Description of document:	Federal Housing Finance Agency (FHFA) Fannie Mae (FNMA) Headquarters Consolidation Value Engineering Analysis and Benchmarking Study, 2017
Requested date:	29-July-2018
Release date:	14-November-2018
Posted date:	22-July-2019
Source of document:	FOIA Request Federal Housing Finance Agency 400 7th Street, SW 8th Floor Washington, D.C. 20219 Fax: 202-649-1073 Email: foia@fhfa.gov

From: Easter, Stacy <Stacy.Easter@fhfa.gov>
Sent: Wed, Nov 14, 2018 11:09 am
Subject: FHFA FOIA Request No.: 2018-FOIA-055
November 14, 2018

Re: FHFA FOIA Request No.: 2018-FOIA-055

This is in response to your Freedom of Information Act (FOIA) request, dated July 29, 2018. Your request was processed in accordance with the FOIA (5 U.S.C. § 552) and FHFA's FOIA regulation (12 CFR Part 1202).

You requested the following:

"1) The value engineering and benchmarking study (i.e., "benchmarking report") and the presentation slides presented to the FHFA Conservatorship Committee on March 9, 2017, regarding the Leased Class A Office Space in Midtown Center, the report having been produced by the consulting/engineering firm. The expert consultant for this benchmarking study was engaged in mid-2016. 2) The follow up discussion from the consulting/engineering firm in March 2017 explaining the need for architectural upgrades."

A search of FHFA files and records located two documents responsive to number one of your request. The documents are being partially released (redacted) pursuant to exemption 4 of the Freedom of Information Act, 5 U.S.C. § 552 (b)(4), pertaining to trade secrets and commercial or financial information obtained from a person that is privileged or confidential. The responsive material is attached.

This is FHFA's final decision on your FOIA request. If you wish to appeal any aspect of FHFA's decision on your request, you must forward within 90 days:

- A copy of your initial request;
- A copy of this letter; and
- A statement of the circumstances, reasons, or arguments for seeking disclosure of the affected record(s).

The appeal must be sent either electronically by 5pm to foia@fhfa.gov or by mail to the "FOIA Appeals Officer" at 400 7th Street, SW, 8th Floor, Washington, DC 20219. The subject line, or the envelope and the letter of appeal, must be clearly marked "FOIA Appeal." Please note that all mail sent to FHFA via the United States Postal Service is routed through a national irradiation facility, a process that may delay delivery by approximately two weeks. For any time-sensitive correspondence, please plan accordingly.

Additionally, you may seek dispute resolution services from the Office of Government Information Services (OGIS) at the National Archives and Records Administration. OGIS can be reached at 8601 Adelphi Road – OGIS, College Park, Maryland 20740-6001; by email at

ogis@nara.gov; by telephone at 202-741-5770 or toll free at 1-877-684-6448; or by facsimile at 202-741-5769.

Your FOIA request is releasable to the public under subsequent FOIA requests. In responding to these requests, FHFA does not release personal information, such as home or email addresses and home or mobile telephone numbers which are protected from disclosure under FOIA Exemption 6 (5 U.S.C. § 552(b)(6)).

There are no fees associated with processing this request.

If you have any questions regarding the processing of your request, please contact us at foia@fhfa.gov or 202-649-3803.

Sincerely,

Stacy J. Easter
FOIA/Privacy Officer
FOIA Public Liaison
Office of General Counsel | O G C
Federal Housing Finance Agency | F H F A
O: 202.649.3067 | C: 202.604.1024 | Stacy.Easter@fhfa.gov

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VALUE ENGINEERING ANALYSIS AND BENCHMARK STUDY
FINAL REPORT

March 7, 2017

Fannie Mae Headquarters Consolidation
Value Engineering Analysis and Benchmarking Study

Client: Federal Housing Finance Agency
Date: March 7, 2017

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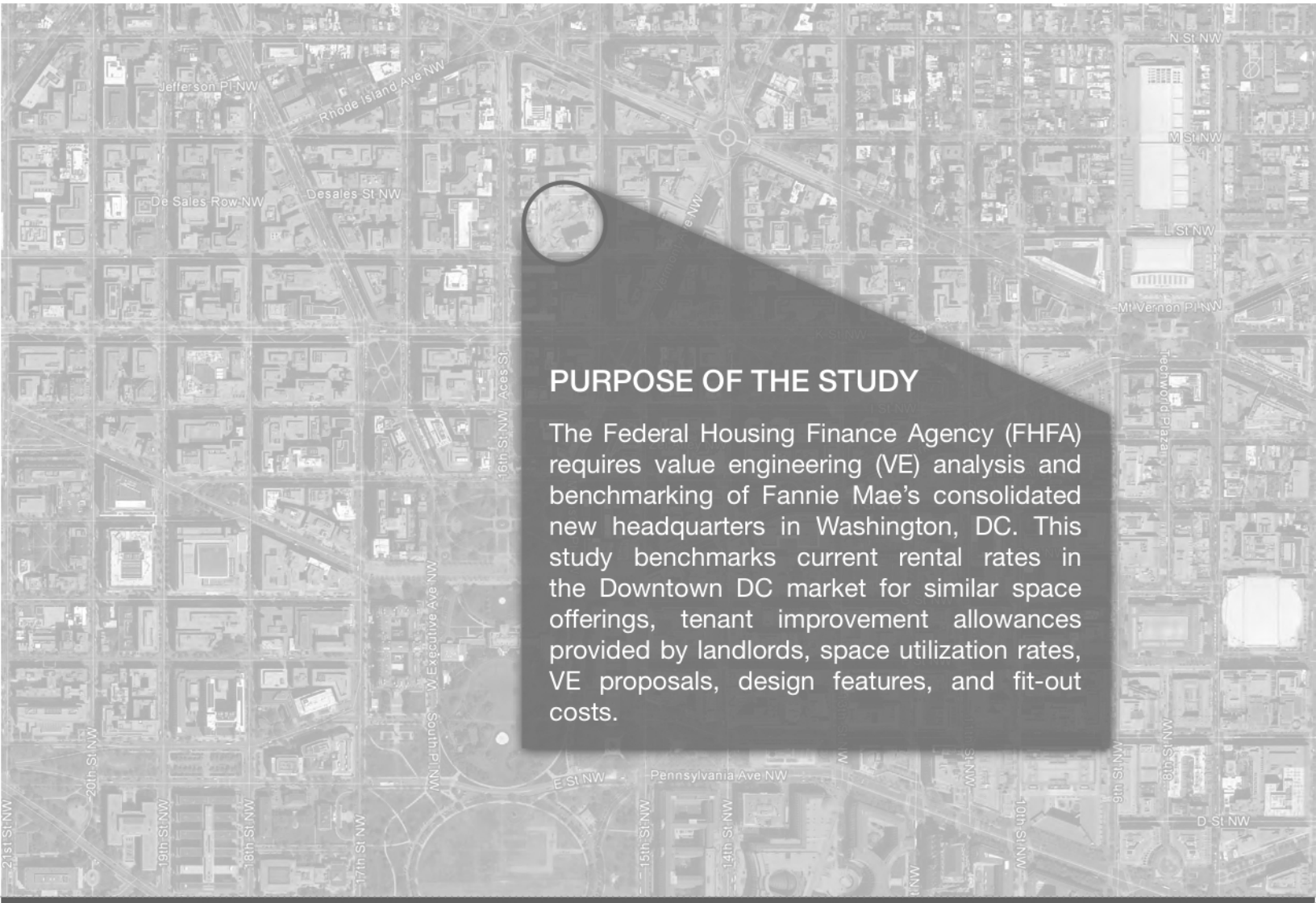


PURPOSE OF THE STUDY

The Federal Housing Finance Agency (FHFA) requires value engineering (VE) analysis and benchmarking of Fannie Mae's consolidated new headquarters in Washington, DC. This study benchmarks current rental rates in the Downtown DC market for similar space offerings, tenant improvement allowances provided by landlords, space utilization rates, VE proposals, design features, and fit-out costs.

Contents

List of Acronyms

CBD - Central Business District

CD – Construction Document

FHFA – Federal Housing Finance Agency

FM – Fannie Mae

GMP – Guaranteed Maximum Price

GSF – Gross Square Feet

NNN – Triple Net

NPV – Net Present Value

NSF – Net Square Feet

TI – Tenant Improvement

TIA – Tenant Improvement Allowance

USF – Usable Square Feet

VE – Value Engineering

RSF – Rentable Square Feet

Key Definitions

Gross Square Feet (GSF): the total enclosed area of a building, including exterior walls. The gross area of an existing building can be calculated by measuring the outside surface of the building perimeter of a scaled drawing and computing the interior area.

Net Square Feet (NSF): the square footage allocated to an assigned space, such as an office, furniture workstation, storage space, or conference room. The sum of all net areas in the building is the total assigned space, also called net square footage.

Usable Square Feet (USF): contains all net areas allocated to individual spaces such as a private office, furniture workstation, or conference room, plus the circulation around those areas. The usable area of a single organization is the "footprint" of that organization on the floor plan of the building. Usable area excludes unassigned building infrastructure spaces such as mechanical rooms, telephone closets, and toilets.

Rentable Square Feet (RSF): the quantity of square footage tenants pay for when leasing space in a building. It includes the usable square footage each tenant actually occupies, plus a pro-rated portion of other building spaces, such as a lobby, that are used by all tenants of the building.

Triple Net (NNN) Lease: agreement that designates the tenant as being solely responsible for all the costs relating to the asset being leased, in addition to the rent fee applied under the lease. The structure of this type of lease requires the tenant to pay the net amount for three types of costs, including net real estate taxes on the leased asset, net building insurance and net common area maintenance.

Full Service (FS) Lease: agreement under which all the operating expenses are paid by the lessor. In this case, the owner bears the risk of all unexpected changes in operating expenses.

Tenant Improvement Allowance (TIA): agreement between the owner and tenant concerning the amount that the owner will pay for tenant improvements (TIs). this could include bookcases, doors, lighting, carpets, wall coverings, etc. This allowance is usually expressed in dollars per square foot of usable space that the owner will budget for a tenant to finish or refinish space. Any cost in excess of the agreed amount is to be paid by the tenant.

1. Executive Summary

The Federal Housing Finance Agency (FHFA) contracted with Jacobs to assist in oversight of Fannie Mae's (FM) Midtown Center building project in Washington, DC. Jacobs' scope of work included:

- **Value Engineering Analysis:** Validate the underlying assumptions and overall conclusions of the projects' value engineering (VE) proposals.
- **Benchmarking:** Comparison of project designs, activities and costs with industry and government benchmarks.

To accomplish these objectives, Jacobs reviewed documents provided by FM and compared the lease provisions, design features and costs of the Midtown Center to industry and government benchmarks. Benchmarks included real estate, workplace, and cost industry research data, including FHFA's headquarters.

Key findings are summarized below:

Lease Rental Rate

The blended triple net rent rate in the Lease Agreement of $48.57 per rentable square foot (RSF) is below Washington, DC's Central Business District (CBD) average market rate of $49.53 per RSF for Class A office buildings.

Jacobs also benchmarked against a pool of 11 comparable properties. The $53.22 per RSF average rental rate of the comparable pool results in a savings of approximately $3 Million per year for the Midtown Center lease, an estimated savings of approximately $45 million over the 16-year lease duration.

Tenant Improvement Allowance

The Tenant Improvement Allowance (TIA) of $120 per RSF provided by the lessor is favorable compared to the average market TIA of $118.4 per RSF for 16-year leases.

Workplace and Space Utilization

FM's utilization rate is 187 Usable Square Feet (USF) per assigned work seat, which is within the benchmark range of 170 – 200 USF/work seat or person for similar organizations. Other metrics (office, workstation, hoteling, net-to-usable, rentable-to-usable) also align with Jacobs' best practices, and with both private and public sector benchmark projects. The metrics are better than those of the benchmarked financial services headquarters facility. Generally, FM's workplace strategy aligns with current trends for private office ratios and shared collaborative spaces.

Study Highlights

Background Understandings

- Midtown Center consolidation reduces leased area by 309,000 rentable square feet.
- 16-year occupancy costs are reduced from $1.1 billion to $775 million, with savings of approximately $325 million.

Findings

- The lease rate is below the Downtown DC market average for comparable space.
- The Tenant Improvement Allowance provided by the landlord is better than the market average.
- Space utilization metrics align with Jacobs' best practices, current trends and industry benchmarks.
- All VE proposals and design upgrades are reasonable for a financial institution headquarters.
- FM's current tenant improvement budget of $219 per RSF is 1% below Jacobs' benchmark of $221 per RSF.
- FM current construction budget of $155 per RSF is 3% less than the comparable FHFA's headquarters actual construction costs.

Value Engineering Proposals and Design Upgrades

The analysis of FM's VE proposals and identified design upgrades indicates that all are reasonable with the possible exception of standby power for all building electrical loads, which we consider above-standard for similar facilities. Nonetheless, FM has provided documentation of its cost-benefit analysis of various resiliency options leading to executive approval of the current option. Evaluation of this business decision is beyond the scope of this study other than to say that it appears due diligence was performed.

Tenant Improvement Costs

Jacobs developed a Tenant Improvement (TI) benchmark cost of $175 per RSF for a typical Washington DC Class A office building, normalized for the size and schedule of FM's Midtown Center building.

Jacobs estimated the cost of the VE proposals and identified design upgrades at approximately $46 per RSF. When combined with the Class A office building benchmark of $175 per RSF, Jacobs benchmark for the FM Midtown Center design is $221 per RSF, or $151 Million.

FM's baseline TI budget of $234 per RSF is within 6 percent of the Jacobs benchmark of $221 per RSF. Jacobs considers this within the range of expected accuracy for a budgetary estimate. Nonetheless, Jacobs identified a list of variances during review of FM's budget and the VJ Associates (VJ) and Clark Construction (Clark) 80% Construction Document (80% CD) estimates, and recommended that FM address them during negotiation of the Guaranteed Maximum Price (GMP) with the goal of reducing the projected TI cost to Jacobs' benchmark. On February 28, 2017, FM confirmed that it has successfully negotiated the construction GMP and furniture contracts, and that its current budget is now $149 Million, or $219 per RSF, 1% less than the Jacobs benchmark.

