 55) will be responsible for the design, construction, financing and operation of the LACC expansion and modernization project. In addition, it will also be responsible for managing the routine maintenance and major (lifecycle) maintenance of the facility in exchange for an AP from the City.

A long term (40 years plus construction period) agreement (similar to a concession agreement) will regulate all the project company's rights and obligations toward the City, as well as the City's rights and obligations towards the project company, in regards to the procurement of the project. This is called the DBFOM agreement.

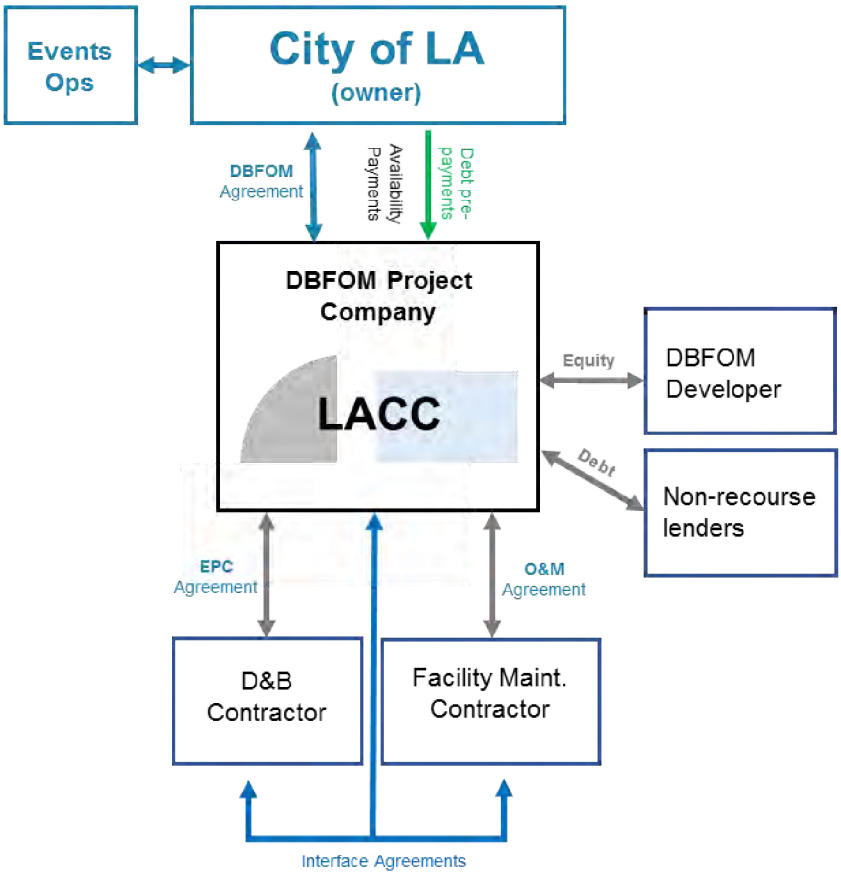


Figure 55: DBFOM possible structure

It is assumed that event bookings, daily operations and the related revenues associated with those activities will be kept under the current arrangements that the City holds (i.e., the City can continue to delegate operations to a private operator).

Through its equity stake in the DBFOM project company, the DBFOM developer will provide the City with a turn-key project development commitment for the LACC infrastructure, in exchange for an agreed AP (indexed to inflation) once the project has reached completion and operational readiness. This will be governed by the DBFOM agreement.

In order to meet its commitments under that agreement, the project company will enter into an energy performance contract agreement with the design and build (D&B) contractor, and an operation and maintenance agreement with the facility maintenance contractor (FMC). This will guarantee that the facility will be built in compliance with the operational specifications required by the FMC, who is committing to its underlying lifecycle investment schedule for the next 40 years. In order to ensure that the three parties are aligned, a tri-partite interface agreement will be executed between them.

To finance the development of the project, the DBFOM developer will contribute equity to the DBFOM project company and will arrange project finance loans to this vehicle (in terms and conditions, mainly tenor and interest rates that align with the nature of the transaction) that could be repaid out of the Project Company revenues (i.e., the AP from the City). The APs will be the sole compensation from the City to the DBFOM project company.

H.2 LACC Trust

The deal structure will rely on the incorporation of a trust (labelled LACC Trust in Figure 56) which will be responsible for managing all the underlying agreements and flows of funds between the City and the SPV. Figure 56 shows that the real estate revenue streams generated over time, which will be unique to this development path, as well as the signage and naming right revenue streams, will be captured in the LACC trust for the exclusive benefit of the project to alleviate the payment commitments (APs) of the City under the DBFOM agreement over time.

Each year that ground lease and media rights payments flow into the LACC trust, the net impact will be a reduction in the APs from the City to the LACC trust. Such reduction may be the result of the use of these resources to pre-pay the debt held by the project company, for example. Via this mechanism, as the value of the real estate development increases, it is expected that APs from the City will continually decrease over time.

H.3 DBFOM and Real Estate Developers Interface Agreement

To maximize the real estate value while accommodating the LACC expansion needs and the City's planning and environmental requirements, the real estate developer and the DBFOM developer would enter into an interface agreement. Through this agreement it is anticipated that the real estate developer and the DBFOM developer would work with the City and develop a master plan for the whole project.

The master plan would allow for maximizing the value that the project could bring to the City from a design, environmental and economic perspective in an effective and cohesive manner.

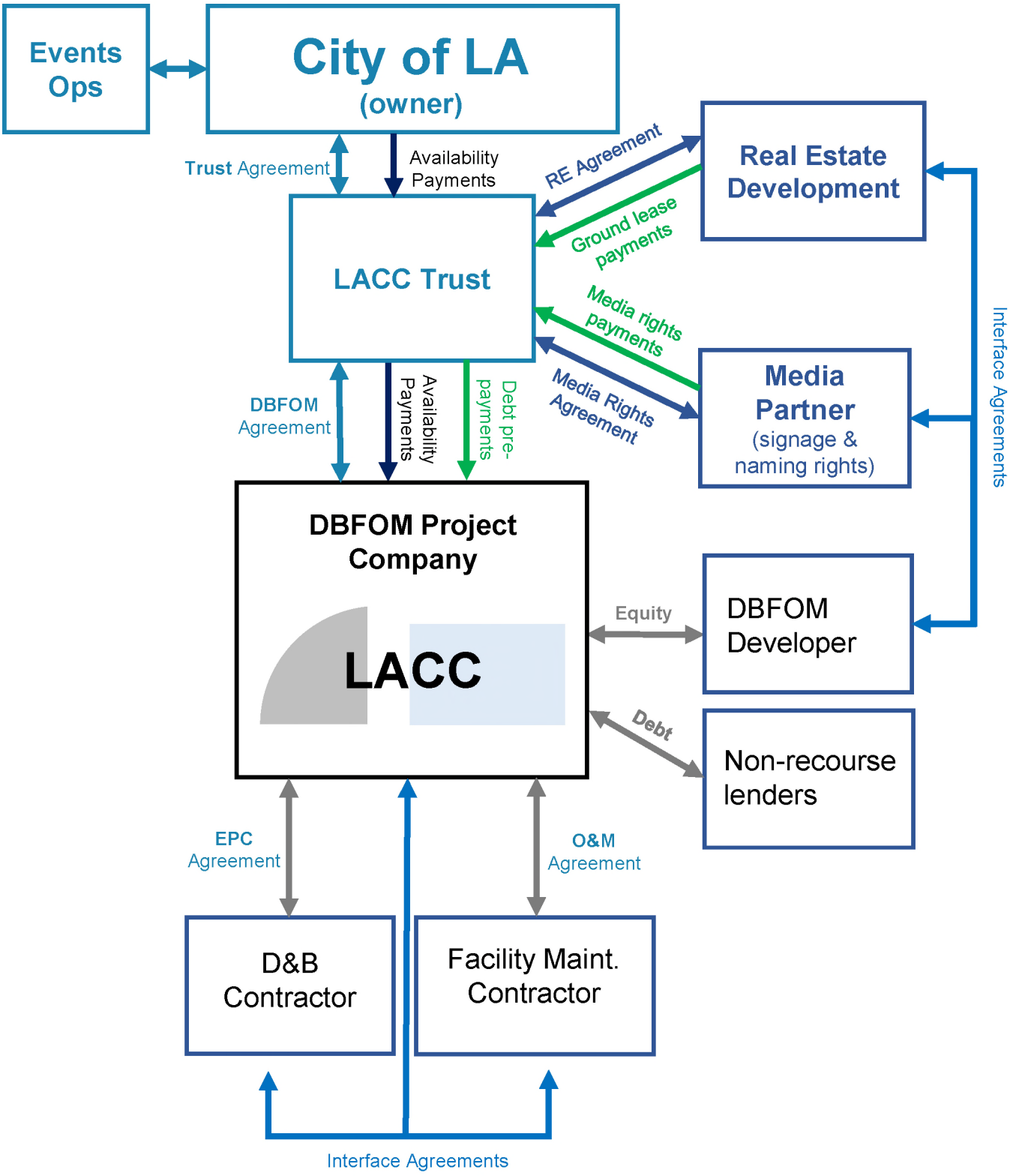


Figure 56: Full commercial structure

Appendix I
Financial Model

I. Financial Model

I.1 Purpose of the model

The purpose of the financial model is to produce the City's payment obligations or City cash flows for both Paths, covering pre-construction (procurement), construction, and operation periods.

I.1 Structure

The financial model compiles all technical, commercial, and financial **inputs** discussed throughout this report and combines them into several **calculation** tabs in order to compute the **outputs** of the analysis, the City cash flows for each Path.

The inputs and assumptions are organized as follows:

- The common inputs for either Paths are compiled in a single tab and includes timing conventions, key project dates, inflation assumptions, etc.
- The specific inputs for each Path are compiled independently, so the Traditional Path has a standalone input section and the DBFOM Path has its own input section (e.g., construction cost and schedule, lifecycle cost and schedule, financing costs).

For each Path, the calculation tabs and the output tabs are completely independent, thus for each Path a set of individual and standalone financial projections was developed.

The financial projections for the Traditional Path show the payments that the City will incur under a Traditional (CM/CG) procurement without any real estate development revenue consideration, as described throughout this report.

The financial projections for the DBFOM Path are split into two parts:

1. a shadow DBFOM model, which replicates the cash flows of a DBFOM developer responsible for developing and operating the LACC as per the technical, commercial, and financial considerations described throughout this report and that would be included in a DBFOM agreement, and
2. the City cash flows, which shows the payments that the City will incur under the DBFOM Path, net of proceeds from the real estate development.

The key metric computed by the shadow DBFOM model is the AP, representing the monetary compensation paid by the City to the DBFOM developer for developing the LACC and for providing the long-term operating services, including lifecycle, described throughout this report. The APs are revenues (resources or cash inflows) to the DBFOM developer and are payments (cash outflows) to the City, thus the APs are accounted for in the City cash flows, accordingly. Figure 57 summarizes the different sections of the financial model and the logic flow between them.

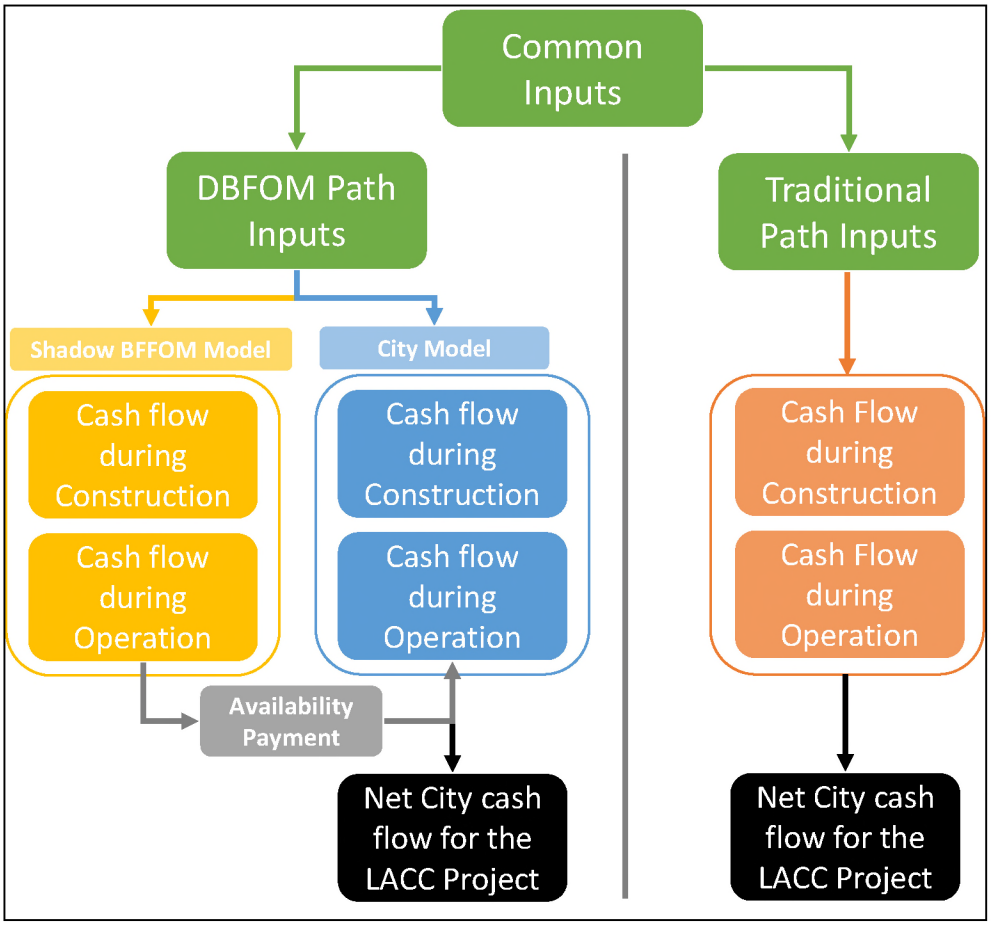


Figure 57: Financial model structure

I.2 Inputs and Assumptions

The model inputs and assumptions are split into three categories:

- Common for both Development Paths
- Traditional Path specific
- DBFOM Path specific

Additionally, some of the model inputs are constant throughout the analysis and other model inputs are time series that change over time.

The tables below summarize the key model inputs and assumptions. Refer to each individual section in this report for a description of how these inputs were calculated or what was assumed.