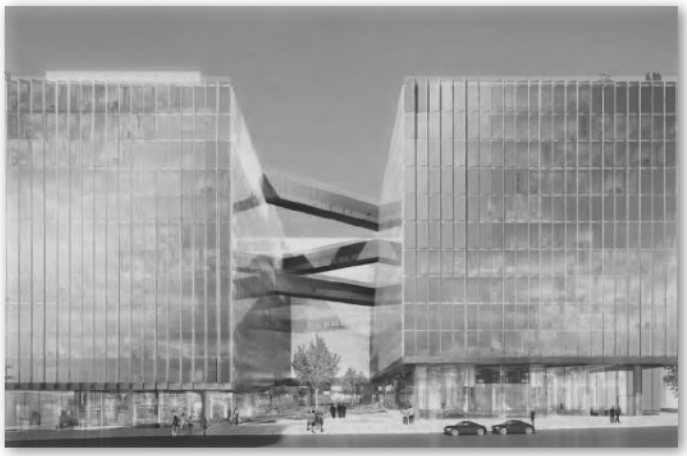
Jacobs also benchmarked FM's Midtown Center project against FHFA's Headquarters. The FHFA Headquarters escalated construction cost of $151 per RSF does not include upgrades required by FM's program, including the Market Trading Room, Audio-Visual Studio, and Cafeteria. Adding these features to the FHFA Headquarters would result in a TI construction cost of $161 per RSF, 3% more than the current FM TI construction budget of $155 per RSF.

2. Benchmarking Methodology

In its role as Conservator, FHFA required benchmarking of the design and cost components of FM's new headquarters to confirm that the lease costs and incentives, workplace strategy, tenant-driven design features and tenant improvement costs are reasonable. Jacobs conducted the following tasks to complete this benchmarking study:

- Lease rental rate benchmark within the Downtown DC market
- Tenant Improvement Allowance (TIA) benchmark
- Workplace Strategy analysis and benchmark
- Evaluation of FM VE proposals and design upgrades
- Development of a Tenant Improvement cost benchmark
- Identification of budget and estimate variances.

The specific methodologies for the key tasks are described below.



FM Proposed Midtown Center Building - Street Level View

Lease Rental Rate Benchmark

A. Comparison against FM benchmarks:

Jacobs initially compared rental rate against FM's benchmarking data from previous studies.

However, although this information demonstrated due diligence by FM, Jacobs could not sufficiently corroborate this information using its data sources. Thus, a review of the marketplace and specific comparables was required for an integral analysis of the marketplace.

B. Comparison against Industry-reported benchmarks:

Jacobs compared FM rental rate against average rental rates for Class A buildings in Downtown DC published in Industry-recognized data sources. This provided a general market benchmark and reference point, which includes leases/buildings that are not fully comparable in size with FM's lease.

Technical note: considering that published rental rates information referred to in this report is mostly available for Full Service leases, Jacobs implemented a conversion factor to normalize full service rates to triple net rates as means to assess how FM rates compare against the CBD marketplace. See Appendix 6 for factor description.

C. Comparison against comparable buildings:

Considering the need to benchmark against closer aligned buildings/leases, Jacobs compared FM rental rate against specific comparable buildings that have similar characteristics and location as the Midtown Center. Jacobs used the following criterion to identify these specific buildings / spaces:

- Lease Type: Triple Net Lease
- Market Area: Washington, DC Central Business District (CBD)
- Building Type: Class A office building
- Size: Larger than 300,000 SF
- Large contiguous space in the building or site
- Existing, Under Renovation/and Proposed

D. Comparison against FHFA current rental rate for its main headquarters building:

Finally, Jacobs compared FM's rental rate against FHFA's headquarters' current lease rate as another key benchmark indicator.

Workplace Strategy

Jacobs compared initial and revised programming report (PR) information against the 80% construction drawings (CD) to determine any variances between the planned and As-Designed spaces. Jacobs then compared these results against industry standards to determine if the workplace strategy metrics are reasonable.

The PR documents included a programming spreadsheet and a summary report listing square footages and seating capacities of the facility. The Jacobs Space Planning Team initially analyzed the 80% CDs and December 17, 2015 PR document, and presented its findings in its November 2, 2016 draft report. FM subsequently provided its November 23, 2016 PR update and Jacobs updated its analysis accordingly (see Appendix 1 of this Report).

Value Engineering Proposals and Design Features

Jacobs' review of FM's VE proposals revealed that the proposals could not be reviewed quantitatively due to the difficulty of projecting life cycle cost savings. Therefore, Jacobs assigned a team to perform a qualitative review of the VE items presented by FM and a review of the 80% design documents, identifying all features the Jacobs' team considered upgrades to a Class A office building. The Team evaluated whether the upgrades are reasonable for a financial institution headquarters building, based on experience with both private and government financial institutions, including FHFA. Jacobs' team included a Senior Architect, Mechanical Engineer, Electrical Engineer and Estimator with extensive experience in tenant fit-out work for corporate and government clients.

Jacobs also analyzed current industry standards and market conditions using leading industry sources that included CoStar, CBRE, JLL, and CRESA for real estate/ costs, and Jacobs benchmark data for workplace strategy and costs (see Appendix 11).

Basis of Benchmark

Jacobs compared similar buildings and workplace strategies, focusing on the financial services industry and headquarters facilities as follows:

- Real Estate: Class A office buildings in downtown Washington, DC.
- Workplace: Seven private sector clients, including three major financial services companies. Other private sector projects included three headquarters buildings of firms in other industries. Benchmarks from five large public sector agencies were also included.
- VE proposals, Design Upgrades and TI costs: The aforementioned real estate and workplace benchmarks plus FHFA's Washington, DC headquarters.

3. Project Background and Lease Description

Project Background

This value engineering and benchmarking study was conducted with the understanding that the following key benefits are being achieved as a result of relocating FM functions to Midtown Center (as recorded in previous studies and approvals by FM and FHFA):

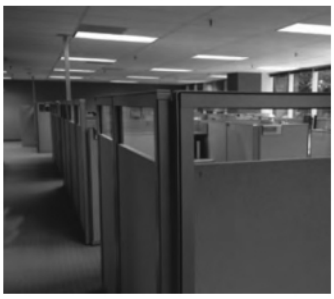
Real Estate

Consolidation: integrate 5 locations into a single location

Leased Area Reduction: from 991,000 RSF to 682,000 RSF

Cost Reduction: 16-year occupancy costs are reduced from $1.1 billion to $775 million, which represent savings of approximately $325 million.

Workplace



Improved Space Utilization: reduction from 265 USF/seat to 187 USF/seat

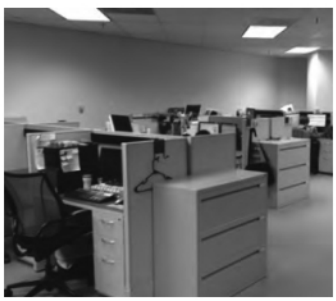
Private Space Reduction: 33% reduction in private office and workstations area

Increased Collaboration: Four (4) times more collaborative space

Improved Workplace: increased flexibility for improved attraction and retention

Reduced Staff Impact: only one staff move

Design Features



Improved Resiliency: better safety and soundness for mission critical functions

Natural Light: increased natural light throughout FM workspace

Connectivity: increased staff and functional connectivity

Finishes: consistent finishes and workspaces throughout FM space

Lease Description

The new FM headquarters will be located in Carr Property's Midtown Center, at 1100 15th Street, NW, Washington, DC. The current total rentable square feet (RSF) in the lease is 752,000 of Class A office space. FM will sublet approximately 10 percent of their allocated space, as shown in Table 1. Thus, FM will only occupy 682,000 RSF of the total in the lease (see Appendix 4).

Table 1: Rentable Square Feet Summary

Fannie Mae Headquarters Building	Rentable Square Feet (RSF)
Sublet	70,000
Fannie Mae	682,000
Leased Total RSF	752,000

Lease Highlights

Location: Midtown Center, 1100 15th Street, DC

Rentable SF: 752,000

Type: Triple Net Class A office space

Rate: Blended rate of $48.57 (per Table 2)

Term: 16 years, from the Base Building Completion Date

Effective Date: January 26, 2015

Triple Net Lease Rental Rate

The lease agreement establishes three different triple net rental rates in various locations within the building. Table 2 outlines the premises as described in the lease and their corresponding rental rates. It also shows that the overall blended rental rate for FM;s 682,000 RSF is $48.57 per RSF.

Table 2: Lease Agreement Rental Rates by Building Location

Description	East Tower Rooftop	Below Grade	Remainder of Premises	Totals
Total RSF	15,000	7,000	660,000	682,000
Approved Rental Rate/RSF (Year 1)*	$57.00	$37.50	$48.50	
Total Annual Rent (Year 1)	**$855,000**	**$262,500**	**$32,010,000**	**$33,127,500**
Average Overall Rental Rate Per RSF				**$48.57**

*Per Section 7 of the Lease.

Figure 1 illustrates the location of FM leased office space and corresponding rental rates within the building. The lease includes atrium areas (shown in yellow) which are tenant elected openings, and are included in the total RSF.

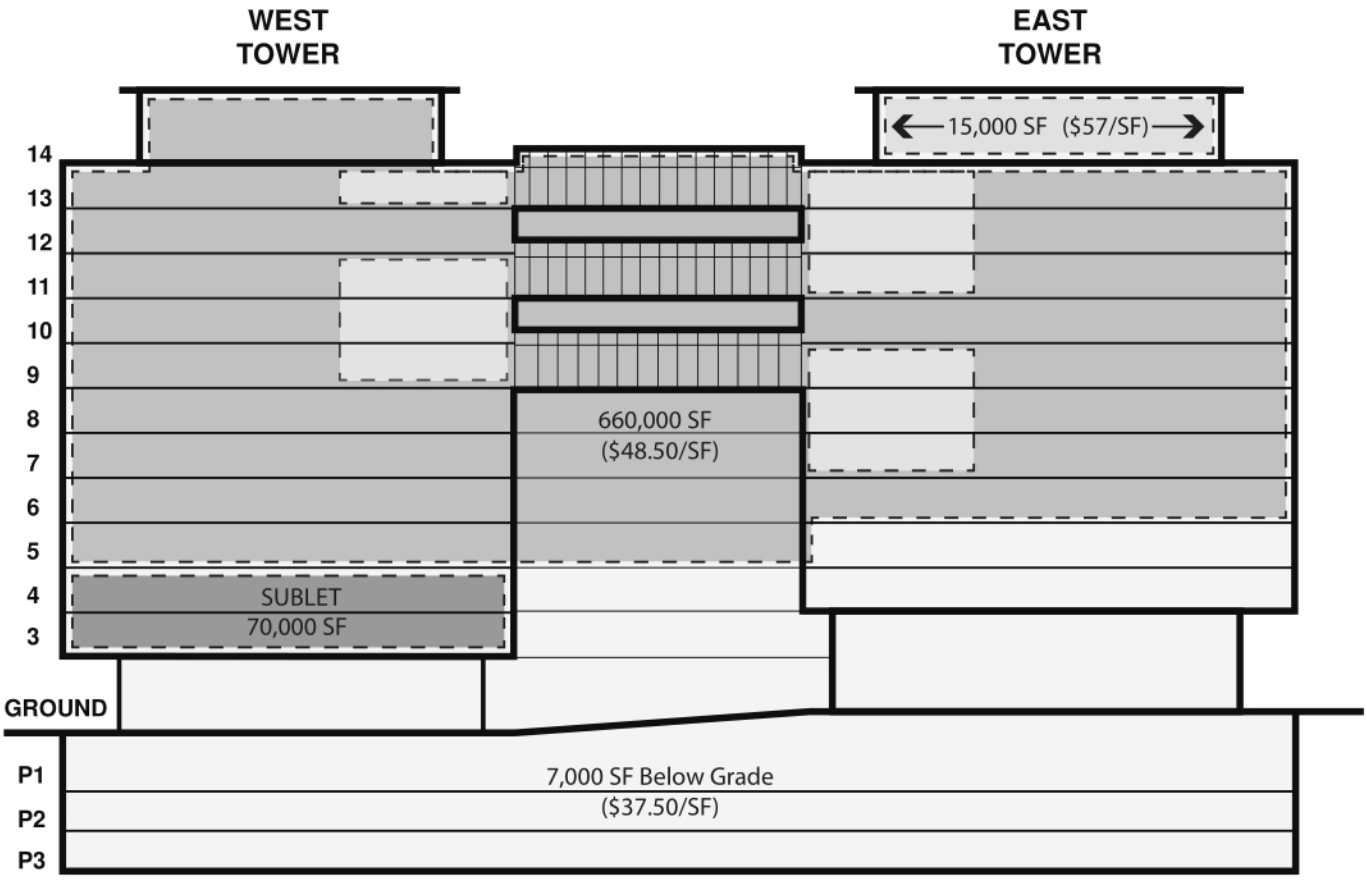


Figure 1: RSF Distribution and Rental Rate Building Diagram

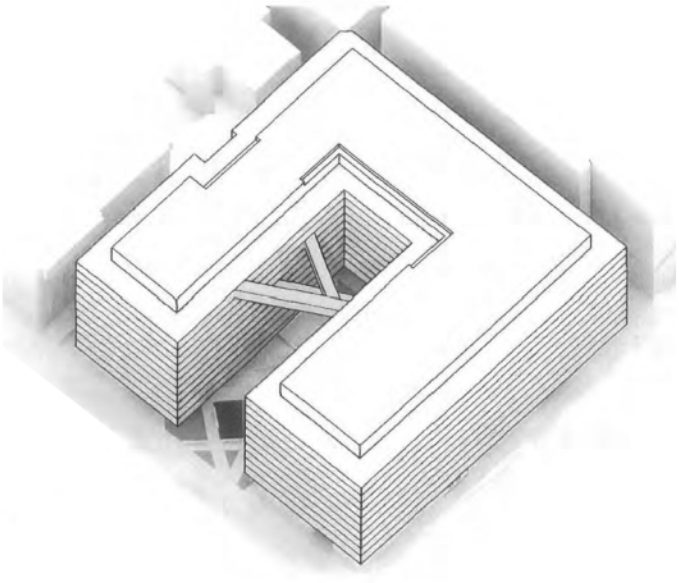
Floor Area Calculations

Table 3 outlines total usable square footage (USF) per floor according to the lease and the Building Owners and Managers Association (BOMA) standards. USF for tenant elected openings, which occur primarily around the towncenters, are also shown.