Table 30: Financial model inputs and assumptions

	Unit	DBFOM (High, Scheme B)	DBFOM (Low, Scheme A)	Traditional Path	Source
General inputs					
Construction length – Phase 1A	month	29	29	29	ICSE
Demolition – Phase 1B	month	10	10	-	ICSE
Length of operation period	years	40	40	40 + 10 mos	Technical inputs
Discount rate input	% p.a.	5.75%	5.75%	5.75%	CAO
CPI assumption		2.5%	2.5%	2.5%	Historical data and CA DOT forecast**
Construction phase					
Convention Center					
Construction cost	$m	1,032.3	846.5	720.7	ICSE
Private development costs & fees	$m	42.3	34.7	N/A	Technical input/ ICSE
Operator mobilization costs	$m	2.0	2.0	2.0	Technical inputs
SPV costs d/ construction	$m	2.6	2.6	N/A	Market recent transaction precedent
City					
City staff, for CEQA	FTEs	6.0	6.0	6.0	Discussed with CAO
All-in City staff base cost	$m per FTE/year	0.2	0.2	0.2	Discussed with CAO
All-in other soft costs	$m	10.0	10.0	N/A	Technical inputs
All-in City soft costs	$m	96.6	79.2	N/A	ICSE
Naming rights revenue	$m p.a.	1.0	1.0	1.0	Technical inputs
Signage revenue	$m p.a.	9.2	9.2	9.2	
Operation phase					
Annual SPV base cost	$m	0.3	0.3	N/A	Technical inputs
Annual energy savings	$m	(1.5)	(1.5)	N/A	Technical inputs
Annual routine maintenance base cost	$m	6.3	6.3	6.8	Historical data
Lifecycle					
Lifecycle budget (2016 $)	$m	490.0	505.8	779.7	ICSE
Financial					
Debt gearing input	%	90%	90%	100%	Market feedback

	Unit	DBFOM (High, Scheme B)	DBFOM (Low, Scheme A)	Traditional Path	Source
Equity gearing input	%	10%	10%	0%	Market feedback
Bond - Term	years	35	35	30	Market feedback/CAO
Fees					
Bond arrangement fee input	% of bond disbursement	0.50%	0.50%	$3.1m	Market recent transaction precedent/CAO
Bond commitment fee	% p.a.	0.80%	0.80%	-	
Bond agent bank fee input	$m p.a.	0.10	0.10	0.15	
Interest rate / Equity return					
Bond - Base interest rate (30-yr US-Treasury)	% p.a.	2.39%	2.39%	N/A	Market feedback/CAO
Bond - Interest rate margin	bps	250	250	N/A	
Bond - Fixed interest rate	% p.a.	4.89%	4.89%	5.40%	
Target equity return	% p.a.	11%	11%	N/A	
Repayment profile & covenants					
Bond - Min 12-month DSCR	x.xx	1.20	1.20	N/A	Market feedback
Bond - DSRA cash funding	mos	6	6	N/A	
Other					
Deposit rate on cash input	% p.a.	0.25%	0.25%	0.25%	Market recent transaction precedent
Equity					
Disbursement & commitment					
Equity disbursement at financial close amount	$m	20.0	20.0	N/A	Market feedback
Equity disbursement v Debt facility	% of funding requirements	50%	50%	N/A	
Fees					
Equity arrangement fee input	% of equity commitment	2.0%	2.0%	N/A	Market recent transaction precedent
Equity L/C fee input	% of equity commitment	4.0%	4.0%	N/A	

**The $ amount shown in the inputs table are in 2016$*
***http://www.dot.ca.gov/hq/tpp/offices/eab/socio_economic_files/2015/Final%20Forecasts/Los%20Angeles.pdf*

The quantitative comparison indicates that the DBFOM Path can deliver the three key benefits described above at a similar or lower net cost to the City.

I.3 Outputs

The tables and figures below summarize the net cost of the project from the City's perspective under each of the development paths in nominal terms.

The average results for the NCP over time the three key time periods of analysis for the Traditional Path are presented in Table 31 below. Table 32 and Table 33 present the NCP over same three key time periods for high end and low end of the DBFOM Path.

As can be observed in Table 31 through Table Table 33, at the high end of the range that has been evaluated the DBFOM Path would have a similar net annual cost to the City as compared with the Traditional Path in the first 20 years of operations, while the low end case has a lower annual cost to City in the first 20 years.

Table 31: Traditional Path average annual net City payments in nominal value

Components of net City payment	**Traditional Path cost (nominal $m)**		
	2018-2133	**2034-2047**	**2048-2060**
	Expansion project construction & renovation of West Hall, ramp up new revenues and operations	*Stabilization of new revenues*	*Expansion project debt retired (Traditional) Hand back of facility (DBFOM)*
Debt service	$47.1	$46.9	--
Plus: soft costs	$0.1	--	--
Plus: lifecycle maintenance & replacement	$24.0	$39.6	$46.2
Less: new revenues (naming rights and signage)	($11.4)	($18.6)	($25.6)
Annual NCP	**$59.8**	**$67.9**	**$20.6**

Table 32: DBFOM Path (high case, scheme B) - average annual net City payments in nominal value

Components of net City payment	**DBFOM high end of the range (nominal $m)**		
	2018-2133	**2034-2047**	**2048-2060**
	Expansion project construction & renovation of West Hall, ramp up new revenues and operations	*Stabilization of new revenues*	*Expansion project debt retired (Traditional) Hand back of facility (DBFOM)*
Availability payment (net)	$69.4	$114.3	$157.1
Plus: soft costs	$7.1	-	-

Components of net City payment	DBFOM high end of the range (nominal $m)		
	2018-2133	2034-2047	2048-2060
	Expansion project construction & renovation of West Hall, ramp up new revenues and operations	*Stabilization of new revenues*	*Expansion project debt retired (Traditional) Hand back of facility (DBFOM)*
Less: new revenues (naming rights and signage)	$(11.4)	$(18.6)	$(25.6)
Less: real estate revenue	$(4.4)	$(11.1)	$(15.3)
Less: real estate net tax revenue	$(4.6)	$(11.6)	$(15.9)
Annual NCP	**$56.2**	**$73.0**	**$100.2**

**Including routine maintenance saving and energy saving compared to traditional approach*

Table 33: DBFOM Path (low case, scheme A) - average annual net City payments in nominal value

Components of net City payment	DBFOM low end of the range (nominal $m)		
	2018-2133	2034-2047	2048-2060
	Expansion project construction & renovation of West Hall, ramp up new revenues and operations	*Stabilization of new revenues*	*Expansion project debt retired (Traditional) Hand back of facility (DBFOM)*
Availability payment (net)	$60.5	$99.6	$136.9
Plus: soft costs	$5.9	-	-
Less: new revenues (naming & signage)	$(11.4)	$(18.6)	$(25.6)
Less: real estate revenue	$(4.0)	$(7.6)	$(10.5)
Less: real estate net tax revenue	$(4.2)	$(7.9)	$(10.9)
Annual NCP	**$46.8**	**$65.4**	**$89.9**

**Including routine maintenance saving and energy saving compared to traditional approach*

Table 34 presents the annual net City payments in nominal terms, for both Traditional Path and the range of DBFOM Path. Table 35 presents the annual net City payments in real terms, for both Traditional Path and the range of DBFOM Path

Table 34: Nominal annual net City payments of Traditional Path and DBFOM Path (nominal $m)

Nominal $m	Traditional	DBFOM high (Scheme B)	DBFOM low (Scheme A)
2017	4.3	14.7	14.1
2018	46.9	43.1	35.3
2019	46.9	44.2	36.2
2020	38.5	50.0	41.8
2021	54.3	52.0	42.9
2022	54.5	53.3	44.0
2023	63.7	54.6	45.1
2024	63.8	55.2	45.5
2025	64.0	56.6	46.6
2026	64.2	55.7	45.5
2027	64.5	57.1	46.6
2028	64.7	58.6	47.8
2029	64.9	60.0	49.0
2030	65.1	58.8	50.2
2031	65.3	60.3	51.5
2032	65.6	61.8	52.8
2033	65.8	63.3	54.1
2034	66.1	61.8	55.4
2035	66.3	63.4	56.8
2036	66.6	65.0	58.2
2037	66.8	66.6	59.7
2038	67.1	68.3	61.2
2039	67.4	70.0	62.7
2040	67.7	71.7	64.3
2041	68.0	73.5	65.9
2042	68.3	75.3	67.5
2043	68.6	77.2	69.2
2044	68.9	79.2	71.0
2045	69.2	81.1	72.7
2046	69.6	83.2	74.6
2047	69.9	85.2	76.4
2048	23.3	87.4	78.3
2049	23.7	89.6	80.3
2050	24.1	91.8	82.3
2051	24.4	94.1	84.4
2052	24.8	96.4	86.5
2053	16.2	98.8	88.6
2054	16.6	101.3	90.8
2055	17.1	103.9	93.1
2056	17.5	106.4	95.4
2057	17.9	109.1	97.8
2058	18.4	111.8	100.3
2059	18.8	114.6	102.8
2060	24.3	97.9	87.8

Table 35: Real annual net City payments of Traditional Path and DBFOM Path (2016 $m)

2016 $m	Traditional	DBFOM high (Scheme B)	DBFOM low (Scheme A)
2017	4.2	14.5	13.9
2018	45.2	41.5	34.1
2019	44.1	41.5	34.1
2020	35.3	45.8	38.4
2021	48.6	46.5	38.4
2022	47.6	46.5	38.4
2023	54.2	46.5	38.4
2024	53.1	45.9	37.8
2025	51.9	45.9	37.8
2026	50.8	44.1	36.0
2027	49.7	44.1	36.0
2028	48.7	44.1	36.0
2029	47.7	44.1	36.0
2030	46.7	42.2	36.0
2031	45.7	42.2	36.0
2032	44.7	42.2	36.0
2033	43.8	42.2	36.0
2034	42.9	40.1	36.0
2035	42.0	40.1	36.0
2036	41.1	40.1	36.0
2037	40.3	40.1	36.0
2038	39.5	40.1	36.0
2039	38.7	40.1	36.0
2040	37.9	40.1	36.0
2041	37.1	40.1	36.0
2042	36.4	40.1	36.0
2043	35.7	40.1	36.0
2044	35.0	40.1	36.0
2045	34.3	40.1	36.0
2046	33.6	40.1	36.0
2047	32.9	40.1	36.0
2048	10.7	40.1	36.0
2049	10.6	40.1	36.0
2050	10.5	40.1	36.0
2051	10.4	40.1	36.0
2052	10.3	40.1	36.0
2053	6.6	40.1	36.0
2054	6.6	40.1	36.0
2055	6.6	40.1	36.0
2056	6.6	40.1	36.0
2057	6.6	40.1	36.0
2058	6.6	40.1	36.0
2059	6.6	40.1	36.0
2060	8.3	33.5	30.0

I.4 Summary of Scenario Analysis

This section includes the results of the scenario analysis for the DBFOM Path, towards variance of construction cost and real estate revenue. Table 36 and Table 37 show the impact on net City payments of both high case and low case, resulting from change in construction cost and real estate revenue.

Table 36: Sensitivity analysis - net City payment of DBFOM Path (high case, scheme B)

Construction cost change	**Low case – 10%**	**Base case**	**High +10%**
Net City payment in 2036 (% change)	-10.6%	0.0%	6.8%
Real estate revenue change	**Low case – 20%**	**Base case**	**High +20%**
Net City payment in 2036 (% change)	6.2%	0.0%	-6.2%

** First full year of new revenue stabilization*

Table 37: Sensitivity analysis - net City payment of DBFOM Path (low case, scheme A)

Construction cost change	**Low case – 10%**	**Base case**	**High +10%**
Net City payment in 2036 (% change)	-9.3%	0.0%	10.4%
Real estate revenue change	**Low case – 20%**	**Base case**	**High +20%**
Net City payment in 2036 (% change)	4.7%	0.0%	-4.7%

** First full year of new revenue stabilization*

I.5 Internal Review

In order to test the robustness, consistency, and logic and mathematical accuracy of the financial projections for both development paths, a senior financial modeler conducted an internal high-level review of the financial model.

The scope of the internal review included:

- Consistency of the model inputs with the results of the technical analysis as well as other sources of information used.
- Overall consistency of the overarching analysis, compared to the business model proposed for the DBFOM Path and Arup's understanding of the business model for the Traditional Path.
- Mathematical accuracy of the financial projections.
- Logical accuracy of the model checks.
- High-risk formulae.

The model inputs, as well as the overarching analysis, are consistent with the technical, commercial, and financial assumptions and parameters shown throughout this report and the business models described, respectively. Additionally, the financial model's logic, formulae, and calculations are arithmetically accurate.

This internal testing is not to be considered a formal audit for the financial projections. Any recipient may conduct its own independent audit/review/analysis in order to verify its functionality and/or performance.

Appendix J

Naming Rights and Signage

HR&A Analyze. Advise. Act.

Los Angeles Convention Center Funding Opportunity Analysis
Real Estate and Non-Real Estate Revenue Assumptions

December 17, 2015

Signage Revenue Assumptions

Annual Funding Potential (2015 $)

$6 - $9 million

Potential signage revenue range is based on CS&L's "Los Angeles Event Center Signage Analysis" (2011), using 2015 prevailing ad sale prices, and incorporating a higher proportion of digital signage and supergraphics similar to LA Live. Revenue projections assume private operation and in-house ad sales without the participation of a third-party media selling partner. Projections are net of operating and capital expenses.

Key Assumptions

- Low scenario includes 30 regular signs, 2 digital signs, and 5 large signs (including 1 supergraphic).
- High scenario includes 30 regular signs, 16 digital signs, and 5 large signs (including 1 supergraphic).
- Regular signs are defined as traditional billboards with an area of 1,100 SF; large signs are defined as traditional signage with an area of 3,300 SF; and supergraphics are defined as traditional signage with an area in excess of 150,000 SF; digital signs are defined as high-definition LED video screens with at least 250 SF per screen.
- Value based on the industry standard unit of Cost Per Thousand (CPM), as determined by publicly available rate cards from major Los Angeles outdoor advertising operators and interviews media sales company representatives.
- Weekly DEC (daily effective circulation), an industry metric used in determining the number of views that an ad can capture, is based on the CS&L report, which HR&A reviewed against current traffic estimates, and is roughly 5,200,000 for signage facing I-10 and I-110 and 250,000 for all other faces.
- Capital and operating expenses based on industry standard revenue/expense ratios.

Naming Rights Revenue Assumptions

Annual Funding Potential (2015 $)

$0.4 - $1 million

Naming rights revenue projection is based on the average annual revenues of five comparable naming rights deals for convention centers, plazas and a ballroom with sponsorship terms ranging from five to twenty years. Given the small pool of comparable naming rights deals completed in the past five years, projections are based on deals originating between 2003 and 2015. Total funding potential reflects the sum of potential naming rights revenue for three components: the overall convention center, a ballroom within the convention center, and an open-air public plaza.

Key Assumptions

- Naming rights revenue is assumed to be collected on an annual basis from the sponsor, as is the case with the majority of naming rights deals reviewed.
- Low scenario based on annual naming rights revenue for lower-profile venues without significant visitation or proximity to venues with nationally-televised events. Individual components generate between $10,000 and $300,000 in annual revenue.
- High scenario based on annual naming rights revenue for higher-profile venues with annual visitation over 4 million. Individual components generate between $180,000 and $500,000 in annual revenue.
- No major convention centers have been able to achieve naming rights revenues exceeding $500,000 annually.
- Typically, venues do not achieve significant naming rights revenue without a program of major sports, entertainment or other events that are widely-televised or advertised. There is precedent for package deals for complexes that include convention centers, event arenas and sports stadiums.

MGAC

Independent Cost and Schedule Validation

LOS ANGELES CONVENTION CENTER
EXPANSION PROJECT

June 17, 2016

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SECTION

1.

EXECUTIVE SUMMARY

The City of Los Angeles is considering two alternative procurement approaches to the expansion, operation, and long-term maintenance of the Los Angeles Convention Center (LACC). One approach involves a traditional Construction Manager/General Contractor (CM/GC) delivery method with the design work performed by Populous, the construction competitively bid and awarded to a general contractor at risk, with all the work being funded through the City. The alternative approach is to award the project to a developer who would design, build, finance, operate and maintain (DBFOM) the facility. The City has engaged HOK/Arup to develop the design concept which would be delivered via DBFOM. The City is to evaluate these two options for value for money to determine which provides the greatest benefit.

MGAC was retained to provide an independent review of both schemes to provide input to the business case/value for money analysis being developed for the expansion.

Our analysis is based on assessing the Total Life Costs for the two schemes. Total Life Costs are derived from assessing the condition of an asset to determine its needs over the near, intermediate, and long term. Total Life Costs, also referred to as the Costs of Ownership, include the capital cost (i.e. hard and soft costs of construction) of a chosen capital improvement plan as well as the asset's "lifecycle costs", which are estimated future capital investment requirements to refurbish, refresh, and/or replace an asset's building elements and components as they reach the end of their design or useful life.

Accordingly, we have:

- reviewed the capital cost projections provided by both Populous and HOK/Arup for their respective schemes and from these projections we have developed our own capital cost opinion, and a comparison between the two schemes;
- reviewed and provided our opinion on the life-cycle cost analysis provided by HOK/Arup for the DBFOM scheme, developed our own analysis for the CM/GC scheme and provided a comparison between the two;
- reviewed the timelines for development of the two schemes and provided our own opinion on the likely schedule for these projects.

In summary we have developed the following cost projections for the two schemes:

	DBFOM Scheme	CM/GC Scheme
Capital Cost	$1,128 million	$720 million
Life Cycle Cost	$490 million	$780 million
Total Life Cost (40 years)	$1,618 million	$1,500 million

Our approach and findings are summarized below.

In order to develop our opinions on cost and schedule we have reviewed various reports provided to us, spoken with the design teams and the operations team at the Convention Center, and toured the Convention Center buildings.