Table 3: BOMA USF Calculations

Floor	BOMA Usable Total	Tenant Elected Openings	Tenant Usable
14	28,027	0	28,027
13	67,803	773	67,030
12	66,850	1,594	65,256
11	67,699	2,893	64,806
10	66,807	1,575	65,232
9	67,568	1,535	66,033
8	66,792	1,882	64,910
7	66,798	0	66,798
6	66,592	0	66,592
5	35,310	0	35,310
2	0	0	0
1	104	0	104
P1	4,839	0	4,839
P2	1,036	0	1,036
P3	0	0	0
Total	606,225	10,252	595,973

Source: Michael Graves Architecture & Design



Rentable to Usable Factor

Based on the 606,225 USF from Table 3, the resulting rentable to usable factor is calculated as follows:

682,000 RSF / 606,225 USF = 1.12

Conclusion: The previous relocation studies showed that the Midtown Center location will provide FM with a reduction of approximately 309,000 RSF and an occupancy cost reduction of approximately $325 million. It will also provide FM a new and improved workplace environment with increased connectivity and collaboration spaces for its employees in a unique location in the Washington, DC CBD.

4. Lease Costs Benchmark

To assess if FM's rental rate at the Midtown Center is reasonable when compared against the marketplace, Jacobs completed the following benchmarking tasks (see detailed descriptions of these tasks in the Methodology section):

- Comparison against FM-provided Benchmarks
- Comparison against Industry-reported benchmarks
- Comparison against Comparable buildings
- Comparison against FHFA headquarters current rental rate

The subsections below show the results of these comparisons.

Comparison against FM-Provided Benchmarks

Jacobs initially reviewed a market comparables list prepared by Cushman & Wakefield as part of FM's due diligence (see Appendix 7). The table below shows the triple net lease rates[1] for the identified buildings. Although there are only two properties that fit Jacobs' search criteria (especially the need for comparables to be larger than 300,000 RSF), this list of comparables is indicative of current market rental rate conditions for triple net leases.

Table 4: Average Rental Rates per FM Due Dilligence

Building Address	RSF	Term (Years)	NNN Rental Rate
1200 17th Street NW	105,687	10.2	$53.00
2050 M Street NW	115,000	15	$59.00
2001 K Street NW	160,000	16	$56.00
600 Mass Avenue NW	245,000	16	$52.00
601 Mass Avenue NW	376,000	15	$53.00
850 10th Street NW	420,000	20	$57.00
Average	236,948	15.4	$55.00

Source: Cushman & Wakefield (Appendix 7)

As seen, the average triple net rental rate for the listed comparables is approximately $55 per RSF. This is also the average for the properties with over 300,000 RSF. Thus, when comparing to this average, FM's blended rental rate of $48.57 per RSF is favorable, representing a NPV savings of approximately $62 million over the duration of the lease.

Because Jacobs could not independently verify the information in this list, the subsequent benchmarking efforts were conducted, as described in the Methodology section.

Comparison Against Industry-reported Benchmarks

The Washington DC's CBD is currently a strong marketplace and rental rates have continued to increase since the effective date of the lease. However, the CBD submarket is reaching its peak.

Table 5 shows the average benchmarked rental rates for Class A office buildings in the Downtown DC market. As seen, the full service rental rate ranges from $55.64 per RSF to $57.71 per RSF with an average of $56.76 per RSF.

Table 5: Average Rental Rates - Downtown DC

	Rental Rates/RSF (Class A)	
Source	Full Service	Triple Net
CoStar Mid-Year Report (2016)	$57.71	$50.35
CBRE Research (Q3 2016)	$57.57	$50.23
JLL Research (Q3 2016)	$55.64	$48.55
Cresa Tenant's Guide (Q2 2016)	$56.13	$48.97
Average Rental Rate	$56.76	$49.53
FM Triple Net		$48.57
Delta		1.9%

Converted into triple net rates using a conversion factor of 14.6% as described in Appendix 6, this range is between $48.97 per RSF and $50.35 per RSF with an average of $49.53 per RSF.

When compared to FM's rental rate, average market triple net rates are approximately 2 percent higher than FM's rates. Thus, FM has a favorable position.

Furthermore, the breakdown of the Downtown DC market into its corresponding submarkets (CBD, East End and West End) using CoStar's report, shows that the average triple net rental rate for the CBD submarket of $50.02 is also higher than FM's rate ($48.47 per RSF). Thus, FM lease rate is favorable when compared to both the downtown and CBD marketplace.

Table 6: Downtown DC Submarket Rental Rates

	CBD	East End	West End	Average Rate
Full Service	$56.87	$58.51	$54.81	$57.71
Triple Net	$48.57	$49.97	$46.80	$49.28
FM Triple Net				$48.57
FM Delta				1.4%

Source: CoStar - Mid-Year Report 2016

Comparison Against Comparable Buildings

FMs headquarters is a unique project due to its size. In searching for similar sized spaces (700,000 - 800,000 RSF) in downtown DC with available space, there were minimal benchmark results. Thus, search criterion was expanded to properties with 300,000 RSF or more, as described earlier, that provided a wider comparable baseline. Table 7 shows the list of triple net leases that comply with the identified search criteria (see images on next page).

Table 7: Comparable Buildings in DC CBD

Building Location	Building Status	Average Rent[1]	RSF
850 10th Street, NW	Existing	$57.00	420,000
801 Penn Ave. NW	Existing	$56.92	346,855
701 Penn Ave. NW	Existing	$56.76	357,142
800 17th St. NW	Existing	$56.21	384,502
1200 19th St. NW	Existing	$55.33	334,175
601 Mass Ave. NW	Existing	$52.53	478,882
1001 Penn Ave. NW	Existing	$52.49	861,209
1717 K St. NW	Existing	$51.44	385,791
555 12th St NW[2]	Existing	$51.05	587,840
1900 K St. NW	Existing	$50.08	339,060
601 13th St. NW	Existing	$45.55	438,474
	Average Rent	$53.22	

Average $53.22

Fannie Mae $48.57

Source: CBRE Group Inc. (Business Journal Report) and Cushman & Wakefield

See images on pages 13 and 14

1. Escalated to 2016 dollars at 2.5%.
2. Considered by FM prior to final negotiations with Carr Properties.

As seen, the average for the comparable properties is $53.22 per RSF, which is approximately 10 percent higher than FM's rental rate. Thus, the favorable position that FM has against the marketplace is confirmed.

Table 8: Annual Cost Savings

	Rent Rate/RSF (Triple Net)	Annual Lease (Year 1 Costs)
CBD Market	$53.22	$36 M
Fannie Mae	$48.57	$33 M
Cost Savings	$4.65	$3 M

Using this latter benchmark as a reference, FM's lower lease rental rate represents savings of approximately $3 Million per year based on a total 682,000 RSF, as seen above.

Over the 16-year period of the lease, these savings represent approximately a net present value (NPV) of $45 Million (based on 2.5% annual escalation as specified in the lease provisions and the WSJ Prime Discount rate of 3.5%) as seen below:

Table 9: 16-year NPV Savings

Description	Value
16-Year Total Nominal Savings	$61.2M
Discount Rate (WSJ Prime)	3.5%
16-Year Savings Net Present Value	$45.4 M

Comparison Against FHFA Headquarters Current Rental Rates

Although FHFA's current 339,863 RSF headquarters building is located outside of the CBD, it is useful as a point of reference for this study. FHFA currently has a full service lease, with a 2016 blended rate (inclusive of base rent and additional rent, per lease provisions) of $51.52 per RSF, as reported by FHFA. This lease has an effective date of January 31, 2011.

Normalizing to a triple net lease in the CBD included:

- Extracting FHFA's 2016 operating expenses and real estate taxes (reduction of $16.17 per RSF)
- Adjusting for the difference between the CBD market and Southwest marketplace (increase of approximately $9.40 per RSF per CoStar Mid-Year Report, 2016)
- Adjusting to market growth in the past 4 years (an increase of approximately $1.75 per RSF, per CoStar Mid-Year Report, 2016)

The resulting comparable triple net rate for FHFA is $46.50 per RSF, which is 4.3% lower than FM's lease rental rate.

Conclusion: FM rental rates for the Midtown Center building are favorable when compared to current market rental rates, and represent NPV savings of at $45 million over the duration of the lease.

Market Survey Properties

850 10th Street, NW
RSF: 420,000 NNN Rate: $57.00

801 Pennsylvania Ave, NW
RSF: 346,855 NNN Rate: $56.92

701 Pennsylvania Ave, NW
RSF: 357,142 NNN Rate: $56.76

800 17th Street, NW
RSF: 384,502 NNN Rate: $56.21

1200 19th St, NW
RSF: 334,175 NNN Rate: $55.33

601 Massachusetts Ave., NW
RSF: 478,882 NNN Rate: $52.53

1001 Pennsylvania Ave., NW
RSF: 861,209 NNN Rate: $52.49

1717 K Street, NW
RSF: 385,791 NNN Rate: $51.44

555 12th Street, NW
RSF: 781,000 NNN Rate: $51.05

1900 K Street, NW
RSF: 339,060 NNN Rate: $50.08

601 13th Street, NW
RSF: 438,474 NNN Rate: $45.55

5. Tenant Improvement Allowance (TIA)

TIA provided by the landowner in the lease is $120 per RSF. Jacobs compared this allowance against industry standards for downtown Washington, DC. Two methods were used according to the type of benchmark data source:

- **Marketplace Benchmark:** Projection of average 10-year market standards over a period of 16 years
- **Comparable Building Benchmark:** Average TIA for comparable buildings

Using these two benchmarks allows for a more comprehensive comparison of FM's TIA.

Market Benchmark

Although FM lease is for a 16-year period, 10-year lease periods are the more typical market benchmark for Class A properties and are used as baseline for analysis in the general marketplace benchmark. TIA benchmarks for these 10-year leases shows that the allowance provided by landlords is in the range of $70/RSF - $90/RSF. More specifically, according to CBRE, "tenant improvement allowances average $74 per sq. ft., when normalized for 10-year terms." (Q3 2016, Research Report). When converting to a yearly basis, this is equivalent to an average of $7.40 per RSF per year.

When applying this average to the 16-year period, the projected comparative total is $118.4 per RSF ($7.40 x 16), which is slightly lower than the $120 per RSF provided to FM. Thus, FM has a slightly favorable position compared to market (1.35% above market TIA rates) as shown in Table 10.

View from SE of FM Headquarters, February 1, 2017

Comparable Building Benchmark

Jacobs also compared against specific Class A office building TIA for triple net comparables in the Downtown DC area shown in Table 11. When normalized for a 16-year period and Fiscal Year 2016, TIAs range from $92 per RSF to $168 per RSF, with an average of $133 per RSF. This suggests that FM's TIA is below what the marketplace is providing for Class A office buildings.

However, when using only the larger buildings as a reference (245K and over), the average is $120, the same as the TIA provided to FM.

Conclusion: FM's TIA is consistent with industry standards for the Washington DC area.

Table 10: 16-Year TIA Comparison

	TIA/RSF (16-Year Term)
Fannie Mae	$120.0
Market Average	$118.4
Difference	**$1.6**
Difference (%)	**1.35%**

Table 11: TIA Allowance for Comparable Properties in Downtown DC - Triple Net Leases Only

Building Address	RSF	Term (Years)	Commence Date	TIA	Average per Year	16-Year TIA
1200 17th Street NW	105,687	10.2	1/1/2015	$105.00	$10.5	$168
2050 M Street NW	115,000	15	1/1/2019	$130.00	$8.7	$139
2001 K Street NW	160,000	16	10/1/2016	$130.00	$8.1	$130
600 Mass Avenue NW	245,000	16	1/1/2017	$125.00	$7.8	$125
601 Mass Avenue NW	376,000	15	10/1/2015	$135.00	$9.0	$144
850 10th Street NW	420,000	20	8/1/2013	$115.00	$5.8	$92
Average	236,948	15.4		$123.33		$133

Source: CBRE Group Inc. (Washington Business Journal Report - 2016)

6. Workplace Strategy

To evaluate FM's space utilization, the Jacobs team analyzed the Tenant Improvement 80% Construction Document (80% CD) drawings and compared them to Fannie Mae's November 23, 2016 Programming Report (PR) (See Appendix 1). The PR document included programming spreadsheets and a summary listing square footages and seating capacities of the facility. The team then calculated key utilization factors from both the 80% CDs and PR and compared the findings with benchmarking data from both private and public sector Jacobs clients (see Appendix 3). The team used additional benchmarking data from the North America Occupiers' Fit-Out Cost Guide, Global Workplace Solutions 2015, by CBRE for comparisons where appropriate (see Appendix 2 of this report).

As this report was underway, progress continued on the design, and 100% CDs were submitted by the architectural design team. Reported changes to the design were minor and do not affect the analysis contained in this study.

Open Collaboration
Source: Abbvie Maidenhead

Open Office
Source: GSA Region 3

The workplace strategy analyzes the following key areas:

Space Types

- Private Office
- Open Office
- Enclosed Conference Seats
- Total Enclosed and Open Collaboration Areas

Utilization Rate

- Usable area
- Capacity
  - Workstations and Offices
  - Hoteling
- Utilization Rate (usable area/assigned seats)

Layout Factors

- Net-to-Usable
- Rentable-to-Usable

Space Types

Private Offices

In general, organizations are providing fewer private offices, and the offices themselves are smaller. Current best practice benchmarks for private offices are 0-15% of assigned seating capacity and 120 NSF per office. Analysis of the 80% CD take-off indicates that 6 percent of assigned capacity work settings are private offices, with an average size of 170 NSF.

There is a significant variation in the percentage and size of private offices among the three benchmarked financial services companies. In general, headquarters locations such as Midtown Center have larger executive offices than field locations. The financial services headquarters campus, which has a private office percentage of 6 percent and average office size of 160 NSF, is the most appropriate comparison to the FM Midtown Center.

Conclusion: At 6 percent, the FM proportion of private offices compares favorably with best practice benchmarks of 0 to 15 percent. The average office size of 170 NSF is larger than the 120 NSF best practice benchmark; however, it compares favorably with the benchmarked financial services headquarters average office size of 160 NSF.

Open Office

Industry-wide, individual open office furniture workstations are also decreasing in size. Best practice benchmarks for this workspace type are 36 to 48 NSF per workstation, which aligns with the 42 NSF workstations shown on the 80% floor plans.

Conclusion: The FM open office size is within the range of industry best practice benchmarks.

Team Room

Enclosed Conference Seats

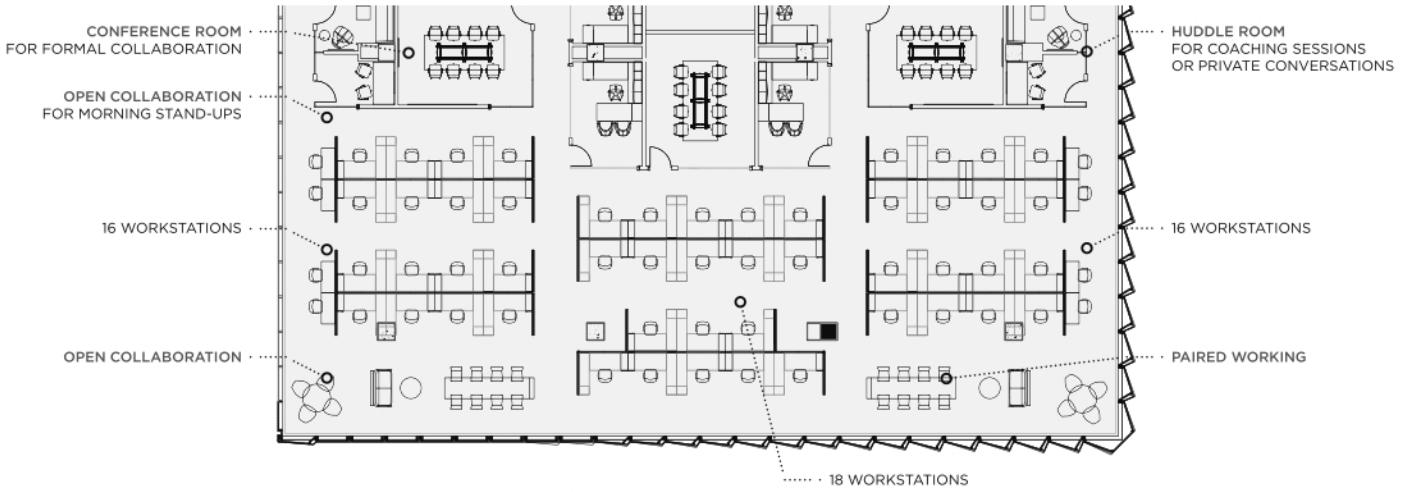
To compensate for the transition from a largely enclosed to mostly open office space, organizations are providing more shared enclosed spaces for collaboration. These range in size from small "huddle" rooms, for two to three people, to large conference rooms. A best practice benchmarking range of enclosed conference seats to people is 1:1.5 to 1:2.5, which aligns with the FM ratio of 1:1.9 enclosed conference seats to assigned seats.

Conclusion: The FM enclosed conference seats are within the range of industry best practice benchmarks.

Total Enclosed and Open Collaboration Areas

In addition to enclosed conference seats, open collaboration spaces of varying sizes from small tables in open office areas to large "town center" areas are provided in the proposed configuration of Midtown Center at a ratio of 1:1.3 collaboration seats to assigned seats. These types of spaces are common features found in benchmarked projects with a ratio of 1:1.0 to 1:1.5 collaboration seats to assigned seats.

Conclusion: The overall Midtown Center ratio 1:1.3 collaboration seats to assigned seats aligns with the typical benchmark range of 1:1 to 1:1.5.



Floor plan depicting open workplace approach for FM's space
Source: Michael Graves Architecture & Design

Space Utilization

Usable Area

The PR reports a planned usable area of 606,225 USF. Jacobs' independent take-off of the 80% CDs confirms that the design complies closely with the plan. Small discrepancies in CAD measurements of the floor plan drawings could account for the difference of less than 2 percent between the planned USF and Jacobs' take-off of 594,882 USF.

Capacity

Total capacity from the 80% CD take-off is 3,180 assigned seats (not including hoteling workstations). Compared to the 3,151 assigned seats in the revised PR, this discrepancy is minor and represents only approximately 1 percent difference.

Table 12: Seating Capacity Comparison

Capacity Comparison	80% CD Take-off	11.23.16 PR	Delta
Trading Desk	190	190	0
Workstations	2,385	2,408	-23
Offices	191	187	4
Workroom	414	366	48
Total Assigned Capacity	3,180	3,151	29
Hoteling	502	500	2
Total Assigned Capacity + Hoteling	3,682	3,651	31

Hoteling

The 80% CD take-off included 502 hoteling workstations to accommodate visiting employees, auditors, and contractors. This closely aligns with the 500 hoteling workstations listed in the PR. Jacobs does not maintain a best practices benchmark for hoteling seats because the number and percentage of hoteling seats varies with the particulars of the individual hoteling program, which is designed for the organization in which it is implemented. Nonetheless, FM's hoteling seats represent 14 percent of total seat capacity (assigned + hoteling), which closely aligns with the 13 percent average reported by CBRE.

The advantage of a hoteling strategy is flexibility – the ability to accommodate a fluctuating employee population in a smaller total area than would be required by a strategy in which every employee is assigned a seat. Many government and private employers have developed work-at-home programs that leverage hoteling workstations. If FM's employee headcount increases or if FM wishes to consolidate additional office locations into the Midtown office without reconfiguring the space, FM may find that it can accommodate the additional employees by leveraging the hoteling workstations with a formal mobility or remote work program.

Conclusion: The number of hoteling workstations in the 80% CD take-off aligns closely with the PR and current trends as reported by CBRE. FM may find it can accommodate additional employees by leveraging the hoteling workstations with a formal mobility or remote work program.

Utilization Rate

Analysis of the 80% CD's usable area and assigned seats capacity yielded a utilization rate of 187 USF per assigned seat. Jacobs best practices benchmarking range for similar projects is approximately 170 to 200 USF/seat, with private sector headquarters projects at the upper end of the range.

Chart 2: Utilization Rate Comparison

The four private headquarters campuses benchmarked by Jacobs average 214 USF/seat, with the benchmarked financial services headquarters at 216 USF/seat. The five benchmarked public sector facilities average 184 USF/seat. Many private and public sector facilities (including three of the Jacobs benchmark facilities) achieve lower utilization rates by assigning more staff than there are workstations using mobility, or remote work programs. As noted in the hoteling section, the Midtown Center design gives FM the flexibility to improve its utilization rate by implementing such a program.

Conclusion: The FM utilization rate is within Jacobs' best practices benchmarks.

Layout Factors

Net-to-Usable Factor

A net-to-usable factor of 1.5 to 2.0 is typical of headquarters office facilities. Facilities with more open office space require more circulation space and therefore fall at the higher end of the range. Jacobs calculated a net-to-usable factor of 1.7 from the 80% CD take-off, versus the planning factor of 1.5 found in the PR, indicating that more circulation space was required as the facility was designed. Jacobs considers the actual net-to-usable factor of 1.7 to be appropriate given the predominantly open-office strategy of the Midtown Center.

Table 13: Net-to-Usable Factor

Square Footage Comparison	NSF	USF	NSF to USF Factor
Jacobs 80% Take-off	342,838	594,882	1.7
11.23.16 PR	405,255	606,225	1.5

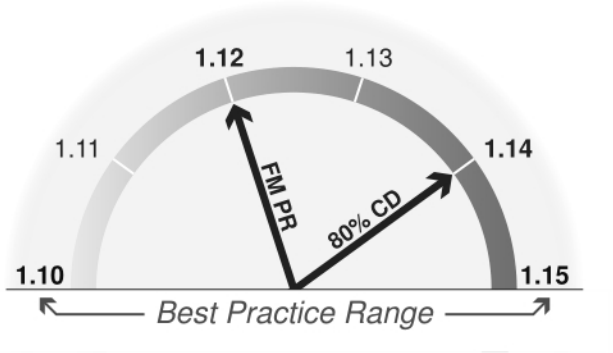
Chart 3: Net-to-Usable Factor Comparison

Conclusion: Both the 1.5 net-to-usable factor in the PR and the 1.7 80% CD take-off factor fall within industry standard benchmarks, and the 1.7 factor achieved in the 80% design is more appropriate to the Midtown Center's open-office strategy.

Rentable-to-Usable Factor

The rentable square footage occupied by FM is fixed at 682,000. Jacobs' 80% CD take-off of 594,882 USF results in a 1.14 rentable-to-usable factor. Both the PR factor of 1.12 and Jacobs' calculated factor of 1.14 are within the best practice range of 1.10 to 1.15.

Chart 4: Rentable-to-Usable Factor Comparison



Conclusion: Both the 1.12 programmed and 1.14 calculated rentable-to-usable factors are within industry standard benchmarks.

7. Design Features and Upgrade Costs

This task included reviewing FM's Value Engineering (VE) proposals (see Appendix 5). Jacobs' review revealed that the life cycle cost data necessary for evaluation was not provided, and that few if any of the items would lend themselves to value engineering analysis due to the difficulty of calculating life cycle savings.

Therefore, Jacobs undertook a qualitative review of the VE items presented by FM and a review of the 80% CD design documents to identify all features considered to be upgrades to a Class A office building. Jacobs evaluated whether the upgrades were reasonable for a financial institution headquarters building, based on benchmarks and experience with both private and government financial institutions, including FHFA.

Jacobs then assessed the costs of these upgrades to accurately benchmark FM's TI costs.

The Midtown Center Building

The Midtown Center building developed by Carr Properties is designed in an efficient, regular 'U'-shape with rectangular components. In addition to the office space, the Midtown Center will include 45,000 square feet retail space on two levels, a rooftop terrace, a fitness center, a public courtyard, and a private alley. None of latter are included in FM's RSF. The building is designed to achieve LEED® Gold certification and will feature a green roof. As described in Section 2, Fannie Mae will occupy Floors 5 through 14 of the west tower and Floors 6 through 14 of the east tower and a small portion of the basement floors. It will sublet space on the third and fourth floors of the west tower. Figure 2 depicts locations of key functions.

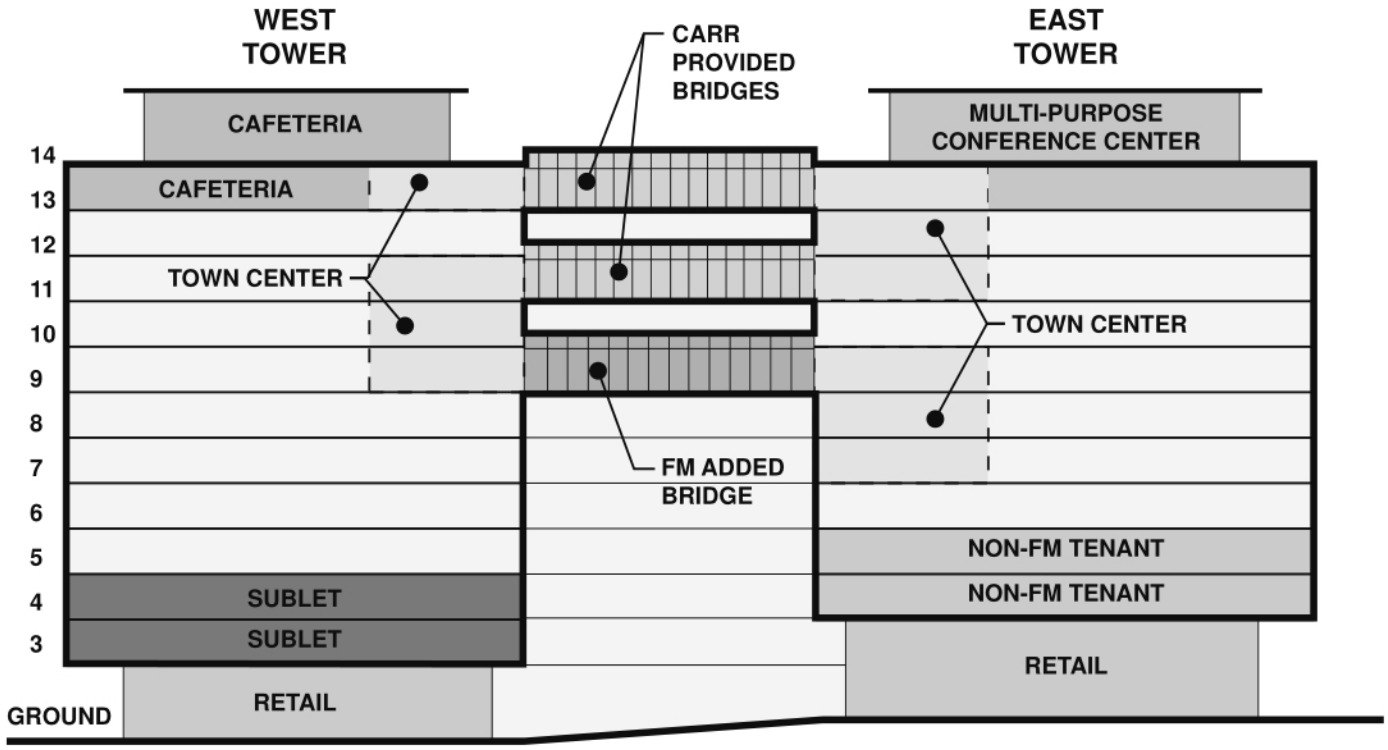


Figure 2: FM Headquarters Section Overview

Tenant Design Features Overview

Jacobs reviewed Fannie Mae's Lease, VE list, Above Base Building Item list, and 80% CD drawings to identify design features that Jacobs considers upgrades relative to Class A office buildings. Jacobs found the Midtown Center design to be consistent with Class A office facilities, with the following upgrades:

- Base Building Modifications including:
  - Additional connecting bridge
  - 3rd freight elevator
  - Market Trading Room upgrades
  - Audio-Visual Studio
  - Lobby turnstiles
- Cafeteria/Dining Space
- "Town Center" collaborative spaces
- Floor penetrations and connecting stairways and enhanced circulation
- High-quality of finishes and detailing of walls and ceilings
- Single-User Restrooms
- Mechanical
  - Floors 13 and 14 HVAC upgrades
- Electrical
  - LED lighting
  - Upsized Building Generator
  - Dedicated Standby Generator
  - UPS system and distribution

Base Building Modifications

Additional Connecting Bridge

The base building design provided by Carr Properties includes two connecting bridges on Floors 11 and 13, above the central open plaza at the ground floor. According to FM, these bridges are provided by the developer, at their expense, "to enable a large tenant to have interconnectivity across the towers of the building since the building would be a "U-Shaped", not "donut-shaped" (reference: FM December 7, 2016 Information on the Third Bridge).

The closed glass bridges are a distinguishing architectural feature of the overall building complex and are designed to encourage collaboration and connection and provide efficiency in circulation between the east and west wings.

View of bridges at MidTown Center from Floor 12
Source: AlonyHetz.com

According to FM, given that two bridges were already being included as part of the base building, "during design meetings, Fannie Mae concluded that the addition of a third bridge (at the ninth floor) would further enhance the interconnectivity across nearly all its floors – creating flexibility to house business units across the towers, as well as adjacent business functions. The design of the three bridges also importantly allows for the ability to bring external visitors and customers through the office space on a 'journey' of Fannie Mae which begins in their visitor lobby, paths through the market room and other vibrant areas, and eventually ends in the conference center."