Both design teams have indicated that the design concepts are preliminary in nature and as a result, the estimates of cost should be considered so too. We present them as orders of magnitude of cost. We recommend that the budget be re-visited once the design has moved on to a concept level when the scope will be more clearly defined and the phasing of the works considered in detail. That said, we have provided our best professional opinion as to the cost to develop each scheme as defined to date, and compared our projections to those developed by both the Populous and

EXECUTIVE SUMMARY

The result of our study for the DBFOM scheme is an estimate of construction cost (escalated to a start date of December 2017) of $890 million, which with the addition of indirect costs (design fees, project administration etc.) rises to a total of $1.128 billion. This total is approximately 15% higher than the figures provided to us by Arup for that scheme.

For the CM/GC option we have estimated the construction cost (escalated to a start date of July 2018) at $515 million, which with the addition of indirect costs calculates to a $720 million project cost. The estimated construction cost represents a significantly higher cost (50% higher) than the estimate provided by Populous, at $350 million. We assume that this difference in cost can be equally divided between scope differences and pricing differences in the estimates. In the scope category we have included building areas from the Facility Program which are greater than those in the Populous estimate, plus we have included code, seismic and other required upgrades to the existing buildings which were not included in the Populous estimate. (We have included the same building upgrade factors to the estimate for the DBFOM scheme.) We expect the pricing differences to be in unit price and quantity allowances in addition to the contingency budgets, general conditions and escalation allowance differences we have been able to specifically identify.

The second aspect of our review is an assessment of the lifecycle/refurbishment requirements of the two different schemes presented to us. In an effort to provide an "apples to apples" comparison, a common 40 year investment horizon has been determined for the assessment. However, the approach and design schemes are fundamentally different and are reflected in significant differences in initial capital investment.

For purposes of the review, lifecycle costs include the future anticipated capital investment requirements to refurbish, refresh and/or replace building elements and components as they reach the end of their design or useful life. This includes such items as carpeting, interior finishes, heating, ventilation and air-conditioning systems (HVAC), roof coverings, life safety & security systems, windows, exterior building elements, electrical components, etc. Lifecycle costs do not include, nor are they intended to replace, normal ongoing and day-to-day operations, maintenance, repair and energy expenditures.

Both of the schemes include reuse of existing space and systems and as such, there has to be a reconciliation of the lifecycle costs associated with each scheme. To support this, a model has been developed that calculates a current replacement value (CRV) of the elemental components of the facility based on the proposed total space (new and existing) multiplied by a commonly-applied unit cost of construction/replacement. Different factors have been developed for the South and West Halls to recognize their age difference and the impending heritage status of the West Hall. Using the methodology noted above, a formula-driven indicative lifecycle estimate has been determined for 40 years and added to the overall total for each approach. Typically, cost projections fall into an expected high to low range. For purposes of this analysis, the mid-point has been utilized in all calculations.

There is no current comprehensive condition assessment of the existing buildings and the review has relied on project briefs and other background information provided by the Bureau of Engineering, among others.

In the absence of a detailed condition assessment, particularly with respect to the West Hall, it is assumed that the facility and its elements are generally at the end of its normal service life and will require a significant refurbishment and modernization in the short term in order to be consistent with the new and renovated portions of the Convention Center and provide the required functional program space. Following the upgrades, the West Hall would then be subject to normal lifecycle re-investment levels for a building of its age and historical status. An amount of $105 million has been included in the lifecycle requirements of the CM/GC model to address upgrades to mechanical, electrical and architectural elements of the building. This has been calculated on the basis of $125 per square foot which represents approximately 25% of the unit cost for new construction. Work of this nature may trigger additional requirements related to code standards and this provision should be considered a conservative minimum threshold of investment.

EXECUTIVE SUMMARY

Based on the design proposals and background information provided by the key stakeholders, 40 year lifecycle profiles have been developed for each scheme that include projected future costs for both the new and existing areas that will comprise the expanded and renovated Los Angeles Convention Center at the end of the construction period. The projections are subject to change resulting from modifications to the project scope during the detailed design development stage. The summarized recommended lifecycle estimates at net present value are approximately $490 million for the DBFOM approach and $780 million for the CM/GC approach over a 40 year period.

Finally, we have reviewed the schedule information provided for the alternative schemes.

The schedule for the DBFOM approach assumes a start to the CEQA/EIR/Planning and Council approval process in March 2016. We are already beyond this date. Within the schedule the design process is projected to be of 10 months duration and we believe that this is somewhat aggressive and would project a 12-15 month duration for design. The schedule projects overall completion of the project in January 2021. Given the delayed start to the process and our recommendation for a longer design period, we would suggest completion by mid 2021 assuming that the approval to proceed would be imminent.

The CM/GC approach projects an overall timespan of 52 months. Based upon a project commencement in June 2016, the project would be completed in October 2020. We agree with this assessment.

It should be noted that the schedule duration is directly affected by Populous' indication that the design and construction phases would overlap by 5 months. Construction is projected to commence 5 months before the design is complete and in this approach bids would be sought with incomplete documents. While this can be advantageous from a time perspective, it typically adds to the risk of prices increasing after initial contract award. We have attempted to capture this in our price risk assessment within the capital cost projection.

SECTION

2.

CAPITAL COST

We have reviewed, for reasonableness, the estimates provided by the consultant teams for both the CM/C and DBFOM schemes and have developed our own opinion of capital cost from this review. Our review focused on the cost allowances for each component/system within the buildings (new and renovated space) and from this, we developed a comparison of capital cost between the two schemes. The estimates provided were at a Uniformat Level II level of detail and are based on program/concept level information. Given the preliminary nature of the information provided, the cost review should be treated as an order of magnitude cost review with a predicted accuracy of +/- 15%.

For each of the system cost allowances we have developed a cost projection based upon the program, concept layouts and our walk-throughs of the existing facility. We have developed cost data for each building system and site component based upon the requirements of the project, referencing current market conditions in the Los Angeles area in order to apply appropriate labor and material cost factors.

In addition, MGAC has evaluated appropriate contingencies for the two schemes as currently conceptualized and in consideration of the different delivery models as follows:

1. Design development

The first contingency relates to development of the design, covering items that estimators simply cannot anticipate at this early stage of project definition. It is customary for this contingency to be in the range of 10-15% of base construction cost at this stage of the project. We have applied this at 10% for both schemes.

2. Phasing

The second contingency we have applied relates to the phasing of the work. The Convention Center has stated that the facility needs to be fully operational throughout the construction phase and while we have not developed a detailed plan for how the construction work would be performed, we do believe that construction will need to be phased such that the convention center is minimally impacted throughout. This would require temporary works to be constructed and then removed, we also anticipate a premium cost with off hours working and the potential sub-optimal use of labor and equipment at times. We have applied a phasing contingency to both schemes, since the requirement for a fully functional Convention Center applies to both.

3. Escalation

A third contingency covers the escalation of costs in this market place. The escalation forecast for Los Angeles Convention Center project has been developed using both a quantitative analysis and qualitative assessment. Location specific construction cost indices, the ENR Building Cost Index and RS Means Construction Cost Index are used to formulate our baseline forecast; broader macroeconomic indicators are screened to check the baseline forecast and to form insights for the future construction industry outlook. Project specific conditions such as the bidding environment are evaluated in order to arrive at a recommended construction escalation rate specifically for the Los Angeles Convention Center project.

Based on our analysis, we recommend an annual escalation rate of 4% for the Los Angeles Convention Center project to the projected construction start dates. The main reasons are summarized below:

- Our baseline forecast using location-specific five-year historical indexes from the ENR Building Cost Index and RS Means Cost Index yields an annual escalation rate of roughly 2%. The forecast is in line with the broader market indicators such as the Consumer Price Index (CPI) and Producer Price Index (PPI). However, it should be noted that both the ENR index and RS Means index are calculated based on a combination of common construction materials and labor costs with fixed weights on each cost composite, thus only represent the average building construction costs across the Los Angeles region at best. Therefore, the baseline forecast should be treated as a lower bound estimate and should be adjusted based on the analysis of other factors specifically for the Los Angeles Convention Center project.

- The construction labor shortage, especially the skilled labor shortage, is a major construction cost driver currently in the Los Angeles area. The construction unemployment rate is lower than that at the national level, and the construction wage is increasing faster than the national average. Given the complexity of the project, the skilled labor shortage would be felt more strongly and thus an additional 1% cost increase is added to the baseline forecast.
- Considering the scale and complexity of the project, the bidding environment is expected to be less competitive as the qualified firms are limited. Based on academic research and our evaluation of potential bidder environment for the Convention Center project, a 1% bidder environment markup has been applied on top of the baseline forecast.

4. Risk

Finally there is a general risk contingency, or "construction contingency". The differences between the delivery methods consider risk allocation and this needs to be factored. Issues to be considered include the likelihood of design errors and omissions, change order risk and probability, level of owner input required during design and construction as well as market and procurement risk.

With the traditional CM/GC project delivery, all risk lies with the Owner in respect of design errors, omissions, and potential change orders for missed scope and differing conditions. Resultant cost overruns on largescale public projects delivered via a CM/GC approach in this market place have been well documented. These may have been minimized by better planning, oversight and more stringent change order control, nonetheless history shows that final costs on largescale public projects have exceeded budgets and often by significant amounts. It is challenging to develop a reliable analysis of cost variances on these projects. Where projects appear to be on budget, they may be delivering significantly less program, performance or scope than was originally intended. Others may have received budget augmentation along the way. So there is no consistent record of project costs which includes the initial budget and scope requirement lined up against final cost and scope delivered. However there is extensive data and anecdotal evidence speaking to the greater risk transfer with CM/GC projects and we have attempted to capture this with our statistical analysis.

Conversely, with DBFOM procurement, most design and construction risk is borne by the DBFOM entity. We say most, because it is absolutely critical that the Owner provides a Basis of Design document that effectively and completely defines and describes every element of the project. If this is not provided, the DBFOM entity will use its discretion on the quality and suitability of elements not defined. Typically, the measure of these items is what has the least cost to the Design-Builder.

The result of our analysis on risk is to add an 8% risk factor to the DBFOM scheme and a 14% factor to the CM/GC for the reasons stated above.

Project Cost Mark-Up

Finally, we have added budgets for soft costs on top of the recommended construction budgets in order to provide an estimate of the overall project budget. Such items include design fees, furniture, fixtures and equipment, environmental costs (EIR/CEQA), project administration fees and IT systems. A number of the budgets are calculated as percentages of construction cost as is customary at the budget stage of projects.

In the paper Investigation of Bid Price Competition Measured through Prebid Project Estimates, Actual Bid Prices, and Number of Bidders, Paul G. Carr quantitatively analyzed a data set of 243 construction project bids and discovered that when the bidding environment is less competitive (number of bidders ranges from 1 to 4), the low bid deviates from the estimate by 1% to as large as 15%.

CAPITAL COST ESTIMATE

CM/GC OPTION

MGAC

BASIS OF ESTIMATE/REFERENCES

- Site visit to review existing conditions
- Discussions with the Architect, City representatives and Operations staff at the Convention Center
- Facility Program, for Los Angeles Convention Center Expansion and Renovation (October 21, 2015)
- LACC Expansion & Renovation – Concept Validation, Volume Two – Drawings dated June 8, 2016
- LACC Expansion & Renovation – Concept Validation, Volume Three - Narratives and Reports, June 8, 2016

ASSUMPTIONS

General

- The project will be procured under a single construction contract
- The project will be competitively bid for all sub-contract works
- The phasing and sequencing of the work will be determined by the General Contractor in order to meet the proposed / required schedule - premium for phasing requirements is included in the cost plan based on a percentage factor of trade costs
- The facilities are required to be in full operation during construction
- Contractor staging and parking will be made available on or adjacent to the site

Existing West Hall and Concourse Hall

- The existing link bridge connecting the South and West Halls will be demolished
- The existing building adjacent to the West Hall will be demolished
- Minor roof upgrades to the existing West Hall are included
- Allowances are included for seismic upgrade work to the West Hall, including seismic upgrades relating to MEP equipment
- Seismic joint covers included between the West Hall and the new expansion
- Signage upgrades are included – to match the new building

Existing South Hall

- Demolition of the existing curved back wall, loading dock ramps and canopies is included
- Exterior façade improvements to the existing building are required to provide an aesthetic connection the new expansion
- Minor roof upgrades are require to match the new expansion
- Allowances are included for seismic upgrade, including to the atrium
- Seismic upgrade allowances in connection with MEP equipment
- Seismic joint covers included between the South Hall, Concourse Hall and the new expansion

ASSUMPTIONS

New construction assumptions

- Normal ground conditions assumed - rock excavation and soil mitigation are excluded
- The building will be founded on conventional spread footings and continuous wall footings
- The new addition will be structurally separated from the existing building - seismic joint covers are provided between new and existing structure
- The structural framing system is assumed to be similar to the existing structure - reinforced concrete flat slab on the lower floor with reinforced concrete shear walls for the lateral load resisting system at level +250', structures above level 250' will be framed with structural steel for both gravity and lateral framed resisting systems. Steel framing is based on an average structural steel weight of 28 pounds per square foot. All steel will be fireproofed.
- Structural support to curtain walls, new air walls and catwalks is included
- Structural modifications to the existing deck at El+250' to suit new loading capacity is included
- Exterior façade treatment assumes a combination of composite metal panel system, glazed curtain walls (to approximately 20% of the exterior walls) and plastered CMU walls at the back of house areas
- Roofing includes single ply membrane roofing and precast concrete pavers to plaza and terraces - an allowance is also provided for green roof construction
- Interior construction includes all fixed walls and operable partitions to exhibit halls, ballroom and meeting rooms. It also includes new doors and interior glazing. Acoustical doors are provided to function spaces
- The allowance for interior finishes is based on the following:
    - Exhibit hall - sealed concrete floor, paint to walls and exposed ceiling with allowance for acoustical ceiling panels
    - Ballroom - carpet, a combination of upholstered acoustical wall panels and wall covering to walls, stretch fabric ceilings
    - Meeting rooms - carpet to floors, a combination of upholstered acoustical wall panels, wall covering and painted gypsum board to walls, acoustical ceiling panels
    - Public toilets - ceramic floor and wall tiles, and painted gypsum board ceilings
    - Pre-function areas - carpet to floors, a combination of veneered plastered walls and wall covering, architectural grade gypsum board ceilings
    - Back-of house areas - sealed concrete floors, painted gypsum board with wall protection panel up to 4' high, exposed ceilings
    - Plating Kitchen/ Pantries/Kitchen - quarry floor tiling, FRP wall panels and washable ceiling tiles
    - Building support spaces - linoleum flooring/sealed concrete, painted walls and acoustical ceiling tiles
- Interior fittings and specialties are provided based on cost/sf allowances
- Fixed furniture to support spaces are included
- Fifteen (15) passenger elevators, two (2) freight elevators and two (2) service elevators are included
- Twenty-one (21) escalators are included
- Plumbing includes sanitary fixtures, waste, vent, domestic water pipework systems, floor and roof drainage, natural gas, compressed air and industrial cold water to exhibition hall floor boxes, kitchen service connections and grease waste - fuel/oil separation systems

CAPITAL COST ESTIMATE

CM/GC OPTION

ASSUMPTIONS

- HVAC includes hi-efficiency central heating and chilling, thermal ice storage, distribution pipework, roof-mounted air handlers/vehicle exhaust at exhibition halls, 24/7 cooling, terminal reheat, stair pressurization, kitchen exhaust, pollution control units, air distribution and controls
- Electrical includes normal, emergency, machine, equipment and user convenience power, floor box power and data, lighting, telephone/data, A/V (conduit only), fire alarm and security. (A/V equipment and cabling allowances included in our project costs – not construction)
- Fire protection includes automatic wet sprinklers, fire department hose valve connection points at stairwells and fire water booster systems

Site Work

- Site improvements to the existing Gilbert Lindsey Plaza
- Surfacing, landscaping and furnishings to proposed deck terraces – waterproofing to the deck is included with the building construction budget
- An allowance is included to upgrade the entire finished site (except areas allocated for future development)
- An allowance to cover sidewalk and street improvement that will be impacted by demolition / renovation is included in the cost plan
- Modifications to Pico Boulevard between Figueroa Street and LA Live Way
- Reconfiguration of the loading dock ramp and Convention Center Drive
- Screen walls between the new construction and the freeway
- Upgrades to exterior signage
- Site utilities include domestic and fire water, water realignment, sewer, storm drainage, site lighting, natural gas, CHW/HHW pipework distribution across Pico Blvd., 35/4.16 kV normal power equipment and cabling, telecommunications and signals connections to existing infrastructure.