For these reasons, FM agreed to cover the cost of the additional bridge as a base building modification (calculated as one-third of the total cost of the three bridges). The bridges are included in the leased USF totals of the floor plan take-offs.

Providing bridges between buildings in a corporate office complex is not unique in Washington, DC. An example is CityCenter DC, (see below) a recent multi-use development designed by Foster+Partners at 800 10th Street, which includes bridges linking adjacent buildings over public retail spaces.

CityCenter DC - Concourse and Bridges
Source: CityCenterDC © 2015 Website

Conclusion: Given FM's high priority on enhancing interconnectivity across nearly all its floors, creating flexibility to house business units across the towers, and connectivity to the densely populated Market Trading Room, Jacobs concludes that inclusion of the third bridge on the 9th Floor is a reasonable upgrade in the context of FM's goals for a collaborative working environment, and the two bridges provided in the base building design.

3rd Freight Elevator

Two freight elevators are provided by the Landlord, one in the east wing and one in the west wing. This equates to one elevator per 425,000 RSF, which falls within Jacobs' benchmark range of one elevator per 300,000 – 500,000 RSF for Class A office buildings. However, the location of both base building elevators would require food and waste to be transported through occupied areas to reach the Floor 13 cafeteria kitchen. In addition, Van Deusen and Associates September 1, 2015 elevator report shows that deliveries to standard corporate kitchens include 17-20 vendors and 20 to 25 trips for food delivery. These additional deliveries and the location of the kitchen relative to the base building elevators justify the addition of a third freight elevator. We understand that FM was able to negotiate a cost-sharing for the third elevator such that FM pays for only the cost of serving the FM occupied floors.

Conclusion: Jacobs considers the third freight elevator to be an upgrade to a Class A office building since two elevators satisfy the benchmark criteria for Class A office space. The upgrade is reasonable given FM's addition of the cafeteria on Floors 13 and 14. The benefit should exceed the cost given the cost-sharing arrangement negotiated by FM with the Landlord.

Audio-Visual Studio

The Audio-Visual Studio is a specialty space required by FM's PR. It is located in the parking level and includes the studio, a whisper room, control room, server room, track for green screen, workstations, special lighting and IT infrastructure. Special acoustical isolation treatment of the suite includes raised floor on spring isolators and resilient gypsum board ceilings.

Conclusion: Jacobs considers the Audio-Visual Studio to be an upgrade to a typical Class A office building that is reasonable given FM's programmatic requirement.

Market Trading Room Upgrades

The Market Trading Room is a specialty space required by FM's PR. This area is an upgrade to a typical Class A office space but is common in financial headquarters. It includes both base building and TI upgrades, including raised access floor, an underfloor air distribution system and perimeter chilled beams, special wall finish, trading desk millwork, IT/ audiovisual equipment and related electrical infrastructure.

Conclusion: Jacobs considers the Market Trading Room to be an upgrade to a typical Class A office building that is reasonable given FM's programmatic requirement.

Lobby Turnstiles

The base building lobbies are enhanced by the addition of access control turnstiles dedicated to Fannie Mae. These dedicated turnstiles are upgrades to Class A office space and are common for significant headquarters facilities in both the private and Government sectors, including FHFA's headquarters.

Conclusion: Jacobs considers the dedicated lobby turnstiles to be reasonable upgrades.

Cafeteria/Dining

A cafeteria is often included at large corporate institutions and government facilities, particularly in suburban locations where off-campus dining locations may not be easily accessible. For suburban locations the benchmark utilization rate ranges from 10 to 12 USF per person. For urban locations, this benchmark ranges between 8 to 10 USF per person due to the increased outside dining options typically available.

Component	Fannie Mae	Industry Range
Food Service – Suburban Locations	N/A	10 – 12 USF/person
Food Service – Urban Locations	10 USF/person	8 – 10 USF/person

The proposed cafeteria with its kitchen/servery and dining spaces comprises 31,483 USF, resulting in a utilization rate of approximately 10 USF/person (31,483/3,180 seats). This rate falls at the upper end of current benchmarking for urban headquarters food facilities with full-service cafeterias. The Midtown Center location provides a broad range of outside dining opportunities in close proximity, including within the ground level retail space of the base building. Therefore, Jacobs anticipates that the cafeteria may be underutilized; however, the additional capacity will provide flexibility for occupancy of the hoteling workstations.

The cafeteria includes upgrades to the base building HVAC system, an interconnecting stairway between the 13th and 14th floor dining areas, and TI costs, including kitchen and server equipment, furniture, and finish upgrades such as custom millwork banquette seating. All of these are reasonable upgrades for a corporate headquarters cafeteria.

Conclusion: Jacobs considers that a cafeteria is an reasonable upgrade for a corporate or government headquarters. Although Jacobs considers the FM cafeteria to be slightly larger than necessary given the available outside dining options, the size is reasonable given the hoteling workstations and potential for future densification.

Town Centers

FM's interior design includes multi-story atriums and interior stairs connecting Floors 7 through 13. These are included to provide an inspiring workplace with amenities and collaborative spaces that relates strongly to job satisfaction and retention. According to FM, they also "encourage and provide space for spontaneous collision, informal meeting and socializations that lead to high productivity among knowledge workers" (source: FM December 7, 2016 Information on the Third Bridge). These atriums are features not typically provided by developers in leased, Class-A office space; rather, they are driven by the tenant's vision for the space.

Current trends point to increasing relevance for such collaborative spaces in the workplace for financial services institutions. A recent example of a lobby as a "third workplace" is the repositioning of Capella Tower (designed by Perkins+Will) in the heart of downtown Minneapolis, which provides innovative spaces for collaboration and concentration.

Capella Tower – Minneapolis
Source: Perkins+Will

The renovation of the first and second level building lobbies transformed under-utilized retail space into a vibrant third workplace, café, wellness and lounge. The newly opened space is now a significant factor in the leasing and re-leasing of the building.

Conclusion: With a significant capacity of 3,180 seats, the new FM headquarters could be seen as a "vertical campus". The light-filled vertical "Town Centers" will provide a much needed sense of openness and daylighting, necessary for human interaction and productivity. Jacobs notes that even with the Town Centers, the overall SF/person ratio (187 USF/person, as identified in the Workplace Strategy section) is within benchmarked norms. Therefore, these features are considered to be reasonable upgrades.

Floor penetrations and Connecting Stairways

The aforementioned Town Centers, cafeteria and 3rd freight elevator upgrades include several slab penetrations/ openings and communicating stairs that interconnect adjoining floors. These total approximately 11,000 RSF and are summarized as follows:

- Triple volume sky lobby at east side from Floors 7 thru 9, with spiral stair.
- Triple volume sky lobby at east side between Floors 11 thru 13, with communicating stair.
- Triple volume sky lobby on west side from Floors 9 thru 11, with communicating stair. Communicating stair from Floors 9 to 10 (SW) – with floor opening and decorative stone panel.
- Communicating stair with curved floor opening between Floors 13 and 14 at SW dining area.
- Communicating stair with square floor opening between Floors 13 and 14 at NE side.
- Communicating stair between Floors 13 and 14 at North side.
- 3rd freight elevator shaft penetrating through all floors.

When comparing these features against current and future trends in workplace design, FM's floor penetrations design aligns with high-end corporate headquarters design, which encourages people to use stairs to stay active during their workday and can have significant benefits for FM. An example is Australia's largest health insurer, Medibank, who recently moved into a new headquarters building that is claimed to be one of the healthiest workplaces in the world and has extensive interconnecting stairways:

"The (MediBank) building's stairs are designed to be the easiest way to move between floors, encouraging a more health-centric workplace lifestyle. In the four months after Medibank moved in at the end of 2014, 79 percent of employees are said to have reported that they are working more collaboratively with colleagues, 70 percent that they are healthier working at the new HQ and 66 that they are more productive. Medibank's call center is also said to have seen a 5 percent reduction in absenteeism." (Source: Newatlas.com)

These design features can also be found at the FHFA's office space at 400 7th Street (see image below) which has a similar feature of interconnecting stairs linking the collaborative conference spaces and providing connectivity between floors.

FHFA Offices at Constitution Center, 400 7th Street SW, DC

Conclusion: Communicating stairs will certainly be beneficial to the health, well-being and improved communication of FM employees, and will play a significant role in connecting them in this "vertical campus". Their inclusion aligns with design features found in similar corporate headquarters space, including FHFA's headquarters, and is a reasonable upgrade.

Quality of Finishes and Detailing

Town Centers

The following are notable interior finishes and detailing features in the current design:

- Custom communicating stairways, including a spiral stair with glazed railings from Floors 7 to 8 and 9 on the east side.
- Free-standing wood fabrication – with seating
- Two-story mission-related architectural feature
- Wood paneling and center column detail on West Town Center
- Decorative wood slatted ceilings

Typical Floor Finishes

- Unperforated and perforated wood veneer
- Wood Grille with acoustic scrim
- Custom wood slot ceiling
- Stretched fabric
- Core Wall Elevations – Extensive large-format wall tile is proposed with wood accent trim at Lobby Entries.
- Motorized shades – Perimeter window shades that are motorized are becoming more common in buildings that are following sustainable design principles and linking exterior light control to overall lighting strategies.

Ceiling Detailing

- Complex bulkhead and ceiling transition details are in keeping with the overall level of finish of the facility and improve natural light penetration; nonetheless, they increase fit-up costs
- Specialty ceilings are provided at amenity spaces including Servery, Cafeteria Dining and Conference Rooms on Floors 13 and 14.

Conclusion: Comparison against typical Class A office space and the comparative example (FHFA) office space, indicates that the as-designed level of finish and interior detailing could be considered as a very high level of quality, particularly with respect to finishes in the circulation and collaboration spaces. However, the proposed finishes are consistent with those found in major financial institutions or law firms and may be instrumental in attracting future employees to Fannie Mae. Therefore, Jacobs considers these reasonable enhancements.

Single-User Restrooms

Single-user restrooms are provided in addition to the base-building facilities located in the cores. These are primarily located adjacent to the wellness rooms on each floor. Additional single-user toilets are associated with the conference center and with the executive conference area.

Conclusion: Jacobs considers these to be reasonable upgrades for the adjacent wellness rooms and conference areas.

Mechanical Systems

Jacobs noted the following upgrades in addition to the aforementioned Floor 9 Market Trading Room and cafeteria HVAC upgrades:

Floor 13 and 14 HVAC Systems

Floors 13 and 14 have larger central station air handler units (AHUs) with chilled water and fan-powered terminal boxes with electric reheat as opposed to the base building provided smaller AHUs and fan-powered induction units with electric reheat and chilled water. Floors 13 and 14 include the cafeteria and conference spaces, which are discrete spaces with highly variable occupancy.

Conclusion: The upgraded system will respond better to the highly variable occupancy and therefore, is a reasonable upgrade to the base building system.

Electrical

Lighting

The FM headquarters design includes Light-Emitting Diode (LED) downlights, decorative pendants and recessed linear LED troffers. This is in keeping with current trends in sustainable lighting design. Extensive use of LED fixtures is the norm in current workplace design. While lasting significantly longer than fluorescent products and up to 50 times longer than traditional incandescent lighting, LED lighting solutions offer tremendous energy and maintenance savings that easily justify their higher upfront cost.

Conclusion: LED lights are becoming the standard approach for similar facilities; however, they are most likely not factored into the CBRE 2015 benchmark data for Class A office space. Jacobs considers them a reasonable upgrade to the Class A office space benchmark.

Standby Electrical Power (Generators)

The base building design includes a single 750KW generator and 300-gallon fuel storage tank to support code mandated life safety systems. System upgrades include increasing the base building generator and fuel storage tank to 1250 KW and 3,000 gallons, and adding two 2500 KW generators and a 12,000-gallon fuel tank. All three generators are needed to support the tenant standby power system, which includes the entire building electrical load: all equipment, receptacles, and lighting.

The Building Management System (BMS), Uninterruptable Power System (UPS), server rooms, IDF Market Trading Room computers and SCC are Priority 1 loads. In the event of failure of one generator, the remaining generator supports the Priority 1 loads and all other loads are shed.

Jacobs has not experienced generator back-up for all electrical loads in other Class A office facilities, including financial institutions and corporate headquarters. Standby power is typically provided only for the Priority 1 loads listed above and for selected workspaces required for mission critical operation. Jacobs estimates a savings of $3 Million if the standby loads were reduced accordingly.

FHFA Headquarters also has standby power for the entire building electrical load; however, that building is unique because it is designed as a Continuity of Operations (COOP) facility for use by nearby mission critical agencies. The Fannie Mae Midtown Center is not designated as a COOP facility.

FM provided documentation of its cost-benefit analysis (see Appendix 9) of various resiliency options leading to executive approval of the current option. Evaluation of this business decision is beyond the scope of this study other than to say that it appears due diligence was performed.

Conclusion: Jacobs considers the upgrades to the base building generator and fuel storage tank as well as the added generators and fuel storage tank to be upgrades relative to a typical Class A office space. This level of generator back-up exceeds comparable benchmark facilities; however, it appears that FM exercised due diligence in making this business decision.

UPS System and Distribution

The UPS as shown on Drawing E 4.002 Power Distribution system is configured for a Tier 3 operation. It serves the dedicated Market Trading Room workstations, all tenant floor IDF rooms and the BMS system.

Conclusion: The UPS system is an upgrade to typical Class A office space and its design is consistent with what would be expected for a mission critical financial operation.

FM TI Upgrade Costs

In summary, Jacobs reviewed Fannie Mae's Lease, VE list, Above Base Building Item list, and 80% CD drawings to identify design features that are considered upgrades relative to Class A office buildings. Jacobs considers all upgrades identified above to be reasonable, with the possible exception of providing standby power for the full building load, for which due diligence was performed. Jacobs estimates the cost of the upgrades at approximately $32 Million, as shown in detail in Table 14. This represents approximately $46 per RSF.

Table 14: TI Upgrade Costs

Scope Over/Above TI Estimate	Estimated Value
Base Building Modifications	
Connecting Bridges	$2,000,000
3rd Freight Elevator	$200,000
Trading Room Upgrades	(b)(4)
Audiovisual Studio	$700,000
Lobby Turnstiles	(b)(4)
Cafeteria/Dining	$4,100,000
Town Centers	$2,100,000
High Quality of Finishes	
Wood Veneer Finishes	$2,500,000
Wood Slat Ceilings	$1,200,000
Core Wall Elevations - Large format tile	$750,000
Stretched Fabric Wall Coverings	(b)(4)
Gypsum Ceiling Detailing	$540,000
Motorization of Window Shades	(b)(4)
Private Restrooms (1,200 sf)	
Mechanical	
13th/14th Floor CHW AHU and Fan Power Boxes	(b)(4)
Electrical	
LED Lighting Upgrade	(b)(4)
Upsize Building Generator	$250,000
Standby Generator - Dedicated	$2,700,000
UPS System and Distribution	(b)(4)
Subtotal	
Contractor Markups in Estimate (16%)	
Subtotal	
Design & CA (9%)	
Subtotal	
PM/CM Fees (4%)	
Commissioning at 0.5% of construction cost	
Move & Change Management @ $1/sf	
Subtotal	
Total Additional Scope	$31,660,000
$/SF	$46

8. Tenant Improvement Cost Benchmark

FM's baseline TI budget, inclusive of base building upgrades, TI construction, design costs, Furniture, Fixtures and Equipment (FF&E) contingency, and project management costs is $160 Million or $234 per RSF. This section benchmarks how these costs compare against industry standard costs. This analysis required Jacobs to establish a baseline for Class A office space in Washington, DC, add the estimated cost for the upgrades identified in Section 7, and compare this baseline against FM's TI budget.

Industry Baseline Standard TI Costs – Exclusive of "Build-to-Suit" Upgrades

Current industry baseline fit-out costs for typical class A office space in the DC area was calculated at approximately $175 per RSF, as seen in Table 15 below.

Table 15: Industry Baseline TI Costs Benchmark

	Industry Baseline		
	Unit Cost ('15)	Size factor (-10%)	With Escalation
Construction	$103	$93	$102
FF&E	$46	$41	$45
IT	$10	$10	$11
Design & CA	$9	$9	$10
Subtotal	**$168**	**$153**	**$168**
PMCM Fees	$7	$6	$7
TOTAL	**$175**	**$159**	**$175**

To calculate these costs, Jacobs used CBRE's North America Occupier's Fit-Out Cost Guide from 2015 (2016 report was not available at the time of this report) and normalized the costs using three factors:

- A size factor to make benchmark costs comparable to FM's occupied space
- Escalation to midpoint of construction
- Information and Technology (IT) costs for Banking and Finance Markets, listed at $10 per RSF instead of the overall average of $1.01 per RSF. Jacobs considered this the only benchmark cost that needed adjustment to accurately reflect Tier 1 Market Average for Banking and Finance in the Washington, DC, marketplace.

FM TI Upgrade Costs

As presented in Section 7, the total cost of the "build-to-suit" upgrades considered reasonable is approximately $32 Million. This represents approximately $46 per RSF.

The combination of the industry baseline standard costs and the upgrade costs results in approximately $151 million or $221 per RSF as seen in Table 16.

Table 16: Industry Baseline Fit-Out Costs

	Industry Baseline		Upgrades		Industry Baseline + Upgrades Benchmark	
	Cost	Cost / RSF	Cost	Cost / RSF	Cost	Cost / RSF
Construction	$69,284,685	$102	$27,025,333	$39	$96,310,018	$141
FF&E	$30,666,220	$45	$-	$-	$30,666,220	$45
IT	$7,469,000	$11	$-	$-	$7,469,000	$11
Design & CA	$6,946,170	$10	$2,432,280	$4	$9,378,450	$14
Subtotal	**$114,366,075**	**$168**	**$29,457,613**	**$43**	**$143,823,688**	**$211**
PMCM Fees	$4,574,643	$7	$2,338,855	$3	$6,913,498	$10
TOTAL	**$118,940,718**	**$175**	**$31,796,468**	**$46**	**$150,737,186**	**$221**

TI Cost Comparison

FM's baseline TI budget of $234 per RSF is $13 per RSF, or 6 percent, above Jacobs calculated benchmark standard for a comparable facility as seen in Table 17 below. Jacobs considers this variance within the range of expected accuracy for a budgetary estimate. Nonetheless, Jacobs identified a list of variances during review of FM's budget and the VJ and Clark 80% CD estimates (see Appendix 8), and recommended that FM address them during negotiation of the Guaranteed Maximum Price (GMP) with the goal of reducing the projected TI cost to Jacobs' benchmark.

On February 28, 2017, FM confirmed that it has successfully negotiated the construction GMP and furniture contracts (see Appendix 10), and that its current budget is now $149 Million, or $219 per RSF, 1% less than the Jacobs benchmark as seen in Table 17.

FHFA Headquarters Comparison

FHFA provided actual construction cost data for Tenant Improvement of its own Washington, DC, headquarters facility. The FHFA Headquarters escalated construction cost of $151 per RSF does not include upgrades required by FM's program, including the Market Trading Room, Audio-Visual Studio, and Cafeteria. Adding these features to the FHFA Headquarters would result in a TI construction cost of $161 per RSF, 3% more than the current FM TI construction budget of $155 per RSF.

FHFA Headquarters, 400 7th Street SW, DC

Table 17: Industry Baseline and Upgrades Benchmark vs FM Budget

	FM Baseline Budget		Industry Baseline + Upgrades Benchmark		FM Current Budget	
	Cost	Cost / RSF	Cost	Cost / RSF	Cost	Cost/ RSF
Construction	$111,158,150	$163	$96,310,018	$141	(b)(4)	(b)(4)
FF&E	$23,420,597	$34	$30,666,220	$45		
IT	$8,084,417	$12	$7,469,000	$11		
Design & CA	$10,736,836	$16	$9,378,450	$14		
Subtotal	**$153,400,000**	**$225**	**$143,823,688**	**$211**		
PMCM Fees	$6,400,000	$9	$6,913,498	$10		
TOTAL	**$159,800,000**	**$234**	**$150,737,186**	**$221**	**$149,118,299**	**$219**
Industry Delta /RSF		**$13**		**$0**		**-$2**
% Delta		**6%**				**-1%**

Conclusion: FM's current TI budget is 1% less than Jacobs' benchmark. FM's current construction budget is 3% less than the comparable FHFA headquarters actual construction costs.

9. Appendix

The following items are included in this Appendix:

Appendix 1: Michael Graves Architecture & Design, November 23, 2016 Programming Report Executive Summary
Appendix 2: CBRE North America Occupiers' Fit-Out Cost Guide 2015 Excerpts
Appendix 3: Jacobs Workplace Benchmarks
Appendix 4: FM January monthly report dashboard and budget sheet, reissued on March 1, 2017
Appendix 5: FM VE Spreadsheet
Appendix 6: Triple Net to Full-Service Factor
Appendix 7: Cushman & Wakefield DC Lease Comps dated November 18, 2016
Appendix 8: TI Cost Variances
Appendix 9: Overview of FM's Decision Regarding Midtown Resiliency – Generators dated February 28. 2017
Appendix 10: Midtown Interior Fit-out Budget Reduction dated February 28, 2017
Appendix 11: Study Source Documents

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Appendix 1: Michael Graves Architecture & Design, November 23, 2016 Programming Report Executive Summary

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MG A&D

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ARCHITECTURE & DESIGN

20161123-Rev 7

Washington DC			
Floor	**BOMA Usable Total**	**Tenant Elected Openings**	**Tenant Usable**
14	**28,027**	0	**28,027**
13	**67,803**	773	**67,030**
12	**66,850**	1,594	**65,256**
11	**67,699**	2,893	**64,806**
10	**66,807**	1,575	**65,232**
9	**67,568**	1,535	**66,033**
8	**66,792**	1,882	**64,910**
7	**66,798**	0	**66,798**
6	**66,592**	0	**66,592**
5	**35,310**	0	**35,310**
4 (Sublet)	**35,314**	0	**35,314**
3 (Sublet)	**30,662**	0	**30,662**
2	**0**	0	**0**
1	**104**	0	**104**
P1	**4,839**	0	**4,839**
P2	**1,036**	0	**1,036**
P3	**0**	0	**0**
Total	**672,201**	**10,252**	**661,949**
Total USF Minus Sublet (3&4)	**606,225**		**595,973**
Capacity (Draft - to be updated 11/10/2016)			
Trading Desks	190		190
6'x7'Workstation	2408		2408
Benching Workstation	0		0
Office	187		187
Workroom	366		366
Total Assigned Capacity	**3151**		**3151**
USF / Person	**192.39**		**189.14**
Hoteling	500		500
Total Assigned Capacity + Hoteling	**3651**		**3651**
USF / Person	**166.04**		**163.24**

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20161123-Rev 7

Floor	Space Type						
	ME	WE	US	CORE	VOID	Sublet	**USF Total w/o sublet**
14	0	0	20,301	6,356	807	0	**27,464**
13	4,101	2,937	57,159	2,517	1,603	0	**68,317**
12	35,922	25,458	2,114	1,714	1,616	0	**66,824**
11	35,846	23,960	4,828	1,666	1,318	0	**67,618**
10	34,214	28,927	751	1,277	1,593	0	**66,762**
9	37,745	20,113	5,435	2,715	1,546	0	**67,554**
8	33,137	27,692	1,803	1,530	1,942	0	**66,104**
7	32,745	28,161	4,485	1,401	0	0	**66,792**
6	33,391	31,013	722	1,439	0	0	**66,565**
5	17,954	16,317	363	733	0	0	**35,367**
4	0	0	0	0	0	35,374	**0**
3	0	0	0	0	0	30,679	**0**
2	0	0	0	0	0	0	**0**
1	0	0	0	104	0	0	**104**
B1	0	0	1,107	4,022	0	0	**5,129**
B2	0	0	0	1,028	0	0	**1,028**
B3	0	0	0	0	0	0	**0**
Total	265,055	204,578	99,068	26,502	10,425	66,053	**605,628**

USF Delta from WDG BOMA (.09% Delta). Final calc to be determined/agreed after construction	597

MG A•D

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20161123-Rev 7

Floor	Trading	Workstation		Workstation '		Office		Workroom		Hoteling		**Total**
	Phase 1	Phase 1	Phase 2	Phase 1	Phase 2	Phase 1	Phase 2	Phase 1	Phase 2	Phase 1	Phase 2	
14		0	0	0	0	0	0	0	0	0	0	
13		0	16	0	0	0	6	0	0	0	0	
12		102	199	5	26	5	15	0	34	8	63	
11		89	199	3	26	12	18	0	50	7	55	
10		82	213	7	27	7	15	12	18	6	65	
9	190	24	205	2	26	4	18	12	50	0	63	
8		102	199	5	26	10	14	18	18	8	63	
7		102	191	5	26	10	13	18	18	8	59	
6		102	207	5	27	10	14	18	50	8	65	
5		99	44	3	14	10	6	18	32	8	14	
Total Phase 1	190	702	0	35	0	68	0	96	0	53	0	**1144**
Total Phase 2		0	1473	0	198	0	119	0	270	0	447	**2507**
Total	190	2175		233		187		366		500		**3651**
Assigned	3151									0		**3151**
Unassigned	0									500		**500**

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Appendix 2: CBRE North America Occupiers' Fit-Out Cost Guide

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GUIDE ASSUMPTIONS (NORTH AMERICA ONLY)

The rentable square footage is 20,000 RSF for an assumed leased asset in a new location for the client. The space is a non-customer facing corporate commercial office environment.

The main data room is 500 RSF within the client space with supplemental cooling, but excluding backup UPS or generator.

Work is completed with single shifts in regular time. The landlord has provided a 'warm dark shell' which is defined as:

- Clear space, no demolition required
- Includes fire wet pipe sprinkler horizontal distribution throughout
- Flat floor, no raised flooring
- Floor main electrical panels
- Floor main mechanical cooling with duct headers to core walls
- Finished restrooms for Men & Women matching building standard
- Exterior blinds matching building standard
- Wall board applied to interior of exterior and core walls

AVERAGE OFFICE COST/SF BY LMA

LMA	Design & CA (soft costs)	Construction (hard costs)	FF&E	IT	Fees	Move Costs
Atlanta	$2.82	$42.96	$23.67	$2.40	$2.01	$1.18
Austin	$7.15	$81.22	$33.54	$2.51	$2.86	$1.48
Carolinas	$4.53	$76.55	$45.50	$9.50	$2.10	$2.27
Central CAN	$5.05	$37.90	$21.49	$1.22	$2.26	$2.05
Chicago	$9.60	$79.68	$35.43	$2.53	$2.78	$2.02
Columbus	$4.28	$45.27	$24.14	$2.26	$2.01	$3.02
Dallas	$4.83	$45.16	$31.43	$4.24	$2.01	$0.67
DC	$9.30	$103.07	$45.62	$1.01	$1.93	$1.09
Denver	$5.67	$55.75	$21.36	$1.79	$2.27	$2.51
Detroit	$9.04	$55.31	$40.24	$2.52	$2.08	$2.39
Eastern CAN	$3.36	$33.39	$23.26	$3.96	$2.57	$0.58
Houston	$4.03	$58.82	$48.54	$4.45	$2.26	$2.01
Indianapolis	$1.17	$21.76	$25.00	$0.55	$1.09	$2.25
Kansas City	$2.38	$34.27	$10.01	$1.29	$1.75	$1.32
Milwaukee	$4.97	$66.17	$24.90	$1.25	$2.88	$4.01
Minneapolis	$3.25	$45.09	$30.17	$0.00	$2.12	$0.32
Nashville	$3.88	$51.83	$34.54	$2.25	$2.57	$3.38
NYC	$13.74	$158.84	$38.87	$1.85	$0.00	$3.95
Orange County	$4.54	$67.26	$32.32	$1.84	$2.42	$0.34
Philadelphia	$5.02	$71.69	$35.30	$3.11	$2.07	$1.07
Phoenix	$3.19	$47.74	$36.55	$2.26	$2.21	$0.50
Pittsburgh	$3.74	$55.31	$27.01	$3.15	$2.59	$0.76
Portland	$4.53	$60.35	$30.18	$2.51	$3.27	$1.26
Sacramento	$1.51	$50.40	$21.97	$2.76	$2.13	$2.76
San Diego	$9.94	$83.17	$35.57	$4.24	$3.23	$1.50
San Francisco	$12.65	$150.49	$41.60	$30.27	$4.37	$0.83
Western CAN	$10.42	$80.79	$38.81	$3.58	$4.19	$0.94

Appendix 3: Jacobs Workplace Benchmarks

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FHFA Peer Review
Benchmark Study

8-Dec-16

	Jacobs Benchmarking Best Practices	FHFA / Fannie Mae		Private Sector		
Macro Programming Building Analysis		**Fannie Mae Midtown Center Plans**	**Program (11.23.16)**	**Chemical company HQ, multi-building campus (2012)**	**Saint Gobain HQ building products (2016)**	**Campbell's Soup World HQ, multi building campus and plant, office space and amenities only (2012)**
Population		3,180 work seats, 3,682 work seats plus hoteling	3,151 work seats, 3,651 work seats plus hoteling	1,600	1,000	1,100
Total Program USF USF/p	170 to 200 USF/P	594,882 187 USF/S	606,225 192 USF/S	345,700 216 USF/P	232,000 232 USF/P	212,500 193 USF/P
Cafeteria/Dining/Kitchen Support USF/P	10 to 12 USF/P	31,483 10 USF/S	38,890 10 USF/S	22,500 14 USF/P	12,000 12 USF/P	14,600 13 USF/P
Amenity Metric Conference Center USF/P	5 to 9 USF/P	34,412 11 USF/S	36,662 12 USF/S	5,200 3 USF/P	N/A	9,000 8 USF/P
Enclosed Conference Seat Ratio (seats to people)	1:1.5 to 1:2.5	1:1.9	1:1.6	1:1.3	1:1.5	1:2
Total of Enclosed Conference Seats and Open Collaborative Seats Ratio (seats to people)	1:1 to 1.5	1:1.3	1:1.5	1:1	1:1.3	1:1.1
Huddle Room Ratio (1 or 2 person focus room). (Rooms to People)	1:10 to 1:20	1:19	1:18	1:12	1:13	1:18
Small Conference Ratio (4 to 6 person Huddle Room) (Rooms to People)	1:13 to 1:20	1:29	1:30	1:13	1:22	1:15
% of Private Office	0 - 15%	6%	6%	0%	2%	20%
Size of Private Office	120 SF	170 SF average	170 SF average	N/A	80 SF	120 SF
Size of Workstation	36 SF to 48 SF	42 SF	42 SF	63 SF	49 SF	64 SF

General Comments and Observations	Observations	Observations		Observations		
		Discrepancy of 29 seats between POR and take-off; executive area?	1. CEO Office 501 SF, only one.	1. 36 SF workstations for contractors only.		1. 30 SF workstations for consultants and touchdown. 2. Exec suite offices 300 SF.