Excluded from the scope of the project and/or our budget

- Operational equipment
- Moving and relocation expenses during construction and on completion
- Parking space replacement
- Upgrades to existing main kitchen food service equipment
- Existing South Hall mechanical and electrical system replacement/upgrades (except seismic upgrades to existing systems, Pico Passage ventilation, fire alarm code upgrades and minor lighting replacement and re-lamping)
- Water recycling systems
- Underground diesel/fuel oil storage systems
- Specialty gaseous fire suppression systems
- Emergency fire water storage systems
- Photovoltaic renewable energy systems (provision for future installation only)

Excluded from the scope of the project and/or our budget

- Show lighting and controls
- Telephone/data “active” equipment – including hubs, routers, servers, switches, LAN, UPS and the like
- Included in our project cost mark-up
- Independent 3rd party MEP commissioning systems
- Audio-visual equipment and cabling
- Utility connection charges and fees

Included in our project cost mark-up

- Independent 3rd party MEP commissioning systems
- Audio-visual equipment and cabling
- Utility connection charges and fees

MGAC

Project Cost Summary Comparison - CM/GC Option

			MGAC				Populous		
			SF	$/SF	TOTAL $x 1,000		SF	$/SF	TOTAL $x 1,000
I.	Renovation / Demolition		2,491,396	11.03	27,478		2,491,396	7.37	18,362
II.	New Construction		693,961	519.60	360,580		550,953	421.51	232,231
TOTAL BUILDING CONSTRUCTION					388,058				250,593
III.	Sitework		615,229	55.71	34,273		360,146	52.80	19,016
TOTAL SITEWORK					34,273				19,016
TOTAL BUILDING AND SITEWORK					422,331				269,609
Z21	General Conditions	6.00%			25,340	8.50%			22,917
Z22	Bonds & Insurance	3.00%			13,430	2.10%			6,143
Z23	Contractor's Overhead, Profit & Fee	3.00%			13,833	4.00%			11,947
BUILDING CONSTRUCTION COST BEFORE ESCALATION					474,934				310,615
Z30	Escalation to Start Date (Jul 2018)	8.51%			40,436	10.50%			33,262
RECOMMENDED BUDGET FOR CONSTRUCTION					515,370				343,877 [1]
Project Soft Costs (Additonal to Construction Budget)									
	Local and Government Fees / Permits and Testing Fees	4.00%			20,615	4.00%			13,988 [2]
	Furnishings, Fixtures & Equipment (FF&E)				4,169				2,389 [3]
	IT / Communicationns / Audio-Visual System				5,837				
	Special Mock-ups				100				100
	Artwork (Including Installation)	1.00%			5,154	1.00%			3,497
	Federal, State and Local Agency Costs (Legal)				3,000				3,000
	Environmental (EIR/CEQA)				1,500				1,500
	BCA Inspection Fees	4.00%			20,615	4.00%			13,988
	Professional (Design / Services) Fees	10.00%			51,537	10.00%			34,970
	Project Administration	4.00%			20,615	4.00%			13,755
TOTAL PROJECT SOFT COSTS					133,141				87,187
	Project Contingency	14.00%			72,152	8.80%			37,984
RECOMMENDED PROJECT BUDGET					**720,663**				**469,049** [4]

Note:

1. For comparison purposes - Populous cost estimate is reformatted to match the ICE (FF&E and Permit & Testing Fees are shown as part of project soft costs)

2. The BOE's percentage factor of 4% for local government fees/ permits and testing fees is applied to Populous estimate (in lieu of 1.4% noted in Populous cost model)

3 .FF&E value is shown as part of Soft Costs to line up with ICE

4. Project soft costs shown in BOE's project budget soft costs are applied in Populous Cost Model - for comparisonwith ICE

MGAC

Component Cost Summary Comparison (CM/GC Option)

		MGAC		Populous		Difference '+/(-)
		$/SF	Total $ x 1,000	$/SF	Total $ x 1,000	
		693,961 SF		623,268 SF		
A10	Foundations	15.56	10,801	15.42	9,611	1,190
A20	Basement Construction	0.00	0	0.00	0	-
A	Substructure	15.56	10,801	15.42	9,611	1,190
B10	Superstructure	136.37	94,639	96.90	60,393	34,246
B20	Exterior Enclosure	63.47	44,045	48.65	30,324	13,721
B30	Roofing	27.11	18,810	23.42	14,594	4,216
B	Shell	226.95	157,494	168.97	105,311	52,183
C10	Interior Construction	33.41	23,187	21.63	13,483	9,704
C20	Stairways	5.39	3,740	0.00	0	3,740
C30	Interior Finishes	35.07	24,338	27.21	16,957	7,381
C	Interiors	73.87	51,264	48.84	30,440	20,824
D10	Conveying Systems	15.24	10,577	11.35	7,072	3,505
D20	Plumbing Systems	13.76	9,550	9.82	6,122	3,428
D30	Heating, Ventilation & Air Conditioning	56.84	39,443	50.24	31,313 #	8,130
D40	Fire Protection	6.28	4,355	4.66	2,903	1,452
D50	Electrical Lighting, Power & Communications	55.02	38,184	43.82	27,309 #	10,875
D	Services	147.14	102,109	119.88	74,719	27,390
E10	Equipment	3.19	2,214	6.59	4,106	(1,892)
E20	Furnishings	0.78	540	0.00	0	540
E	Equipment & Furnishings	3.97	2,754	6.59	4,106	(1,352)
F10	Special Construction	0.00	0	0.00	0	-
F20	Selective Demolition	2.56	1,774	0.00	0	1,774
F	Special Construction & Demolition	2.56	1,774	0.00	0	1,774
G10	Site Preparation	1.41	978	10.44	6,504	(5,526)
G20	Site Improvements	29.90	20,750	14.44	9,003	11,747
G30	Site Mechanical Utilities	5.71	3,962	8.67	5,402	(1,440)
G40	Site Electrical Utilities	4.49	3,119	0.00	0	3,119
G90	Other Site Construction	0.00	0	0.00	0	-
G	Building Sitework	41.51	28,809	33.55	20,909	7,900
ELEMENTAL COST BEFORE CONTINGENCIES		511.56	355,004	393.24	245,096	109,908
Z10	Design Contingency	51.16	35,500	45.89	28,601	6,899
Z11	General Requirements	16.88	11,715	0.00	0	11,715
Z12	Phasing Requirements	28.98	20,111	0.00	0	20,111
ELEMENTAL COST INCLUDING CONTINGENCIES		608.58	422,331	439.13	273,697	148,634
Z21	General Conditions	36.51	25,340	33.43	20,833	4,507
Z22	Bonds & Insurance	19.35	13,430	9.07	5,656	7,774
Z23	Contractor's Overhead, Profit & Fee	19.93	13,833	17.65	10,999	2,834
Z24	Construction Contingency	0.00	0	0.00	0	-
CONSTRUCTION COST BEFORE ESCALATION		684.38	474,934	499.28	311,185	163,749
Z30	Escalation From Overall Summary	58.27	40,436	53.00	33,035	7,401
RECOMMENDED BUDGET		742.65	515,370	552.28	344,220 #	171,150

Note:

1.. LEED and Green building program cost from Populous Cost Model is included under HVAC(D30)

2. Solar Ready Cost is included under Electrical (D50)

3. FF&E costs and Permits and Inspection Fees are shown as part of Project Soft Costs

Component Cost Breakdown (CM/GC Option) — Detailed Cost Summary

		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16
		Existing South Hall		Existing West Hall		Existing Concourse Hall		**Sub-Total (Existing Buildings)**		Exhibit Halls		Meeting Rooms		Ballroom		Pre-function / Circulation		BOH / Loading Dock / F&B / Kitchen		Central Utility Plant		**Sub-total (New Construction)**		Outdoor Event Space		Gilbert Lindsay Plaza		Sitework		Street Improvement (B-permit)		
		$/SF	TOTAL $ X 1,000	$/SF	TOTAL $ X 1,000	$/SF	TOTAL $ X 1,000	**$/SF**	**TOTAL $ X 1,000**	$/SF	TOTAL $ X 1,000	$/SF	TOTAL $ X 1,000	$/SF	TOTAL $ X 1,000	$/SF	TOTAL $ X 1,000	$/SF	TOTAL $ X 1,000	$/SF	TOTAL $ X 1,000	**$/SF**	**TOTAL $ X 1,000**	$/SF	TOTAL $ X 1,000	$/SF	TOTAL $ X 1,000	$/SF	TOTAL $ X 1,000	$/SF	TOTAL $ X 1,000	**TOTAL $ X 1,000**
		1,184,049 SF		975,000 SF		332,347 SF		**2,491,396 SF**		181,625 SF		99,000 SF		70,000 SF		144,716 SF		117,918 SF		10,000 SF		**693,961 SF**		40,419 SF		90,000 SF		302,980 SF		181,830 SF		
A10	Foundations	0.00	0	0.00	0	0.00	0	**0.00**	**0**	17.33	3,148	17.33	1,716	17.33	1,213	17.33	2,508	17.33	2,044	17.33	173	**15.56**	**10,801**									**10,801**
A20	Basement Construction	0.00	0	0.00	0	0.00	0	**0.00**	**0**	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	**0.00**	**0**									**0**
A	Substructure	0.00	0	0.00	0	0.00	0	**0.00**	**0**	17.33	3,148	17.33	1,716	17.33	1,213	17.33	2,508	17.33	2,044	17.33	173	**15.56**	**10,801**									**10,801**
B10	Superstructure	2.79	3,308	3.85	3,750	4.07	1,353	**3.38**	**8,411**	138.35	25,128	138.35	13,697	138.35	9,685	138.35	20,021	138.35	16,314	138.35	1,384	**124.25**	**86,228**									**94,639**
B20	Exterior Enclosure	2.46	2,910	0.00	0	0.00	0	**1.17**	**2,910**	66.00	11,987	66.00	6,534	66.00	4,620	66.00	9,551	66.00	7,783	66.00	660	**59.28**	**41,135**									**44,045**
B30	Roofing	0.00	0	0.00	0	0.00	0	**0.00**	**0**	30.18	5,481	30.18	2,988	30.18	2,113	30.18	4,368	30.18	3,559	30.18	302	**27.11**	**18,810**									**18,810**
B	Shell	5.25	6,217	3.85	3,750	4.07	1,353	**4.54**	**11,321**	17.33	42,597	234.53	23,218	234.53	16,417	234.53	33,940	234.53	27,655	234.53	2,345	**210.64**	**146,173**									**157,494**
C10	Interior Construction	0.50	592	0.50	488	0.50	166	**0.50**	**1,246**	36.73	6,672	45.58	4,512	41.54	2,908	32.00	4,631	24.50	2,889	33.00	330	**31.62**	**21,941**									**23,187**
C20	Stairways	0.00	0	0.00	0	0.00	0	**0.00**	**0**	6.00	1,090	6.00	594	6.00	420	6.00	868	6.00	708	6.00	60	**5.39**	**3,740**									**3,740**
C30	Interior Finishes	0.00	0	0.00	0	0.00	0	**0.00**	**0**	18.00	3,269	22.90	2,267	77.00	5,390	80.50	11,650	14.73	1,737	2.50	25	**35.07**	**24,338**									**24,338**
C	Interiors	0.50	592	0.50	488	0.50	166	**0.50**	**1,246**	234.53	11,031	74.48	7,373	124.54	8,718	118.50	17,149	45.23	5,333	41.50	415	**72.08**	**50,018**									**51,264**
D10	Conveying Systems	0.00	0	0.00	0	0.00	0	**0.00**	**0**	16.97	3,082	16.97	1,680	16.97	1,188	16.97	2,456	16.97	2,001	16.97	170	**15.24**	**10,577**									**10,577**
D20	Plumbing Systems	0.25	296	0.25	244	0.26	85	**0.25**	**625**	19.37	3,519	11.10	1,099	0.00	0	15.06	2,179	16.95	1,998	13.00	130	**12.86**	**8,925**									**9,550**
D30	Heating, Ventilation & Air Conditioning	1.96	2,322	1.75	1,706	1.75	582	**1.85**	**4,610**	47.80	8,681	44.55	4,411	44.61	3,123	35.13	5,083	41.12	4,849	868.70	8,687	**50.19**	**34,833**									**39,443**
D40	Fire Protection	0.21	250	0.26	250	0.26	88	**0.24**	**588**	6.00	1,090	6.00	594	6.00	420	5.00	724	5.74	677	26.30	263	**5.43**	**3,767**									**4,355**
D50	Electrical Lighting, Power & Communications	1.06	1,250	1.28	1,250	1.31	435	**1.18**	**2,935**	68.91	12,516	62.72	6,210	60.65	4,246	36.10	5,224	42.32	4,990	206.25	2,063	**50.79**	**35,249**									**38,184**
D	Services	3.48	4,118	3.54	3,450	3.58	1,189	**3.51**	**8,757**	60.73	28,888	141.35	13,994	129.23	8,976	108.25	15,666	123.10	14,516	1,131.22	11,312	**134.52**	**93,351**									**102,109**
E10	Equipment	0.00	0	0.00	0	0.00	0	**0.00**	**0**	5.50	999	0.00	0	4.50	315	0.00	0	7.63	900	0.00	0	**3.19**	**2,214**									**2,214**
E20	Furnishings	0.00	0	0.00	0	0.00	0	**0.00**	**0**	0.00	0	0.00	0	1.50	105	2.19	317	1.00	118	0.00	0	**0.78**	**540**									**540**
E	Equipment & Furnishings	0.00	0	0.00	0	0.00	0	**0.00**	**0**	159.05	999	0.00	0	6.00	420	2.19	317	8.63	1,018	0.00	0	**3.97**	**2,754**									**2,754**
F10	Special Construction	0.00	0	0.00	0	0.00	0	**0.00**	**0**	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	**0.00**	**0**									**0**
F20	Selective Demolition	0.41	480	1.33	1,294	0.00	0	**0.71**	**1,774**	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	**0.00**	**0**									**1,774**
F	Special Construction & Demolition	0.41	480	1.33	1,294	0.00	0	**0.71**	**1,774**	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	**0.00**	**0**									**1,774**
G10	Site Preparation							**0.00**	**0**													**0.00**	**0**	0.00	0	2.25	203	2.56	776	0.00	0	**978**
G20	Site Improvements							**0.00**	**0**													**0.00**	**0**	48.00	1,940	37.00	3,330	39.80	12,060	18.81	3,420	**20,750**
G30	Site Mechanical Utilities							**0.00**	**0**													**0.00**	**0**	2.00	81	1.00	90	12.21	3,701	0.50	91	**3,962**
G40	Site Electrical Utilities							**0.00**	**0**													**0.00**	**0**	9.00	364	5.00	450	7.01	2,125	0.99	180	**3,119**
G90	Other Site Construction							**0.00**	**0**													**0.00**	**0**	0.00	0	0.00	0	0.00	0	0.00	0	**0**
G	Building Sitework							**0.00**	**0**													**0.00**	**0**	59	2,385	45.25	4,073	62	18,661	20.30	3,691	**28,809**
ELEMENTAL COST BEFORE CONTINGENCIES		9.63	11,408	9.21	8,981	8.15	2,709	**9.27**	**23,098**	477.15	86,662	467.68	46,301	510.62	35,744	480.80	69,580	428.82	50,566	1,424.58	14,246	**436.76**	**303,098**	59.00	2,385	45.25	4,073	61.59	18,661	20.30	3,691	**355,004**
Z10	Design Contingency	0.96	1,141	0.92	898	0.82	271	**0.93**	**2,310**	47.71	8,666	46.77	4,630	19.90	3,574	48.08	6,958	42.88	5,057	142.46	1,425	**43.68**	**30,310**	5.90	238	4.53	407	6.16	1,866	2.03	369	**35,500**
Z11	General Requirements	0.32	376	0.30	296	0.27	89	**0.31**	**762**	15.75	2,860	15.43	1,528	0.00	1,180	15.87	2,296	14.15	1,669	47.01	470	**14.41**	**10,002**	1.95	79	1.49	134	2.03	616	0.67	122	**11,715**
Z12	Phasing Requirements	0.55	646	0.52	509	0.46	153	**0.53**	**1,308**	27.03	4,909	26.49	2,623	28.93	2,025	27.24	3,942	24.29	2,865	80.70	807	**24.74**	**17,170**	3.34	135	2.56	231	3.49	1,057	1.15	209	**20,111**
ELEMENTAL COST INCLUDING CONTINGENCIES		11.46	13,571	10.96	10,685	9.70	3,222	**11.03**	**27,478**	567.64	103,097	556.38	55,082	607.46	42,523	571.99	82,776	510.15	60,156	1,694.75	16,948	**519.60**	**360,580**	70.19	2,837	53.83	4,845	73.27	22,200	24.15	4,391	**422,331**
Z21	General Conditions	0.69	814	0.66	641	0.58	193	**0.66**	**1,649**	34.06	6,186	33.38	3,305	36.45	2,551	34.32	4,967	30.61	3,609	101.69	1,017	**31.18**	**21,635**	4.21	170	3.23	291	4.40	1,332	1.45	263	**25,340**
Z22	Bonds & Insurance	0.36	432	0.35	340	0.31	102	**0.35**	**874**	18.05	3,278	17.69	1,752	19.32	1,352	18.19	2,632	16.22	1,913	53.89	539	**16.52**	**11,466**	2.23	90	1.71	154	2.33	706	0.77	140	**13,430**
Z23	Contractor's Overhead, Profit & Fee	0.38	445	0.36	350	0.32	106	**0.36**	**900**	18.59	3,377	18.22	1,804	19.90	1,393	18.73	2,711	16.71	1,970	55.51	555	**17.02**	**11,810**	2.30	93	1.76	159	2.40	727	0.79	144	**13,833**
Z24	Construction Contingency	0.00	0	0.00	0	0.00	0	**0.00**	**0**	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	**0.00**	**0**	0.00	0	0.00	0	0.00	0	0.00	0	**0**
CONSTRUCTION COST BEFORE ESCALATION		12.89	15,261	12.32	12,016	10.90	3,624	**12.40**	**30,901**	638.34	115,938	625.68	61,942	683.13	47,819	643.23	93,086	573.69	67,648	1,905.84	19,058	**584.32**	**405,492**	78.93	3,190	60.54	5,448	82.40	24,965	27.16	4,938	**474,934**
Z30	Escalation From Overall Summary	0.00	0	0.00	0	0.00	0	**0.00**	**0**	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	**0.00**	**0**	0.00	0	0.00	0	0.00	0	0.00	0	**40,436**
RECOMMENDED BUDGET - June, 2016		12.89	15,261	12.32	12,016	10.90	3,624	**12.40**	**30,901**	638.34	115,938	625.68	61,942	683.13	47,819	643.23	93,086	573.69	67,648	1,905.80	19,058	**584.31**	**405,491**	78.93	3,190	60.53	5,448	82.40	24,965	27.16	4,938	**515,370**