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FHFA Peer Review
Benchmark Study

8-Dec-16

	Jacobs Benchmarking Best Practices	FHFA / Fannie Mae		Private Sector							
Macro Programming Building Analysis		**Fannie Mae Midtown Center Plans**		**Program (11.23.16)**		**Healthcare Insurance, pilot for 3,500 person campus, moving to unassigned seating**		**Financial Services, client-facing site**		**Financial Services, knowledge worker site**		**Financial Services, HQ campus, 1 building**	
Population		3,180 work seats, 3,682 work seats plus hoteling		3,151 work seats, 3,651 work seats plus hoteling		350 assigned staff	315 seats	852		700		1,810	
Total Program USF USF/p	170 to 200 USF/P	594,882	187 USF/S	606,225	192 USF/S	44,000	140 USF/ Seat	137,950	162USF/P	91,500	131 USF/P	391,990	216 USF/P
						44,000	126 USF/P						
Cafeteria/Dining/Kitchen Support USF/P	10 to 12 USF/P	31,483	10 USF/S	38,890	10 USF/S	N/A		N/A				15,325	8 USF/P
Amenity Metric Conference Center USF/P	5 to 9 USF/P	34,412	11 USF/S	36,662	12 USF/S	N/A		6,400	8 USF/P	1,500	2 USF/P	N/A	
Enclosed Conference Seat Ratio (seats to people)	1:1.5 to 1:2.5	1:1.9		1:1.6		1:2.3		1:3		1:2.5		1:2	
Total of Enclosed Conference Seats and Open Collaborative Seats Ratio (seats to people)	1:1 to 1.5	1:1.3		1:1.5		1:1.3		1:2		1:2.2		1:1.5	
Huddle Room Ratio (1 or 2 person focus room). (Rooms to People)	1:10 to 1:20	1:19		1:18		1:15		1:50		1:24		1:10	
Small Conference Ratio (4 to 6 person Huddle Room) (Rooms to People)	1:13 to 1:20	1:29		1:30		1:30		1:50		1:43		1:75	
% of Private Office	0 - 15%	6%		6%		0%		12%		2%		6%	
Size of Private Office	120 SF	170 SF average		170 SF average		N/A		120 SF		120 SF		160 SF	
Size of Workstation	36 SF to 48 SF	42 SF		42 SF		36 SF		36 SF		36 SF		49 USF	

General Comments and Observations	Observations	Observations			Observations	
		Discrepancy of 29 seats between POR and take-off; executive area?	1. CEO Office 501 SF, only one.	1. Uses a sharing ratio-more staff assigned than seats to increase utilization/leverage mobiity.	1. Uses a sharing ratio-more staff assigned than seats to increase utilization/leverage mobiity. 2. Exec suite offices 300 SF.	1. Benching workstations 28 SF. 2. Additional offices at 88 SF (3) - exec at 300 SF.

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FHFA Peer Review
Benchmark Study

8-Dec-16

	Jacobs Benchmarking Best Practices	FHFA / Fannie Mae		Public Sector/Federal				
Macro Programming Building Analysis		**Fannie Mae Midtown Center Plans**	**Program (11.23.16)**	**Intelligence Community 1**	**GSA Region 3, with unassigned seating**	**Federal Agency 1**	**IRS Independence Field Office**	**Intelligence Community 2**
Population		3,180 work seats, 3,682 work seats plus hoteling	3,151 work seats, 3,651 work seats plus hoteling	10,606	659 assigned staff 489 Seats	2,448	195 Assigned staff 161 Seats	8,500
Total Program USF USF/p	170 to 200 USF/P	594,882 187 USF/S	606,225 192 USF/S	1,863,614 176 USF /P	94,179 192 USF/ Seat	431,335 176 USF/P	30,627 190 USF/ Seat	1,598,000 188 USF/P
					94,179 143 USF/P		30,627 157 USF/P	110,500 13 USF/P
Cafeteria/Dining/Kitchen Support USF/P	10 to 12 USF/P	31,483 10 USF/S	38,890 10 USF/S	77,933 7 USF/P	N/A	6,900 3 USF/P		25,500 3 USF/P
Amenity Metric Conference Center USF/P	5 to 9 USF/P	34,412 11 USF/S	36,662 12 USF/S	0 USF 0	N/A	N/A		
Enclosed Conference Seat Ratio (seats to people)	1:1.5 to 1:2.5	1:1.9	1:1.6	1:2	1:1.4	1.13	1:2.7	1:3.5
Total of Enclosed Conference Seats and Open Collaborative Seats Ratio (seats to people)	1:1 to 1.5	1:1.3	1:1.5	1:1.9	1:1.1	N/A	1:2.2	1:2
Huddle Room Ratio (1 or 2 person focus room). (Rooms to People)	1:10 to 1:20	1:19	1:18	1:32	1:19	N/A	1:40	1:70
Small Conference Ratio (4 to 6 person Huddle Room) (Rooms to People)	1:13 to 1:20	1:29	1:30	1:56	1;15	1:13	N/A	1:140
% of Private Office	0 - 15%	6%	6%		2%	2%	25%	18%
Size of Private Office	120 SF	170 SF average	170 SF average	100 SF	120 SF	150 SF	96 SF	120 SF
Size of Workstation	36 SF to 48 SF	42 SF	42 SF	48 SF	42 SF	51 SF	48 SF	48 SF

General Comments and Observations	Observations	Observations		Observations				
		Discrepancy of 29 seats between POR and take-off; executive area?	1. CEO Office 501 SF, only one.	1. Private office range: 100, 200, 300, 400, 500 USF. 2. Workstation range: 24 - 64 USF.	1. Uses a sharing ratio-more staff assigned than seats to increase utilization/mobiity.	1. Private offices are a range of sizes. 2. Workstations are a range of sizes.		

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Appendix 4: FM January monthly report dashboard and budget sheet, reissued on March 1, 2017

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Description	
Location:	1150 15th Street NW
Lease Duration:	15 years
Developer:	Carr Properties
Dashboard Team:	Grace Wozniak, Fannie Mae Program Director
	Robert Dougherty, Fannie Mae Finance Director
	Joe Turi, Cushman & Wakefield Managing Director

Schedule (Attachment A)

	Baseline	Actual/ Projected	Variance in Days
Lease Signature	(b)(4)		
GMP Pricing Set			
Issue for Permit Set			
GMP Approval by FM			
First Access Floor 5 – West Tower			
Construction Start Date (TI)			
First Access Floor 6 – West Tower			
First Access Floor 7 – West Tower			
FF&E Installation Start – Floor 5			
Initial Occupancy – Floor 5			
FF&E Installation Start – Floor 6			
FF&E Installation Start – Floor 7			
Relocation Completed – 4000 Wisconsin			
Expiration of Existing Lease – 4000 Wisconsin			
Expiration of Existing Lease – 2115 Wisconsin			
Construction Complete			
Final Occupancy			

Funding

	Management Approved	Fannie Mae Capital Authorization*	Current Values
Rentable SF	(b)(4)		
Useable SF			
NPV			
Capital Budget T			
Capital Cost/SF			

Matrix

Metric	Amount	Comments
Current Occupancy	(b)(4)	
Current Capacity		
Current Density		
Diverse-Owned Suppliers		

Cost / Forecast (Attachment E)

Category	Baseline Budget	Budget Transfers	Current Budget	Actual Committed to Date	Estimate to Complete	Total Projected Commitment	Total Variance	Expended Cost to Date
Construction	(b)(4)							
Design Costs								
FF&E								
PM/CM								
Contingency								
Total*								

(b)(4)

Notes and Issues

(b)(4)

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Project Name:
Fannie Mae
DC Midtown Center

Attachment E - Financial Update

Fannie Mae
CUSHMAN & WAKEFIELD

Category/Description	Current Budget			Commitments					Variance		Billings		
	A	B	C=A+B	D	E	F=C-(D+E)	G	H=F-G	I=D+E+G	J=(I-C)/C (%)	K	L	M=K+L
	Approved Budget	Approved Transfers	Project Control Budget (682,000 SF)	Committed Contract Values	Committed Change Orders	Uncommitted Budgeted Costs	Estimate to Commit	Remaining Uncommited	Total Planned Costs	Budget Variance	Previous Payments	Current Payments	Total Payments to Date
HARD COSTS													
Construction													
Construction Cost													
GMP Allowances													
Builder's Risk Insurance													
GC Fee													
Bldg Permit													
Base Building Modifications													
Contractor Contingency													
Owner Contingency (FM)													
Kitchen Equipment / Food Service													
Project Potential Savings													
Total Construction													
TOTAL HARD COSTS													
FURNITURE, FIXTURES & EQUIPMENT													
Furniture													
Room Signage (in above)													
FF&E Contingency													
IT switches, routers, and misc. equipment *(allowance)*													
TOTAL FF&E													
SOFT COST													
Architectural & Engineering Design Fees													
Arch/MEP/Structural/IT													
AM/EPS/IT Reim. Exp.													
PM/Project controls													
Legal Fees													
3rd Party Inspections													
3rd Party Permit Review													
Permit Expeditor													
Landlord Review / Construction Fee													
AE Contingency													
Total Design													
Program Manager / Construction Manager													
PM/CM Fee													
PM/CM Contingency													
Total PM/CM													
TOTAL SOFT COSTS													
TOTAL COSTS													
TI ALLOWANCE													
FM TOTAL EXPENDITURE													

(b)(4)

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Appendix 5: FM VE Spreadsheet

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Categories of Project Costs and Savings	NPV	Reasoning
Net Cost of Sublease Space	(b)(4)	
Base Rent		
Huddle rooms		
Town Center		
Conference Facilities		
Cafeteria Dining		
Generators		
Lower Level Space		
Motorized mecho shades		
3rd Bridge		
Sky Lobby		
Market Room/ Server		
Delta on Cost of East Occupiable Space		
Broadcast Studio		
Turnstiles		
Non-core restrooms		
3rd Freight Elevator		
Letter of Credit Costs		
Additional Commission Rebates		
Gas Upcharge		
Additional TIA due to Taking Sublet space		
Reduction in OpEx and Real Estate Taxes		
Reduction in Space 13,000sf		
Reduction in Employee Parking		
Reduction in Internal OpEx		

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Appendix 6: Triple Net to Full-Service Factor

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TRIPLE NET TO FULL SERVICE MARK-UP FACTOR

Downtown Washington DC - Leases over 300,000 RSF

Escalation Factor	2.50%

TRIPLE NET LEASES

Building Location	RSF	Average Rent 2015	Escalation to 2016
850 10th Street NW	420,000	$55.61	$ 57.00
801 Penn Ave. NW, DC	346,855	$55.53	$ 56.92
701 Penn Ave. NW, DC	357,142	$55.38	$ 56.76
800 17th St. NW, DC	384,502	$54.84	$ 56.21
1200 19th St. NW, DC	334,175	$53.98	$ 55.33
601 Mass Ave. NW, DC	478,882	$51.25	$ 52.53
1001 Penn Ave. NW, DC	861,209	$51.21	$ 52.49
1717 K St. NW, DC	385,791	$50.19	$ 51.44
555 12th St NW, DC*	587,840	$49.80	$ 51.05
1900 K St. NW, DC	339,060	$48.86	$ 50.08
601 13th St. NW, DC	438,474	$44.44	$ 45.55
Average		**Average Full Service**	**$ 53.22**

FULL SERVICE LEASES

Building Location	RSF	Average Rent 2015	Escalation to 2016
1201 Pennsylvania Ave NW	444,860	$ 64.59	$ 66.20
25 Massachusetts Ave. NW	385,598	$ 58.73	$ 60.20
400 444 N. Capitol St NW	606,945	$ 59.36	$ 60.84
1001 G St. NW	319,662	$ 58.25	$ 59.71
1201 Maryland Ave. SW	506,600	$ 56.59	$ 58.00
		Average Triple Net	**$ 60.99**

CONVERSION FACTOR

Average Triple Net	$ 53.22
Average Full Service	$ 60.99
Delta	$ 7.78
Conversion Mark-up Factor	14.6%

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Appendix 7: Cushman & Wakefield DC Lease Comps
November 18, 2016

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Cushman & Wakefield Comparables Report

CUSHMAN & WAKEFIELD

Submarket Name Type / Class	Tenant Name Building Name/Address	Rental Rate Rent Type Square Feet	Execution Date Commencement Date Term	Lease Type TIs (psf) Escalations	Deal Point Comments
CBD Office / A	Akin Gump 2001 K Street NW - Addition Alexander Court	$56.00 NNN 160,000	10/01/2016 N/A 16 Yrs.	Direct $130.00 2.5%	24 Months Free. ALL TERMS ARE RUMORED.
CBD Office / A	Paul Hastings 2050 M Street NW	$59.00 NNN 115,000	09/01/2016 01/01/2019 15 Yrs.	Direct $130.00 2.5%	16 Months Free. Deal points are rumored in the market.
East End Office / A	Venable LLP 600 Massachusetts Avenue NW 600 Mass	$52.00 NNN 245,000	09/17/2014 01/01/2017 16 Yrs.	Direct $125.00 2.5%	18 months free rent.
CBD Office / A	Pillsbury Winthrop Shaw Pittman 1200 17th Street NW	$53.00 NNN 105,687	01/01/2013 01/01/2015 10 Yrs. 2 Mos.	Direct $105.00 2.25%	2 months free rent.
East End Office / A	Arnold & Porter 601 Massachusetts Avenue NW 601 Mass	$53.00 NNN 376,000	12/27/2012 10/01/2015 15 Yrs.	Direct $135.00 2.5%	12 months free rent.
East End Office / A	Covington & Burling 850 10th Street NW North Tower	$57.00 NNN 420,000	10/23/2012 08/01/2013 20 Yrs.	Direct $115.00 1.75%	24 months free rent to cover remainder of existing lease.
CBD Office / A	Arent Fox LLP 1000 Connecticut Avenue, NW	$54.50 NNN 254,475	05/13/2008 01/01/2013 15 Yrs.	Direct $75.00 2.25%, $2.00 bump years 6 & 11.	Taking floors 2-8 with expansion options onto 9 and 10, with 11 and 12 remaining unencumbered. Also signed for Ground/Concourse levels for $31.00 NNN with $52.50 in TIs.