CAPITAL COST ESTIMATE

CM/GC OPTION

Major Differences between our Cost Opinion and the Populous Estimate

Below we have listed the major differences that we believe exist between our estimate of construction cost and the estimate provided by Populous for the CM/GC option. Given the level of cost detail being developed at this stage of the project it is not possible to provide a completely accurate picture of cost difference and the scope of this study did not include for a reconciliation between our estimated costs and those developed by Populous. The list and the associated numbers below should be treated as a guide to the difference in scope and price differential based upon our understanding of scope coverage in the two estimates. All the costs represent higher amounts in the MGAC estimate:

CM/GC Major Differences between our Cost Opinion and the Populous Estimate	
Area Differences - the gross areas shown in the Populous Concept Validation, Volume 2 drawings (page 35) is not consistent with the areas used in the Populous Cost Estimate:	
New construction difference + 10,109 square feet	$4,114,000
Renovation difference	$13,685,000
Program requirements not appearing to be covered in the Populous estimate:	
Front of House exterior plaza	$2,752,000
Seismic upgrade of existing South Hall	$2,960,000
Seismic bracing of existing MEP	$2,618,000
Signage upgrades to South Hall to match new expansion	$592,000
Integration of BMS to new system	$250,000
Code-driven fire alarm upgrades to West Hall	$250,000
Pico Boulevard passage ventilation	$250,000
Lighting - re-lamping, seismic and minor upgrades to West Hall	$1,000,000
Seismic upgrade of existing West Hall	$3,413,000
Seismic bracing of existing MEP equipment at West Hall	$1,950,000
Signage upgrades to West Hall to match new expansion	$488,000
Code-driven fire alarm upgrades to South Hall	$250,000
Lighting - re-lamping, seismic and minor upgrades to South Hall	$1,000,000
Atrium architectural and seismic upgrades	$2,910,000
Seismic upgrade of existing Concourse Hall	$831,000
Seismic bracing of existing MEP equipment at Concourse Hall	$754,000
Signage upgrades to Concourse to match new expansion	$166,000
Lighting - re-lamping, seismic and minor upgrades to Concourse	$350,000
Code-driven fire alarm upgrades to Concourse	$85,000
Exterior facade improvements to match new expansion	$6,688,000
Perimeter street improvement	$3,691,000
Gilbert Lindsey Plaza improvement	$4,073,000
Freeway screen walls	$2,500,000

Modification to existing deck to achieve similar grade level	$3,927,000
Cost plan allowances (unit prices or quantities)	
Structural Steel - MGAC's estimate is based upon 28lbs of steel per square foot. We understand the Populous estimate is based upon 21 lbs per square foot. The Populous technical report references steel weights between 22 and 40 pounds per square foot.	$12,396,000
Meeting rooms facade assumed to be similar to east facade of Ballroom	$3,465,000
Allowance for skylights to achieve daylighting at Exhibit Hall (per narrative)	$2,250,000
Exhibit Halls - air walls	$2,675,000
Stairs, elevators and escalator pricing	$7,244,000
Site work allowance	$1,483,000
Interior finishes - allowances per the Technical Report	$7,381,000
Phasing requirements allowance	$20,111,000
General Conditions/General Requirements	$12,624,000
Escalation extended to revised start date of July 2018 (Populous estimate based on a June 2017 start date)	$12,660,000
Mark-up variance driven by trade cost differences	$17,195,000

BASIS OF ESTIMATE/REFERENCES

- Site visit to review existing conditions
- Discussions with the HOK/Arup representatives, City representatives and Operations staff at the Convention Center
- Concept floor plans for Scheme B2 prepared by HOK/Arup dated June 1, 2016
- Building area tabulation prepared by Arup
- Preliminary seismic review of LACC dated May 27, 2016
- Draft mechanical design narrative dated May 27, 2016

ASSUMPTIONS

General

- The project will be procured under a single construction contract
- The project will be competitively bid for all sub-contract works
- The phasing and sequencing of the work will be determined by the General Contractor in order to meet the proposed / required schedule - premium for phasing requirements is included in the cost plan based on a percentage factor of trade costs
- The facilities are required to be in full operation during construction
- Contractor staging and parking will be made available on or adjacent to the site
- Existing West Hall and Concourse Hall
- Demolition of existing West Hall and Concourse Hall is assumed to carried out in Phase 1B
- Modifications to the existing South Hall façade (connecting to the Concourse Hall) after demolition of Concourse Hall is included in the project scope

Existing South Hall

- Demolition of the existing curved back wall, loading dock ramps and canopies is included
- Demolition of the existing link bridge connecting South and West Halls is included
- Exterior façade improvements to the existing building are required to provide an aesthetic connection the new expansion
- Minor roof upgrades are require to match the new expansion
- Allowances are included for seismic upgrade, including to the atrium
- Seismic upgrade allowances in connection with MEP equipment

ASSUMPTIONS

New construction assumptions

- Normal ground conditions assumed - rock excavation and soil mitigation are excluded
- The building will be founded on conventional spread footings and continuous wall footings
- The new addition will be structurally separated from the existing building - seismic joint covers are provided between new and existing structure
- The structural framing system is assumed to be similar to the existing structure - reinforced concrete flat slab on the lower floor with reinforced concrete shear walls for the lateral load resisting system at level +250', structures above level 250' will be framed with structural steel for both gravity and lateral framed resisting systems. Steel framing is based on an average structural steel weight of 28 pounds per square foot. All steel will be fireproofed.
- Structural support to curtain walls, new air walls and catwalks is included
- Structural modifications to the existing deck at El+250' to suit new loading capacity is included
- Exterior façade treatment assumes a combination of composite metal panel system, glazed curtain walls (to approximately 20% of the exterior walls) and plastered CMU walls at the back of house areas
- Roofing includes single ply membrane roofing and precast concrete pavers to plaza and terraces - an allowance is also provided for green roof construction
- Interior construction includes all fixed walls and operable partitions to exhibit halls, ballroom and meeting rooms. It also includes new doors and interior glazing. Acoustical doors are provided to function spaces
- The allowance for interior finishes is based on the following:
    - Exhibit hall - sealed concrete floor, paint to walls and exposed ceiling with allowance for acoustical ceiling panels
    - Ballroom - carpet, a combination of upholstered acoustical wall panels and wall covering to walls, stretch fabric ceilings
    - Meeting rooms - carpet to floors, a combination of upholstered acoustical wall panels, wall covering and painted gypsum board to walls, acoustical ceiling panels
    - Public toilets - ceramic floor and wall tiles, and painted gypsum board ceilings
    - Pre-function areas - carpet to floors, a combination of veneered plastered walls and wall covering, architectural grade gypsum board ceilings
    - Back-of house areas - sealed concrete floors, painted gypsum board with wall protection panel up to 4' high, exposed ceilings
    - Plating Kitchen/ Pantries/Kitchen - quarry floor tiling, FRP wall panels and washable ceiling tiles
    - Building support spaces - linoleum flooring/sealed concrete, painted walls and acoustical ceiling tiles
- Interior fittings and specialties are provided based on cost/sf allowances
- Fixed furniture to support spaces are included
- Nine (9) passenger elevators, two (2) freight elevators and two (2) service elevators are included
- Forty (40) escalators are included
- Plumbing includes sanitary fixtures, waste, vent, domestic water pipework systems, floor and roof drainage, natural gas, compressed air and industrial cold water to exhibition hall floor boxes, kitchen service connections and grease waste - fuel/oil separation systems

ASSUMPTIONS

- HVAC includes hi-efficiency central heating and chilling, thermal ice storage, distribution pipework, roof-mounted air handlers/vehicle exhaust at exhibition halls, 24/7 cooling, terminal reheat, stair pressurization, kitchen exhaust, pollution control units, air distribution and controls
- Electrical includes normal, emergency, machine, equipment and user convenience power, floor box power and data, lighting, telephone/data, A/V (conduit only), fire alarm and security. (A/V equipment and cabling allowances included in our project costs – not construction)
- Fire protection includes automatic wet sprinklers, fire department hose valve connection points at stairwells and fire water booster systems

Site Work

- Site improvements to the existing Gilbert Lindsey Plaza
- Surfacing, landscaping and furnishings to proposed deck terraces – waterproofing to the deck is included with the building construction budget
- An allowance is included to upgrade the entire finished site (except areas allocated for future development)
- An allowance to cover sidewalk and street improvement that will be impacted by demolition / renovation is included in the cost plan
- Modifications to Pico Boulevard between Figueroa Street and LA Live Way
- Surface parking is included to an area of 180,000 square feet - assumed to be temporarily located in the future development
- Reconfiguration of the loading dock ramp and Convention Center Drive
- Screen walls between the new construction and the freeway
- Upgrades to exterior signage
- Site utilities include domestic and fire water, water realignment, sewer, storm drainage, site lighting, natural gas, CHW/HHW pipework distribution across Pico Blvd., 35/4.16 kV normal power equipment and cabling, telecommunications and signals connections to existing infrastructure.

Excluded from the scope of the project and/or our budget

- Operational equipment
- New FF+E for relocated program areas
- Moving and relocation expenses during construction and on completion
- Existing South Hall mechanical and electrical system replacement/upgrades (except seismic upgrades to existing systems, Pico Passage ventilation, fire alarm code upgrades and minor lighting replacement and re-lamping)
- Water recycling systems
- Underground diesel/fuel oil storage systems
- Specialty gaseous fire suppression systems
- Emergency fire water storage systems
- Photovoltaic renewable energy systems (provision for future installation only)
- Show lighting and controls
- Telephone/data “active” equipment – including hubs, routers, servers, switches, LAN, UPS and the like

CAPITAL COST ESTIMATE

DESIGN-BUILD-FINANCE-OPERATE-MAINTAIN

Included in our project cost mark-up

- Independent 3rd party MEP commissioning systems
- Audio-visual equipment and cabling
- Utility connection charges and fees

MGAC

Project Cost Summary Comparison - DBFOM Option

			MGAC				Arup		
			SF	$/SF	TOTAL $x 1,000		SF	$/SF	TOTAL $x 1,000
I.	Renovation / Demolition		2,523,098	11.83	29,848		2,634,479	10.27	27,047
II.	New Construction		1,800,465	377.69	680,012		1,800,645	302.31	544,361
TOTAL BUILDING CONSTRUCTION					709,860				571,408
III.	Sitework		455,080	64.43	29,319		180,000	101.88	18,338
TOTAL SITEWORK					29,319				18,338
TOTAL BUILDING AND SITEWORK					739,179				589,746
Z21	General Conditions	6.00%			44,351	10.00%			58,975
Z22	Bonds & Insurance	3.00%			23,506	2.30%			12,918
Z23	Contractor's Overhead, Profit & Fee	4.00%			32,281	4.50%			29,774
BUILDING CONSTRUCTION COST BEFORE ESCALATION					839,318				691,413
Z30	Escalation to Start Date (Dec 2017)	6.06%			50,859	10.50%			72,669
RECOMMENDED CONSTRUCTION BUDGET					890,177				764,082 [1]
Project Soft Costs (Additonal to Construction Budget)									
	Local and Government Fees/ Permit and Testing Fees	4.00%			35,607	1.40%			10,706
	Furnishings, Fixtures & Equipment (FF&E)				7,226				1,700 [2]
	IT / Communications / Audio-Visual System				9,790				
	Special Mock-ups				100				100
	Artwork (Including Installation)	1.00%			8,902	1.00%			7,641
	Federal, State and Local Agency Costs (Legal)				3,000				3,000
	Environmental (EIR/CEQA)				1,500				1,500
	BCA Inspection Fees	1.00%			8,902	1.00%			7,641
	Professional Fees	7.00%			62,312	7.00%			53,533
	Project Administration	2.00%			17,804	2.00%			15,295
TOTAL PROJECT SOFT COSTS					155,143				101,116
	Project Contingency	8.00%			83,626	14.00%			119,487
RECOMMENDED PROJECT BUDGET					**1,128,945**				**984,684**

Note:

1. For comparison purposes - ARUP cost estimate is reformatted to match the ICE (FF&E and Permit & Testing Fees are shown as part of project soft costs)

2. .FF&E value is shown as part of Soft Costs to line up with ICE

MGAC

Component Cost Summary Comparison

		MGAC		Arup		Difference '+/(-)
		$/SF	Total $ x 1,000	$/SF	Total $ x 1,000	$ x 1,000
		1,800,465 SF		1,800,465 SF		
A10	Foundations	15.01	27,025	11.98	21,565	5,460
A20	Basement Construction	0.00	0	0.00	0	-
A	Substructure	15.01	27,025	11.98	21,565	5,460
B10	Superstructure	78.64	141,581	81.77	147,219	(5,638)
B20	Exterior Enclosure	33.64	60,572	26.90	48,430	12,142
B30	Roofing	10.62	19,127	11.65	20,968	(1,841)
B	Shell	122.90	221,280	120.31	216,617	4,663
C10	Interior Construction	29.34	52,822	20.44	36,800	16,022
C20	Stairways	6.00	10,803	2.22	4,000	6,803
C30	Interior Finishes	31.85	57,344	30.90	55,638	1,706
C	Interiors	67.19	120,968	53.56	96,438	24,530
D10	Conveying Systems	8.91	16,042	7.71	13,890	2,152
D20	Plumbing Systems	13.88	24,985	10.14	18,260	6,725
D30	Heating, Ventilation & Air Conditioning	49.17	88,520	32.90	59,236	29,284
D40	Fire Protection	5.52	9,934	4.50	8,100	1,834
D50	Electrical Lighting, Power & Communications	47.97	86,376	48.55	87,406	(1,030)
D	Services	125.44	225,857	103.80	186,892	38,965
E10	Equipment	1.90	3,420	4.72	8,500	(5,080)
E20	Furnishings	0.76	1,365	1.78	3,200	(1,835)
E	Equipment & Furnishings	2.66	4,785	6.50	11,700	(6,915)
F10	Special Construction	0.00	0	0.19	350	(350)
F20	Selective Demolition	7.96	14,331	5.91	10,634	3,697
F	Special Construction & Demolition	7.96	14,331	6.10	10,984	3,347
G10	Site Preparation	0.54	965	0.00	0	965
G20	Site Improvements	9.85	17,727	8.84	15,915	1,812
G30	Site Mechanical Utilities	2.16	3,892	0.86	1,550	2,342
G40	Site Electrical Utilities	1.55	2,786	0.00	0	2,786
G90	Other Site Construction	0.00	0	0.00	0	-
G	Building Sitework	14.09	25,370	9.70	17,465	7,905
ELEMENTAL COST BEFORE CONTINGENCIES		355.25	639,617	311.95	561,661	77,956
Z10	Design Contingency	35.53	63,962	18.30	32,956	31,006
Z11	General Requirements	11.72	21,107	0.00	0	21,107
Z12	Phasing Requirements	8.05	14,494	0.00	0	14,494
ELEMENTAL COST INCLUDING CONTINGENCIES		410.55	739,179	330.26	594,617	144,562
Z21	General Conditions	24.63	44,351	31.20	56,166	(11,815)
Z22	Bonds & Insurance	13.06	23,506	7.17	12,918	10,588
Z23	Contractor's Overhead, Profit & Fee	17.93	32,281	15.76	28,384	3,897
Z24	Construction Contingency	0.00	0	0.00	0	-
CONSTRUCTION COST BEFORE ESCALATION		466.17	839,318	384.39	692,085	147,233
Z30	Escalation From Overall Summary	28.25	50,859	40.36	72,669	(21,810)
RECOMMENDED BUDGET		494.42	890,177	424.75	764,754	125,423

MGAC

Component Cost Breakdown (DBFOM Option)

Detailed Cost Summary

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
		Existing South Hall	Existing West Hall & Councourse Hall	**Sub-Total (Existing Buildings - Renovation/ Demolition)**	Parking Replacement	Exhibit Halls	Meeting Rooms	Ballroom	Pre-function / Circulation	BOH / Loading Dock / F&B / Kitchen	Central Utility Plant	**Sub-Total (New Construction)**	Outdoor Event Space	Gilbert Lindsay Plaza	Sitework	Street Improvement (B-permit)	
		$/SF TOTAL $ x 1,000	$/SF TOTAL $ x 1,000	**$/SF TOTAL $ x 1,000**	$/SF TOTAL $ x 1,000	$/SF TOTAL $ x 1,000	$/SF TOTAL $ x 1,000	$/SF TOTAL $ x 1,000	$/SF TOTAL $ x 1,000	$/SF TOTAL $ x 1,000	$/SF TOTAL $ x 1,000	**$/SF TOTAL $ x 1,000**	$/SF TOTAL $ x 1,000	$/SF TOTAL $ x 1,000	$/SF TOTAL $ x 1,000	$/SF TOTAL $ x 1,000	**TOTAL $ x 1,000**
		1,215,751 SF	1,307,347 SF	**2,523,098 SF**	200,465 SF	390,000 SF	212,000 SF	70,000 SF	389,900 SF	525,600 SF	12,500 SF	**1,800,465 SF**	20,000 SF	60,250 SF	193,000 SF	181,830 SF	
A10	Foundations	0.00 0	0.00 0	**0.00 0**	15.01 3,009	15.01 5,854	15.01 3,182	15.01 1,051	15.01 5,852	15.01 7,889	15.01 188	**15.01 27,025**					**27,025**
A20	Basement Construction	0.00 0	0.00 0	**0.00 0**	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	**0.00 0**					**0**
A	Substructure	0.00 0	0.00 0	**0.00 0**	15.01 3,009	15.01 5,854	15.01 3,182	15.01 1,051	15.01 5,852	15.01 7,889	15.01 188	**15.01 27,025**					**27,025**
B10	Superstructure	3.17 3,852	0.00 0	**1.53 3,852**	40.95 8,209	80.95 31,571	80.95 17,161	80.95 5,667	80.95 31,562	80.95 42,547	80.95 1,012	**76.50 137,729**					**141,581**
B20	Exterior Enclosure	2.39 2,910	0.00 0	**1.15 2,910**	23.14 4,639	33.14 12,925	33.14 7,026	33.14 2,320	33.14 12,921	33.14 17,418	33.14 414	**32.03 57,663**					**60,572**
B30	Roofing	0.00 0	0.00 0	**0.00 0**	6.18 1,239	11.18 4,360	11.18 2,370	11.18 783	11.18 4,359	11.18 5,876	11.18 140	**10.62 19,127**					**19,127**
B	Shell	5.56 6,762	0.00 0	**2.68 6,762**	70.27 14,087	15.01 48,855	125.27 26,557	125.27 8,769	125.27 48,843	125.27 65,842	125.27 1,566	**119.15 214,519**					**221,280**
C10	Interior Construction	0.50 608	0.00 0	**0.24 608**	1.00 200	35.35 13,785	45.08 9,556	41.54 2,908	32.00 12,477	24.50 12,877	32.90 411	**29.00 52,214**					**52,822**
C20	Stairways	0.00 0	0.00 0	**0.00 0**	6.00 1,203	6.00 2,340	6.00 1,272	6.00 420	6.00 2,339	6.00 3,154	6.00 75	**6.00 10,803**					**10,803**
C30	Interior Finishes	0.00 0	0.00 0	**0.00 0**	2.00 401	18.00 7,020	22.90 4,855	77.00 5,390	80.50 31,387	15.71 8,260	2.50 31	**31.85 57,344**					**57,344**
C	Interiors	0.50 608	0.00 0	**0.24 608**	9.00 1,804	125.27 23,145	73.98 15,683	124.54 8,718	118.50 46,203	46.21 24,290	41.40 518	**66.85 120,361**					**120,968**
D10	Conveying Systems	0.00 0	0.00 0	**0.00 0**	8.91 1,786	8.91 3,475	8.91 1,889	8.91 624	8.91 3,474	8.91 4,683	8.91 111	**8.91 16,042**					**16,042**
D20	Plumbing Systems	0.21 250	0.00 0	**0.10 250**	2.00 401	18.12 7,068	10.97 2,326	0.00 0	15.04 5,863	16.97 8,919	12.65 158	**13.74 24,735**					**24,985**
D30	Heating, Ventilation & Air Conditioning	1.96 2,378	0.00 0	**0.94 2,378**	5.50 1,103	47.67 18,593	44.45 9,424	44.61 3,123	35.36 13,786	36.03 18,937	1,694.30 21,179	**47.84 86,143**					**88,520**
D40	Fire Protection	0.21 250	0.00 0	**0.10 250**	3.50 702	6.00 2,340	6.00 1,272	6.00 420	5.00 1,950	5.17 2,716	22.79 285	**5.38 9,684**					**9,934**
D50	Electrical Lighting, Power & Communications	1.03 1,250	0.00 0	**0.50 1,250**	4.50 902	64.87 25,299	64.78 13,734	62.84 4,399	37.31 14,546	43.85 23,048	255.80 3,198	**47.28 85,126**					**86,376**
D	Services	3.40 4,128	0.00 0	**1.64 4,128**	24.41 4,893	59.35 56,774	135.12 28,645	122.36 8,565	101.61 39,619	110.93 58,303	1,994.45 24,931	**123.15 221,729**					**225,857**
E10	Equipment	0.00 0	0.00 0	**0.00 0**	0.05 10	5.50 2,145	0.00 0	4.50 315	0.00 0	1.81 950	0.00 0	**1.90 3,420**					**3,420**
E20	Furnishings	0.00 0	0.00 0	**0.00 0**	0.00 0	0.00 0	0.00 0	1.50 105	1.88 735	1.00 526	0.00 0	**0.76 1,365**					**1,365**
E	Equipment & Furnishings	0.00 0	0.00 0	**0.00 0**	0.05 10	145.57 2,145	0.00 0	6.00 420	1.88 735	2.81 1,476	0.00 0	**2.66 4,785**					**4,785**
F10	Special Construction	0.00 0	0.00 0	**0.00 0**	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	**0.00 0**					**0**
F20	Selective Demolition	0.93 1,136	10.09 13,195	**5.68 14,331**	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	**0.00 0**					**14,331**
F	Special Construction & Demolition	0.93 1,136	10.09 13,195	**5.68 14,331**	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	**0.00 0**					**14,331**
G10	Site Preparation			**0.00 0**								**0.00 0**	0.00 0	2.25 136	4.30 830	0.00 0	**965**
G20	Site Improvements			**0.00 0**								**0.00 0**	48.00 960	37.00 2,229	52.47 10,128	24.25 4,410	**17,727**
G30	Site Mechanical Utilities			**0.00 0**								**0.00 0**	2.00 40	1.00 60	19.17 3,701	0.50 91	**3,892**
G40	Site Electrical Utilities			**0.00 0**								**0.00 0**	9.00 180	5.00 301	11.01 2,125	0.99 180	**2,786**
G90	Other Site Construction			**0.00 0**								**0.00 0**	0.00 0	0.00 0	0.00 0	0.00 0	**0**
G	Building Sitework			**0.00 0**								**0.00 0**	59 1,180	45.25 2,726	87 16,783	25.74 4,681	**25,370**
ELEMENTAL COST BEFORE CONTINGENCIES		10.39 12,633	10.09 13,195	**10.24 25,828**	118.74 23,803	350.70 136,773	349.37 74,067	393.17 27,522	362.28 141,252	300.23 157,800	2,176.13 27,202	**326.82 588,419**	59.00 1,180	45.25 2,726	86.96 16,783	25.74 4,681	**639,617**
Z10	Design Contingency	1.04 1,263	1.01 1,320	**1.02 2,583**	11.87 2,380	35.07 13,677	34.94 7,407	19.84 2,752	36.23 14,125	30.02 15,780	217.61 2,720	**32.68 58,842**	5.90 118	4.53 273	8.70 1,678	2.57 468	**63,962**
Z11	General Requirements	0.34 417	0.33 435	**0.34 852**	3.92 785	11.57 4,514	11.53 2,444	0.00 908	11.96 4,661	9.91 5,207	71.81 898	**10.78 19,418**	1.95 39	1.49 90	2.87 554	0.85 154	**21,107**
Z12	Phasing Requirements	0.24 286	0.23 299	**0.23 585**	2.69 539	7.95 3,099	7.92 1,678	8.91 624	8.21 3,201	6.80 3,576	49.31 616	**7.41 13,334**	1.34 27	1.03 62	1.97 380	0.58 106	**14,494**
ELEMENTAL COST INCLUDING CONTINGENCIES		12.01 14,599	11.66 15,249	**11.83 29,848**	137.22 27,508	405.29 158,063	403.76 85,596	454.37 31,806	418.67 163,239	346.96 182,364	2,514.87 31,436	**377.69 680,012**	68.18 1,364	52.29 3,151	100.49 19,395	29.75 5,410	**739,179**
Z21	General Conditions	0.72 876	0.70 915	**0.71 1,791**	8.23 1,650	24.32 9,484	24.23 5,136	27.26 1,908	25.12 9,794	20.82 10,942	150.89 1,886	**22.66 40,801**	4.09 82	3.14 189	6.03 1,164	1.79 325	**44,351**
Z22	Bonds & Insurance	0.38 464	0.37 485	**0.38 949**	4.36 875	12.89 5,026	12.84 2,722	14.45 1,011	13.31 5,191	11.03 5,799	79.97 1,000	**12.01 21,624**	2.17 43	1.66 100	3.20 617	0.95 172	**23,506**
Z23	Contractor's Overhead, Profit & Fee	0.52 638	0.51 666	**0.52 1,304**	5.99 1,201	17.70 6,903	17.63 3,738	19.84 1,389	18.28 7,129	15.15 7,964	109.83 1,373	**16.49 29,697**	2.98 60	2.28 138	4.39 847	1.30 236	**32,281**
Z24	Construction Contingency	0.00 0	0.00 0	**0.00 0**	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	**0.00 0**	0.00 0	0.00 0	0.00 0	0.00 0	**0**
CONSTRUCTION COST BEFORE ESCALATION		13.63 16,577	13.24 17,315	**13.43 33,892**	155.81 31,235	460.20 179,477	458.45 97,192	515.93 36,115	475.39 185,353	393.97 207,069	2,855.56 35,695	**428.85 772,135**	77.42 1,548	59.38 3,578	114.11 22,023	33.78 6,142	**839,318**
Z30	Escalation From Overall Summary	0.00 0	0.00 0	**0.00 0**	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	0.00 0	**0.00 0**	0.00 0	0.00 0	0.00 0	0.00 0	**50,859**
RECOMMENDED BUDGET - June, 2016		13.64 16,577	13.24 17,315	**13.43 33,892**	155.81 31,235	460.20 179,477	458.45 97,192	515.93 36,115	475.39 185,353	393.97 207,069	2,855.60 35,695	**428.85 772,136**	77.42 1,548	59.39 3,578	114.11 22,023	33.78 6,142	**890,177**

Major Differences between our Cost Opinion and the Arup Estimate

Below we have listed the major differences that we believe exist between our estimate of construction cost and the estimate provided by Arup for the DBFOM option. Given the level of cost detail being developed at this stage of the project it is not possible to provide a completely accurate picture of cost difference and the scope of this study did not include for a reconciliation between our estimated costs and those developed by Arup. The list and the associated numbers below should be treated as a guide to the difference in scope and price differential based upon our understanding of scope coverage in the two estimates. All the costs represent higher amounts in the MGAC estimate other than the loading dock cost:

DBFOM - Major differences to Arup estimate:	
Program requirements not appearing to be covered in the Arup estimate:	
Seismic upgrade of existing South Hall	$2,922,000
Seismic bracing of existing MEP equipment (South Hall)	$2,046,000
Code-driven fire alarm upgrades	$250,000
Lighting - re-lamping, seismic and minor upgrades	$1,000,000
Exterior facade improvements to match new expansion	$4,024,000
Perimeter street improvements	$4,501,000
Gilbert Lindsey Plaza improvement	$2,621,000
Freeway screen walls	$2,404,000
Cost plan allowances (unit prices or quanitities)	
Loading dock structure	-$5,000,000
Allowance for skylights included to achieve daylighting at Exhibit Hall	$4,500,000
Interior partitions - including demountable partitions/air walls	$16,204,000
Stairs, elevators and escalator pricing	$8,955,000
Plumbing pricing	$7,700,000
Thermal Ice Storage	$2,500,000
Chiller quantity (plus 1)	$12,000,000
Air handling unit pricing	$5,100,000
HVAC Controls	$5,500,000
Fire Sprinkler pricing (+$1/SF difference)	$1,500,000
Phasing requirements	$20,111,000
General Conditions/General Requirements	$21,071,000

SEC TION

3.

LIFE CYCLE COST

INTRODUCTION

The purpose and intent of this report is to assess the lifecycle requirements of the approach and design for the traditional (CM/GC) procurement model represented by the Populous proposal and the DBFOM model represented by the Arup proposal. In an effort to provide an "apples to apples" comparison, a common 40 year investment horizon has been determined for the assessment. However, the approach and design schemes are fundamentally different and are reflected in significant differences in initial capital investment and lifecycle/refurbishment costs over the period.

For purposes of the review, lifecycle costs include the future anticipated capital investment requirements to refurbish, refresh and/or replace building elements and components as they reach the end of their design or useful life. This includes such items as carpeting, interior finishes, heating, ventilation and air-conditioning systems (HVAC), roof coverings, life safety & security systems, windows, exterior building elements, electrical components, etc. Lifecycle costs do not include, nor are they intended to replace, normal ongoing and day-to-day operations, maintenance, repair and energy expenditures.

The Populous design is based on achieving the functional program requirements within an overall affordability/ funding cap of $350 million (our own capital cost assessment is a higher cost than this). In addition to the build out of new program space, this approach entails extensive reuse of the existing buildings and systems which will have a major impact on lifecycle costs. In addition, the proposed reuse of the West Hall will effectively result in the building being added to the historic register. This approach may result in increased operations, maintenance and energy expenditures over the study period; however, this has not been quantified as part of this report.

The Arup design contemplates the demolition of the West Hall and replacement of this facility along with new program space as part of their overall proposal which also includes renovations to the South Hall and development of a new central utility plant. This will result in a higher initial capital investment but will have lower lifecycle costs due to a greater percentage of new construction and associated building systems.

Both approaches include renovation of the South Hall which is entering the mid-point of its useful life. The degree to which elements in this building will be reused, refurbished and/or replaced is not completely clear in the design/ technical briefs and both parties indicate that further determination and assessment will be required during the design development stage. This represents a significant cost risk and under-investment at the project construction stage due to value engineering and/or cost avoidance, will result in increased future lifecycle, maintenance and energy costs.

LIFE CYCLE COST

APPROACH AND METHODOLOGY

The initial analysis entailed the review of technical and financial documentation provided by the City along with various reports and estimates developed as part of the proposal development of the two approaches. The lifecycle costs for the new construction and renovations have been calculated following two methodologies. The first utilizes the adjusted base construction estimates in the Uniformat II (level 2) break-down extrapolated over 40 years using average design/service life benchmarks for the various building elements along with assumed replacement/refurbishment strategies based on good industry practice that would be employed by a prudent owner or P3 contractor to maximize useful life. The second calculates the expected lifecycle costs using formulae that have been derived from industry experience in the development of public and private sector long-term capital/lifecycle plans along with the outcome of multiple competitive P3 bids. The second approach is used as a reference point to validate the system level calculations. This captures the future costs against the initial capital construction expenditures.

Both the traditional and P3 approaches for this project include reuse of existing space and systems and as such, there has to be a reconciliation of the lifecycle costs associated with each scheme. To support this, a model has been developed that calculates a current replacement value (CRV) of the elemental components of the facility based on the proposed total space (new and existing) multiplied by a commonly-applied unit cost of construction/replacement. Different factors have been developed for the South and West Halls to recognize their age difference and the impending heritage status of the West Hall. Using the methodology noted above, a formula-driven indicative lifecycle estimate has been determined for 40 years and added to the overall total for each approach. Typically, cost projections fall into an expected high to low range. For purposes of this analysis, the mid-point has been utilized in all calculations.

Table 1: Factors

DBFOM

Category	Factor	Term (years)	Current Replacement Value (Elemental)	Area (SF)
New build and renovated	1.2% x CRV	40	N/A	1,600,000
Existing (S. Hall)	1.3% x CRV	40	$350/sf	1,125,751

CM/GC

Category	Factor	Term (years)	Current Replacement Value (Elemental)	Area (SF)
New build and renovated	1.35%	40	N/A	693,000
Existing (S. Hall)	1.5%	40	$350/sf	846,988
Existing (W. Hall)	2.0%	40	$350sf	1,183,704

KEY ASSUMPTIONS

- The proposed renovation and expansion work is compliant with all codes and regulatory requirements (including the reuse of existing mechanical systems for heating, cooling, distribution, fire and life safety, etc.);
- Both design proposals meet the functional program requirements for the LA Convention Center;
- Levels of day-to-day and preventive maintenance are assumed to be the same under both scenarios with the services provided by a third party under the traditional model (funding provided by the City), FM and lifecycle work provided by the P3 partner under a performance-based P3 agreement;
- Replacement and/or refurbishment strategies are based on good industry practice designed to maximize the useful life of critical systems and buildings.
- System and building elements are based on a reasonable standard of performance, durability and service life;
- Reuse of the West Hall, as an integral key component of the Populous design, will result in the building being placed on the historic register and it is assumed to remain as a functional part of the Convention Centre for the full analysis period of 40 years; and
- Operations, maintenance and energy costs along with future redevelopment opportunities on the site have not been considered as part of this analysis.

Table 2: Space Summary

Existing LACC		
West Hall leasable space	SF	276,588
South Hall leasable space	SF	525,559
Concourse leasable space	SF	66,229
Total Leasable Area	SF	868,376
Non-leasable space	SF	1,199,236
Total Gross Enclosed Area (excl. parking)	SF	2,067,612
Net-to-gross ratio	%	42%

Completed LACC Expansion - Traditional		
Existing leasable (West, South, Concourse Halls) - no refurbish	SF	846,988
Existing non-leasable space (West, South, Concourse Halls) - no refurbish	SF	1,183,704
Sub-total Existing Gross Enclosed Area - not refurbished	SF	2,030,692
New leasable space	SF	350,000
New non-leasable space	SF	343,000
Sub-total New Gross Enclosed Area - new build	SF	693,000
Net-to-gross ratio of new space	%	51%
Total Gross Enclosed Area (excl. parking)	SF	2,723,692

Completed LACC Expansion - DBFOM		
Existing leasable (South Hall) - no refurbish	SF	525,559
Existing non-leasable space (South Hall) - no refurbish	SF	690,192
Sub-total Existing Gross Enclosed Area - not refurbished	SF	1,215,751
New leasable space	SF	672,000
New non-leasable space	SF	928,000
Sub-total New Gross Enclosed Area - new build	SF	1,600,000
Net-to-gross ratio of new space	%	42%
Total Gross Enclosed Area (excl. parking)	SF	2,815,751

OBSERVATIONS AND COMMENTS

There is no current comprehensive condition assessment of the existing buildings and the review has relied on project briefs and other background information provided by the Bureau of Engineering, Populous, Gensler, ARUP, AEG and Finance & Administration. Technical information and the condition assessments contained within the supplied documentation is inconsistent and in some cases conflicting. For example, in a request for current year funding, AEG Facilities indicates that the 8 cooling towers in the South and West Hall are well past their useful life. The MEPT section of Volume Three of the Populous Concept Validation report indicates that the West Hall chillers and associated cooling towers are to remain as part of their design and the ARUP existing conditions report indicates NIL remaining life (in accordance with ASHRAE standards).

In the absence of a detailed condition assessment, particularly with respect to the West Hall, it is assumed that the facility and its elements are generally at the end of its normal service life and will require a significant initial refurbishment and modernization in order to be consistent with the new and renovated portions of the Convention Center and provide the required functional program space. Following the upgrades, the West Hall would then be subject to normal lifecycle re-investment levels for a building of its age and historical status. An amount of $105,873,480 has been added to the lifecycle requirements of the Traditional Model to address upgrades to mechanical, electrical and architectural elements of the building. This has been calculated on the basis of $125 per square foot which represents approximately 25% of the unit cost for new construction. Work of this nature may trigger additional requirements related to code standards and this provision should be considered a conservative minimum threshold of investment.

Table 3: Life Cycle Worksheet - DBFOM (Arup)

Level 1 - Major Group Elements	Level 2 - Group Elements	Predicted Service Life (in years)	Initial Capital, Construction & Installation Cost (excl. design & soft costs) $000	Replacement/Refurbishment Strategy, Key Assumptions and Comments	40 year Lifecycle Estimate ($000)
A: SUBSTRUCTURE	A10: Foundations	50	$27,025	Contingency allowance	$1,351
B: SHELL	A20: Basement construction	50	$0	Contingency allowance	$0
	B10: Superstructure	50	$141,581	Major refurbishment & upgrades	$7,079
	B20: Exterior enclosures	20 to 50	$60,572	Full & partial replacement	$30,286
	B30: Roofing	20 to 50	$19,127	partial phased replacement and/or refurbishment of various components	$28,691
C: INTERIORS	C10: Interior construction	15 to 35	$52,822	cyclical replacement of stair coverings plus contingency for structure	$39,617
	C20 Stairs	15 to 40	$10,803	cyclical replacement of carpeted floor finishes in high traffic areas, repainting, ceiling and wall coverings	$1,620
	C30: Interior finishes	5 to 40	$57,344	lifts, escalators and elevators - cyclical major refurbishment, upgrades & replacement	$43,088
	C20: Stairs	10 to 25	$16,042	cyclical replacement of fixtures plus replacement/ refurbishment of other system components	$14,438
	C30: Interior finishes	10 to 40	$24,985	cyclical upgrades to major components to extend life plus partial replacement of other system elements	$7,496
D: SERVICES	D10: Conveying	10 to 30	$88,520	system upgrades and refurbishment	$44,260
	D20: Plumbing	15 to 25	$9,934	upgrade and replacement of various components	$1,490
	D30: HVAC	10 to 40	$86,376	assume LC by owner under both scenarios	$43,188
	D50: Electrical	N/A	$0	assume LC by owner under both scenarios	$0
E: EQUIPMENT A	E10: Equipment (excluded)	N/A	$0		$0
	E20: Furnishings (excluded	N/A	$0		$0
F: SPECIAL	F10: Special construction	N/A	$0		$0
	F20: Demolition - N/A		$0	not subject to LC	$0
G: BUILDING	G10: Site preparation		$0		$0
	G20: Site improvements	8 to 30	$17,727		$5,318
	G30: Site mechanical utilities	40 to 50	$3,892		$389
	G40: Site electrical utiities	15 to 40	$2,786		$279
	G90: Other site construction	N/A	0		0
Total			$619,536		$268,509

LIFE CYCLE COST

OBSERVATIONS AND COMMENTS

Notes:

Unescalated - based on current estimated values

Calculated high-low lifecycle range based on competitive bids $247,814,400 to $297,377,280 based on 1,600,000 SF new build

New Build: Recommended budget for business case analysis: $268,509,000

Existing Gross Enclosed Area (No Refurbish)

New Build: Recommended budget for business case analysis: $268,509,000 Existing Gross Enclosed Area (No Refurbish)			
Total Gross Area SF	Blended Construction Unit Cost (Elemental)	CRV (Elemental)	Calculated Total Lifecycle (1.3% CRV) x 40 yrs.
1,215,751	$350	$425,512,850	$221,266,682

Summary Lifecycle (DBFOM)	
New Build	$268,509,000
Existing	$221,500,000
Total	$490,009,000

Table 3: Life Cycle Worksheet - CM/GC (Populous)

Level 1 - Major Group Elements	Level 2 - Group Elements	Predicted Service Life (in years)	Initial Capital, Construction & Installation Cost (excl. design & soft costs) ($000)	Replacement/Refurbishment Strategy, Key Assumptions and Comments	40 year Lifecycle Estimate ($000)
A: SUBSTRUCTURE	A10: Foundations	50	$10,801	Contingency allowance	$675
	A20: Basement construction	50	$0		0
B: SHELL	B10: Superstructure	50	$94,639	Contingency allowance	$5,915
	B20: Exterior enclosures	20 to 50	$44,045	Major refurbishment & upgrades	$27,528
	B30: Roofing	20 to 25	$18,810	Full and partial replacement	$35,269
C: INTERIORS	C10: Interior construction	15 to 35	$23,187	Partial phased replacement of stair coverings plus contingency for structure	$21,738
	C20 Stairs	15 to 40	$3,740	Cyclical replacement of stair coverings plus contingency for structure	$701
	C30: Interior finishes	5 to 40	$24,338	Cyclical replacement of carpeted floor finishes in high traffic areas, repainting, ceiling and wall coverings	#22,817
D: SERVICES	D10: Conveying	10 to 25	$10,577	Lifts, escalators and elevators - cyclical major refurbishment, upgrades & replacement	$11,899
	D20: Plumbing	10 to 40	$9,550	Cyclical replacement of fixtures plus replacement/ refurbishment of other system components	$3,581
	D30: HVAC	10 to 30	$39,443	Cyclical upgrades to major components to extend life plus partial replacement of other system elements	$24,652
	D40: Fire protection	15 to 25	$4,355	System upgrades and refurbishment	$817
	D50: Electrical	10 to 40	$38,184	Upgrade and replacement of various components	$23,865
E: EQUIPMENT &	E10: Equipment (excluded)	N/A	$0	Assume LC by owner under both scenarios	$0
	E20: Furnishings (excluded)	N/A	$0	Assume LC by owner under both scenarios	$0
F: SPECIAL	F10: Special construction	N/A	$0		$0
	F20: Demolition - N/A		$0	Not subject to LC	$0
G: BUILDING	G10: Site preparation		$0		$0
	G20: Site improvements	8 to 30	$20,750		$7,781
	G30: Site mechanical utilities	40 to 50	$3,962		$495
	G40: Site electrical utilities	15 to 40	$3,119		$390
	G90: Other site construction	N/A	$0		$0
TOTAL			$349,500		$188,123

LIFE CYCLE COST

OBSERVATIONS AND COMMENTS

Notes:

Unescalated - based on current estimated values

Calculated high-low lifecycle range based on competitive bids $174,750,000 to $202,710,000 based on 693,000 SF new build

New Build: Recommended budget for business case analysis: $188,125,000

Existing Gross Enclosed Area (No Refurbish)

New Build: Recommended budget for business case analysis: $188,125,000 Existing Gross Enclosed Area (No Refurbish)				
Total Gross Area SF	Blended Construction Unit Cost (Elemental)	CRV (Elemental)	Calculated Total Lifecycle (1.3% CRV) x 40 yrs.	
846,988	$350	$296,445,800	$237,156,800	West Hall
1,183,704	$350	$414,296,400	$248,577,840	South Hall
2,030,692		$710,742,200	$485,734,480	Subtotal

West Hall Initial Refurbishment		
Total Gross Area SF	SF Construction Unit Cost (incl. Design & Contingencies	Calculated Initial Refurbishment
846,988	$125	$105,873,500

Summary Lifecycle (Traditional)	
New Build	$188,125,000
Existing	$485,734,480
W. Hall Initial Refurbishment	$105,873,500
Total	$779,732,980

LIFE CYCLE COST

SUMMARY AND CONCLUSIONS

Based on the design proposals and background information provided by the key stakeholders, 40 year lifecycle profiles have been developed for each scheme that include projected future costs for both the new and existing areas that will comprise the expanded and renovated Los Angeles Convention Center at the end of the construction period. The projections are subject to change resulting from modifications to the project scope during the detailed design development stage. It is anticipated that the actual conditions of the existing building elements and the viability of their reuse will have an impact on both the initial capital construction and lifecycle costs.

The summarized recommended lifecycle estimates are:

- Traditional Model: $779,732,980
- P3/DBFOM Model: $490,009,000

SEC TION

4.

DBFOM Schedule

The proposed Convention Center expansion and renovation approaches offer very different project delivery methods. Both result in upgraded and expanded convention facilities. The principal difference, other than the procurement, contract, cost, and risk characteristics, is the scope of demolition and construction proposed. The CM/GC approach modifies and expands the existing West and South Halls into a more unified complex of exhibition, meeting, and support spaces. THE DBFOM approach expands South Hall significantly, creating a larger overall building with the necessary exhibition, meeting, and support spaces, and then ultimately demolishes West Hall.

The question is whether the schedules presented by both approaches reasonable, realistic and all encompassing?

DBFOM Schedule

The fundamental elements of the DBFOM schedule are:

CEQA/EIR/Planning and Council Approval	3/1/16 to 10/2/17	19 months
P3 Procurement	10/3/16 to 11/30/17	15 months
Design	8/3/17 to 5/17/18	10 months
Phased Construction	12/1/17 to 4/30/20	29 months
Demolition	5/1/20 to 1/7/21	7 months
Remaining Exhibit Space and Close-out	5/29/20 to 1/7/21	6 months
Overall duration of all phases	3/1/16 to 1/7/21	57 months

The DBFOM submission raises the following issues:

- The start date needs to be adjusted to reflect the actual date of project initiation. It is currently almost 4 months behind.
- Other than CEQA and EIR, the regulatory and approval process is not reflected in the schedule. Anticipated Building Permit review and approval durations need to be included.
- We do not believe that the design duration includes sufficient time for design development and completion at 10 months. Investigation of City and user feedback, polling and interaction with show managers, design development, budgeting, cost reduction efforts, phasing drawings, permit reviews, development of early bid packages, and completion of the design will take considerably more time. The design duration is more likely a 12 to 15 month process.
- The overall construction duration appears adequate given the amount of phased work that has to be completed but key activities need to be overlain, particularly activities involving interaction with the City:
    - Exhibition dates and durations.
    - Action and approval dates for utility companies and other third party entities that impact the schedule.
    - Interaction with concessionaires and other food service providers.
    - Areas needing to be vacated by the City in anticipation of the start of specific construction phases.
    - FF&E review and assessment with the City.
    - Phase completion dates and dates on which the Authority will be expected to take over operations of completed phases.

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- FF&E review and assessment with the City.
- Phase completion dates and dates on which the Authority will be expected to take over operations of completed phases.

- While the activities mentioned in Item 4 above could be viewed as constituting too much detail for this level of schedule, it is concerning that they are not identified or described and their impact is not identified as critical. At a minimum, Arup needs to develop a management plan indicating how this process should be controlled to ensure that the impacts are properly assessed and scheduled. This, in combination with the schedule, would demonstrate a complete understanding of the process.

CM/GC Schedule

The fundamental elements of the schedule provided by Populous are:

1. CEQA and Council Approval	6/16 - 11/17	18 months
2. Design	9/16 - 12/18	16 months
3. Construction	07/18 - 10/20	28 months
Overall duration of all phases	6/16 - 10/20	52 months

Populous projects the overall duration of the CM/GC approach to be 52 months. This would present a 5 month time advantage over the DBFOM approach.

It should be noted that the schedule duration is directly affected by Populous' indication that the design and construction phases would overlap by 5 months. Construction is projected to commence 5 months before the design is complete and in this approach bids would be sought with incomplete documents. While this can be advantageous from a time perspective, it typically adds to the risk of prices increasing after initial contract award. This can be managed, of course, with proper controls and risk assignment planning during the bid process, but it could place the City at the risk of change orders or incomplete scope once construction commences. Further, any mechanism in the bid process to require the proposers to quantify the risk or accept the risk of the incomplete documents will result in higher contingencies in the bids and thus neutralize the advantage of taking competitive bids on completed documents.

If that is a risk the City is unwilling to take, then the Populous schedule should be extended 5 months to ensure complete documents for bidding. If that is the case, there would be no time advantage to the Populous approach and no associated show revenue benefit.

In addition to the above, the Populous submission raises the same concerns as the Arup issues described previously. Since this is a less integrated development approach than the DBFOM method, the City must give serious consideration to how the CM/GC process will be managed and how the City's operational issues will be addressed during the design and construction stage.

Ted Fikre
Vice Chairman
Chief Legal and Development Officer

June 14, 2016

Honorable Mike Feuer
City Attorney
City of Los Angeles
City Hall East
200 N. Main Street, 8th Floor
Los Angeles, CA 90012

Dear City Attorney Feuer:

Thank you for taking the time to meet with us and for the attention you paid to our concerns. As we discussed, the City appears to be moving forward with a process that could dramatically impact AEG's rights and run afoul of the agreements between AEG and the City. Given the importance of the issues at stake, we thought it would be useful for us to follow up with this letter and provide the attached details.

While the City has acknowledged that AEG has a variety of rights and interests that could be implicated by certain of the proposed plans for the Convention Center, we fear that some City officials may not fully appreciate the nature, complexity and importance of the issues involved, as those individuals continue to advocate for plans that would violate our legal rights.

As you know from your tenure on the City Council, AEG and the City agreed to a 55-year development deal in 1997. The essence of that agreement was that AEG would invest capital to build STAPLES Center, the Convention Headquarters Hotel (which ultimately became the JW Marriott/Ritz-Carlton hotels) and L.A. LIVE, thereby redeveloping a severely blighted area and revitalizing the City's Convention Center and the downtown area. AEG delivered on its promise and the City has received the benefits it bargained for.

In the continued spirit of cooperation and partnership, last year AEG proposed a 755-room expansion of the JW Marriott in response to the City's expressed desire for additional development of large room blocks within walking distance of the Convention Center. We had hoped that this expansion project, together with various other hotel development projects in the current development pipeline, could help achieve the City's stated objective of reaching a total supply of 8,000 hotel rooms in the vicinity of the Convention Center.

After reaching an agreement with City staff on the terms of support for which this proposed Convention Headquarters Hotel expansion would qualify under the City's standard policies and practices for hotel development incentives, AEG was recently informed that in order for the City to proceed with its support of the project, AEG must agree to surrender critical rights at the Convention Center (which are unrelated to the proposed JW Marriott/Ritz-Carlton expansion) in order to make way for the construction of a second 1,000-room headquarters hotel on areas of the Convention Center immediately adjacent to STAPLES Center. As a point of reference, we are attaching a brief description of the various contractual and property rights that would likely be impacted by that proposed on-site hotel project as we understand it. We believe the proposal for a second convention headquarters hotel is a fundamental violation of the deal entered into by AEG and the City, and would deprive AEG of the benefit of the agreement it negotiated with the City, and which it expects to enjoy for the next 37 years.

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This effort to now require AEG to surrender rights that the City previously granted is particularly troubling given that it was the City who required that AEG build the Convention Headquarters Hotel as an express condition to its rights, and AEG did so. At tremendous risk, after multiple failed attempts to secure a third-party hotel developer willing to take on the burden of building the project, and in the midst of the financial crisis and severe recession, AEG undertook the billion dollar development of the JW Marriott/Ritz-Carlton L.A. LIVE project to satisfy the City's long-standing desire for a Convention Headquarters Hotel, which AEG understood the City felt was essential for the Convention Center to prosper.

AEG remains a strong advocate for the need to significantly improve and expand the Convention Center in order to retain and attract larger group events and make Los Angeles a premier convention destination. However, we are concerned that rather than pursuing a cost-effective expansion focused on addressing the clear need for additional contiguous exhibition space, some at the City have embarked on a plan, including an on-site convention headquarters hotel, that will likely cost well over a billion dollars to construct, with the vast majority of funding for such project coming in the form of public debt and subsidies, and which is in fundamental violation of AEG's agreement with the City.

The development of a second headquarters hotel was not a part of the deal when the City insisted that AEG build a Convention Headquarters Hotel. We believe that the effort of the City to now usurp the status of the JW Marriott/Ritz-Carlton L.A. LIVE as the Convention Headquarters Hotel violates the Disposition and Development Agreement and related agreements. Further, the proposed new hotel on the Convention Center property would most certainly necessitate an enormous level of public financial assistance likely well beyond the current City policy and related practices. Such a project would likely also stifle the robust private hotel development initiatives that are currently underway in the vicinity of the Convention Center. With a footprint that will require approximately 3 to 4 acres of real estate, the proposed on-site hotel will also greatly constrain future Convention Center expansion opportunities on limited contiguous Convention Center property.

Since 1997, AEG has lived up to its promises—proving time and again that it is a committed and trusted partner with the City, having invested billions of dollars in capital to build STAPLES Center, the JW Marriott/Ritz-Carlton hotels, and the rest of the L.A. LIVE campus. AEG's successful operation of these projects has generated thousands of events and attracted over 200 million visitors since they opened, leading the rejuvenation of downtown Los Angeles and providing massive economic stimulus to the region.

The proposed on-site hotel would violate AEG's contract rights, property rights and entitlements, all of which date back to 1997, and would unfairly interfere with AEG's right to enjoy the benefit of its bargain. We respectfully request that you and your client give due consideration to our concerns and refrain from proceeding with any proposed plans that would violate AEG's legal rights, causing the potential for severe operational and economic consequences to AEG.

Very truly yours,

Ted Fikre

Attachment

AEG CONTRACTUAL AND PROPERTY RIGHTS

The Disposition and Development Agreement ("DDA") and The Overall Deal

- In entering into the DDA in 1997 and each of the later iterations of the DDA and related agreements, the fundamental City goals were to require construction of a Convention Center "Headquarters Hotel" and to revitalize the area around the Convention Center and throughout the Central Business District. The fundamental AEG goals were the development of the STAPLES Center, the Convention Hotel and the L.A. LIVE campus. These fundamental and complementary goals are restated throughout the applicable agreements from 1997 to the present.
- By name, definition and purpose, the hotel that is called for by the DDA was and is THE "Headquarters Hotel" for the Convention Center. The 1,001 room JW Marriott and Ritz-Carlton hotels at L.A. LIVE (which opened in 2010), together, comprise the Convention Center Headquarters Hotel.
- This fundamental understanding is evident throughout the DDA, and was clearly understood by those who were involved in the negotiation and documentation of the DDA and related agreements.
- As demonstrated through the range of contractual provisions below, the DDA and related agreements and entitlements are not discrete stand-alone pieces independent of one another. Rather there is an interrelationship of agreements and provisions that together led to the construction of the Convention "Headquarters Hotel" along with STAPLES Center and L.A. LIVE.
- The DDA and related agreements all include an implied covenant of good faith and fair dealing which requires that neither party do anything to unfairly interfere with the other's right to receive the benefits of the contract. Construction of an on-site hotel or mixed-use development on Convention Center property would unfairly interfere with AEG's rights, thereby depriving AEG of the benefit of its bargain with the City.

Parking Rights

- Pursuant to the Parking Lease dated November 10, 2005 (the "**WH/CS Garage Lease**") between AEG and the City, AEG has a long-term lease to 2053 for use of parking spaces in both the West Hall Garage (currently 689 stalls (the "**WHG Stalls**")) and the Cherry Street Garage (currently 494 stalls (the "**CSG Stalls**")) for all STAPLES Center events, as well as all other events occurring within the Los Angeles Sports and Entertainment District ("LASED") (Recital E, Sec. 3.2(a)).
- The "Premises" under the WH/CS Garage Lease is defined to include not only all of the aforementioned parking stalls, but the structures in which such stalls are located, and all vehicular and pedestrian ingress and egress with respect to such stalls (Recital E).
- All of the stalls are intended, and expressly permitted, to be used for Arena code parking requirements and/or LASED code parking requirements (Sec. 3.2(c)).
- The WHG Stalls and CSG Stalls, which are proximately located to STAPLES Center, are utilized to meet the parking needs of some of the arena's most important customers, including STAPLES Center's premium seat holders who account for the single biggest revenue source supporting

AEG's investment in the arena. The displacement of this parking could severely impair STAPLES Center's ability to successfully market and service its premium seating products.

- Subject to the City's reasonable consent, AEG has the right to use additional stalls within Cherry Street Garage (Sec. 3.2(a)).
- AEG has the right to reconfigure or restripe the CSG Stalls and WHG stalls (at its expense), and if the re-striping results in additional parking spaces, such additional spaces shall be included within AEG's leasehold interest (Sec. 5).
- WH/CS Garage Lease grants AEG rights to install commercial signage in both parking facilities subject to revenue sharing with the City (Sec. 3.2(a)(v)).
- AEG has the right to operate the parking facilities for both its own benefit and for the benefit of the City (Sec. 3.2(a)(i)).
- AEG has the unilateral right to develop a parking structure (contemplated to include approximately 600 parking stalls) on Bond Street lot owned by the City to be used primarily by AEG (Sec. 30).
- The City has the limited right to provide AEG with alternate parking facilities reasonably acceptable to AEG solely if the City "seeks to expand the Convention Center, and all or any portion of the Premises is unavailable to Tenant ***due to such expansion***." This right does not allow the City to permanently demolish the West Hall in order to accommodate a hotel or mixed-use real estate development (Sec. 11).
- Construction of an on-site hotel or mixed-use development displacing the WHG stalls or the CSG Stalls would materially impair AEG's parking rights. AEG's remedies in the event of any breach by the City under the WH/CS Garage Lease are cumulative, and include all measures of equitable or injunctive relief including specific performance (Sec. 16).

Use and Access Easements

- Pursuant to the Reciprocal Easement and Environmental Restriction Agreement dated March 26, 1998, as amended (the "**REA**"), between AEG and the City, AEG has broad pedestrian, roadway, and utility easements throughout all portions of the Convention Center campus, including throughout West Hall, Gilbert Lindsay Plaza and all surrounding pedestrian and vehicular access routes (Articles 1 & 2).
- The easements are not limited to any specifically defined area, but are instead defined to include all of "the exterior roadways, exterior walkways, exterior bridges, tunnels, exterior courtyards and other exterior pedestrian access ways..." throughout LACC property (Art. 1, Ex. A).
- Key easement areas include (a) the roadway and ramp to STAPLES Center's loading docks providing access to, among others, service vehicles, players, and artists performing at the arena, (b) areas providing access to West Hall valet and VIP parking in West Hall Garage, and (c) Gilbert Lindsey Plaza which sits in front of one of STAPLES Center's three main entrances.
- The City has no express right under the REA to relocate the Gilbert Lindsay Plaza Surface Easement. The City may only modify or relocate any of the other easements granted to AEG with AEG's prior written approval, not to be unreasonably withheld (Sec. 1.7).

- The REA cannot be amended without AEG's written consent (Sec. 16.3).
- Construction of an on-site hotel or mixed-use development on Convention Center property subject to above easements would materially impair AEG's use and access of those easements. Except only for a limitation on consequential or punitive damages, AEG's remedies in the event of any breach by the City under the REA are cumulative, and include all measures of equitable or injunctive relief including specific performance (Sec. 13.3).

Signage Rights

- The REA grants AEG rights to place certain signage on the "green wall" and on the marquee constructed in the vicinity of the Venice Garage property (Sec. 4.2).
- The REA also includes various signage rights and protections for the benefit of AEG. Among other things, the applicable provisions preclude the City from selling/displaying exterior commercial signage other than customary temporary LACC event banners (Article 4).
- AEG's affirmative signage rights on the green wall and the 10 freeway marquee extend for the full duration of the Arena Ground Lease (through 2053).
- The restrictions on competing signage at the Convention Center expire in September 2024; however until the termination of the Arena Ground Lease, the City has no right to change the name of the Convention Center or any ancillary facilities from the "Los Angeles Convention Center" to any name which includes or makes reference to any commercial name or product.
- Construction of an on-site hotel or mixed-use development on Convention Center property could materially impair AEG's signage rights.

Leased Property

- The existing parcel leased to AEG pursuant to the Arena Ground Lease dated March 26, 1998 (the "**Arena Ground Lease**") by and between AEG and the City would likely require adjustment in order to accommodate the proposed hotel development on the LACC site currently being contemplated by the City. For reference, see the attached site plan, which was a part of the original DDA and remains an accurate depiction of the Convention Center Property and its relationship to the Arena Site.
- Any adjustment of the demised premises under the Arena Ground Lease would require AEG's written consent, as well as the written consent of any "Leasehold Mortgagee(s)" (Sec. 42.10).
- Maximizing the buildable footprint for a hotel and other uses around the West Hall site would most likely necessitate (a) shifting a portion of existing STAPLES Center site out of the demised premises, (b) replacing STAPLES Center loading ramp with a reconfigured ramp that will free up part of the area around the West Hall, and/or (c) relocating existing chiller plant and recently installed Bloom Energy cells. Maintaining continuous access to the STAPLES Center loading ramp will be extremely challenging.
- Construction of an on-site hotel or mixed-use development on Convention Center property could materially impair AEG's Arena Ground Lease.

CALE: 1" = 500'

SHEET 1 OF 1 SHEET

CONVENTION CENTER PROPERTY

IN THE CITY OF LOS ANGELES
COUNTY OF LOS ANGELES, STATE OF CALIFORNIA