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Appendix 8: TI Cost Variances

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Jacobs identified a number of variances during its review of the lease, 80% design documents, estimates, and FM budget. The nature and amount of these variances is within the anticipated range of accuracy of 80% CD estimates. Jacobs shared this information with FHFA and FM and recommended that FM address them during negotiation of the Guaranteed Maximum Price (GMP) with the goal of reducing the projected TI cost to Jacobs' benchmark. On February 28, 2017, FM confirmed that it has successfully negotiated the construction GMP and furniture contracts, and that its projected cost is now $149 Million, or $219 per RSF, 1% less than the Jacobs benchmark. The variances are detailed below for the record:

Core/Shell Items with Above-Standard Cost

- Motorized Window Shades: The cost included in the VJ estimate is adequate to purchase the shades and the motorization of the shades. The TI cost should only be the installation and motorization of the shades since the lease Exhibit B-5 requires the landlord to provide the manual shade material.
- Fire Suppression – The VJ estimate includes $5/RSF for "sprinkler coverage". In Jacobs' experience, this is adequate to provide a complete sprinkler system. Lease Exhibit B-5 requires the Landlord to provide a sprinkler system with upright heads; however, Jacobs did not find any indication of this on the 80% drawings. The TI cost should be limited to modifications to this system, which are estimated at $2/RSF.
- HVAC Ductwork: The VJ estimate includes 0.5lb/sf for HVAC ductwork. In Jacobs' experience, this is adequate to provide a complete ductwork system. Lease Exhibit B-5 requires the Landlord to provide ductwork up to and including the VAV boxes, with the tenant responsible only for ductwork downstream of the VAV boxes and changes to the base building work, which is estimated in the 0.25-0.30lb/sf range. There is no graphic differentiation between the base building and tenant ductwork on the drawings; so, the VJ estimator may have estimated the complete system. If so, the ductwork insulation amount may be similarly over estimated.
- Electrical Power Distribution: Lease Exhibit B-5 requires the Landlord to provide an electrical distribution system up to and including busway risers and circuit breaker panelboards and transformers on each floor. TI cost should include distribution downstream of the panelboards and modifications to the base building system; however, the drawings don't differentiate between the base building and tenant work and the VJ estimate appears to include the base building work.
- Fire Alarm: The VJ estimate includes $2.5/RSF for a fire alarm system. In Jacobs' experience, this would be adequate to provide a complete system. Lease Exhibit B-5 requires the Landlord to provide a basic system suitable for "shell" occupancy, and the TI should include only the cost of fitting out the system in the tenant space, which is estimated at $1.5/RSF.
- Contingency: The cost estimate provided by VJ Associates includes 5% design contingency and the budget includes $5,000,000 Contractor contingency and 5% Owner contingency. Jacobs considers the combined design and Contractor contingencies to be higher than needed for a project with a GMP based on 100% documents and subcontractor bids.
- Estimate/Budget Inconsistency: Both the VJ and Clark 80% estimates total $90,170.390; however, the October budget report uses $90,670,390 as the estimate to complete, $500,000 more than the estimates.
- Estimate/Budget Duplications: Jacobs noted the following duplications between the VJ 80% estimate and the budget summary:
  - Builders risk insurance
  - Kitchen equipment
- Occupancy Sensors: The unit cost is double the typical cost for similar fit-out projects.
- Primary Fiber Optic Cabling: The unit cost seems excessive for a 12-strand cable.

Table 1: Variances Cost Summary

VJ Estimate Variances	Estimated Value
Window shades appear to include material cost	$1,667,022
Fire Suppression - Sprinkler Coverage	$2,037,000
HVAC Ductwork and Insulation	$1,697,500
Electrical Power Distribution	$1,018,500
Fire Alarm System	$679,000
Occupancy Sensors	Nominal
Primary Fiber Optic Cabling	Nominal
Subtotal	**$7,099,022**
Contractor Markups in Estimate (16%)	$1,135,843
Total VJ Estimate Variances	**$8,234,866**
$/RSF	$12.13

Budget/Estimate Variances	
Multiple Contingencies (Design, Contractor and Owner)	$4,293,838
Budget versus estimate variance	$500,000
Builders Risk Insurance Appears to be duplicated	$200,000
Kitchen Equipment appears to be duplicated	$3,249,361
Room Signage appears to be duplicated	$320,597
Total Budget/Estimate Variances	$8,563,796
$/RSF	$12.61

Total Variances	$16,798,661
$/RSF	$24.74

Appendix 9: Overview of FM's Decision Regarding Midtown Resiliency Generators February 28, 2017

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(b)(4)

On August 22, 2015, Fannie Mae's workplace strategy facilities team presented the (b)(4) (b)(4) to Pascal Boillat, SVP & Head of Operations & Technology (former FM employee) and Brian McQuaid, SVP & Chief Human Resources Officer/Head of Corporate Facilities, both members of Fannie Mae's Management Committee. After discussion and review of the options and associated costs and benefits, they made the corporate decision to pursue (b)(4) to provide the best (b)(4) to enable the company to continue uninterrupted business operations given the new consolidated office space. Since that decision, Fannie Mae has been engaged in implementing (b)(4)

Appendix 10: Midtown Interior Fit-out Budget Reduction
February 28, 2017

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Midtown Interior Fit-Out Budget Reduction

February 28, 2017

Thanks for the opportunity to provide evidence of how the Fannie Mae team has reduced the Midtown TI Budget by over $10M. This reduction was shown in the January 31st 2017 monthly report on page 14 in the Total planned cost column. The Total Planned Cost is our current commitment to completing the Midtown Interior Fit Out and it shows the following:

	Approved Budget	Total Planned Cost	Variance
Total Costs	$159,800,000	$149,118,299	$10,681,701
Total Cost/sf	$234.3	$218.7	$15.7
Cost Categories			
Total Hard Costs	$115,090,970	$105,924,972	$9,165,998
Total FF&E	$27,811,873	$25,785,658	$2,026,215

The Total Planned cost will become the Current Budget in the Dashboard and the Project Control Budget in the Financial Update in the February report.

We are in the process of finalizing the Midtown TI GMP to Clark for $96,215,878 as shown in Attachment 1. The numbers are a firm commitment from Clark. We expect to have the contract revised and executed by 3/10/17.

We are in the process of finalizing the Midtown Furniture for $19,346,348 as shown in Attachment 2. The numbers are a firm commitment from Bialek and SBFI. We expect to have the contract revised and executed by 3/17/17.

We are continuing to work on driving the costs further down and plan to be able to show additional savings in the next couple of months.

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Appendix 11: Study Source Documents

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Study Source Documents

Real Estate Benchmarks

- CoStar Mid-Year Report, 2016
- JLL Research, Q3 2016
- Cresa Tenant's Guide, Q2 2016
- CBRE Research Report, Q3 2016
- Cushman & Wakefield FM provided benchmarking, November, 18, 2016
- FHFA Headquarters Lease, January 31, 2011
- Washington Business Journal Report, 2015 (Full lease benchmark and triple net)
- Discount Rates (Wall Street Prime and Federal Discount - www.bankrate.com)
- Michael Graves Architecture & Design Midtown Center Facts and Figures Presentation

Workplace Strategy

- Michael Graves Architecture & Design Programming Reports, December 17, 2015 & November 23, 2016
- Jacobs Workplace Benchmarks
- 80% CD Drawings

Design Features

- VJ 80% CD Cost Estimate, July 22, 2016
- FM Midtown Center Lease, January 26, 2015
- FM Value Engineering Spreadsheet
- Clark 80% CD Budget, September 9, 2016
- FHFA Interior Building Contract Closeout Package, February 26, 2013
- FM Information on the Third Bridge document, December 7, 2016
- Clark Above Base Building Item List, December 7, 2016
- Van Deusen & Associates Elevator Study, September 1, 2015
- Overview of Fannie Mae's Decision Regarding Midtown Resiliency – Generators, February 28. 2017

Tenant Improvement Cost Benchmark

- FM January 2017 Monthly Report Dashboard and Budget, March 1, 2017
- CBRE North America Occupiers' Fit-Out Cost Guide 2105
- Midtown Interior Fit-out Budget Reduction, February 28, 2017

Fannie Mae Headquarters Consolidation

Value Engineering and Benchmarking Study

March 9, 2017

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Agenda

1. **Introductions**
2. **Purpose / Problem Statement**
3. **Project Context and Lease Description**
4. **Benchmark Analysis**
   - Rental Rate, Tenant Improvement Allowance (TIA), Workplace Strategy
5. **Value Engineering Analysis**
   - Design Features, Estimate/Budget Analysis, Tenant Improvement (TI) Costs
6. **Conclusions / Recommendations**

Purpose of Study

Determine whether current workplace design features and tenant improvement costs are reasonable when compared to market benchmarks

Key Tasks:

- **Benchmarking:** Comparison of project design features, activities and costs with industry and government benchmarks
- **Value Engineering Analysis**: Validate the underlying assumptions and overall conclusions of the projects' value engineering (VE) proposals.

Acronyms

- **CBD** – Central Business District
- **RSF**- Rentable Square Feet
- **NPV** – Net Present Value
- **USF** – Usable Square Feet
- **TI** – Tenant Improvements
- **TIA** – Tenant Improvement Allowance
- **NNN** – Triple Net

Project Background

Real Estate

Consolidation: 5 locations to 1

Leased Area Reduction: 991,000 RSF to 682,000 RSF

16-Year Cost Reduction: approximately $325 million savings

Workplace

Improved Space Utilization: 265 USF/seat to 187 USF /seat

Private Space Reduction: 33%

Increased Collaboration: 4x more collaborative space

Improved Workplace and flexibility

Reduced Staff Impact

Design Features

Improved Resiliency for mission critical functions

Increased Natural Light

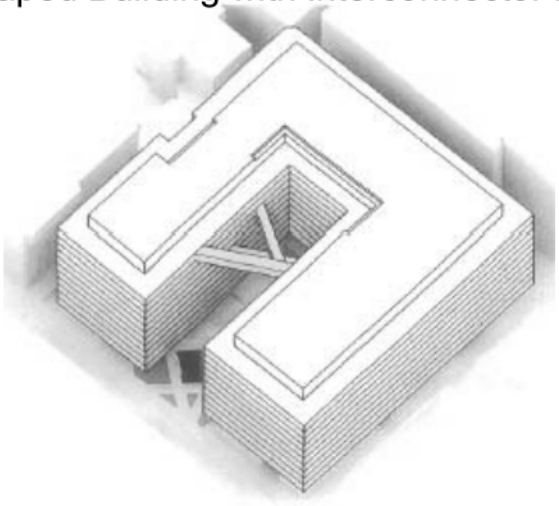
Increased Connectivity

Consistent Finishes

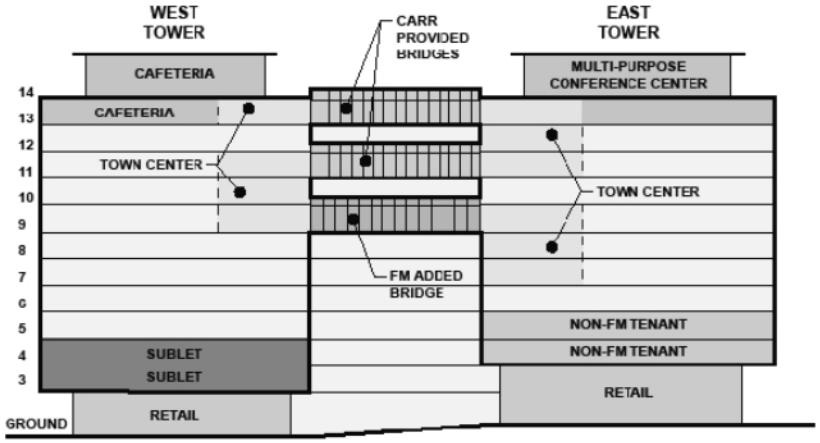
Project Description

682,000 RSF Class A Headquarters in DC's CBD

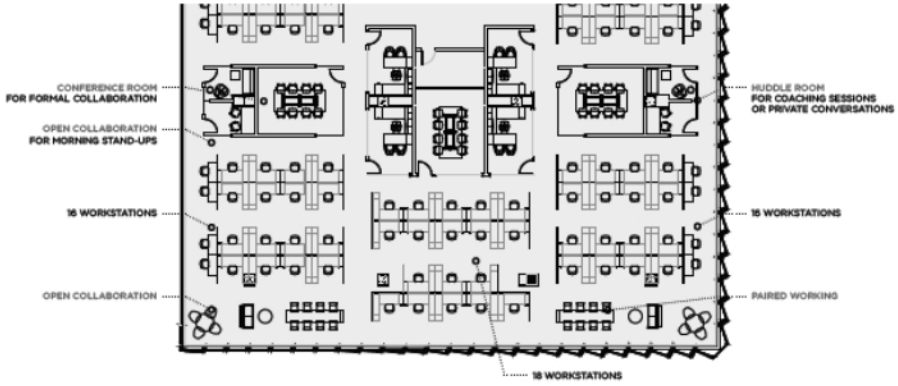
U-Shaped Building with interconnector bridges



Vertical Connectivity with top floor amenities

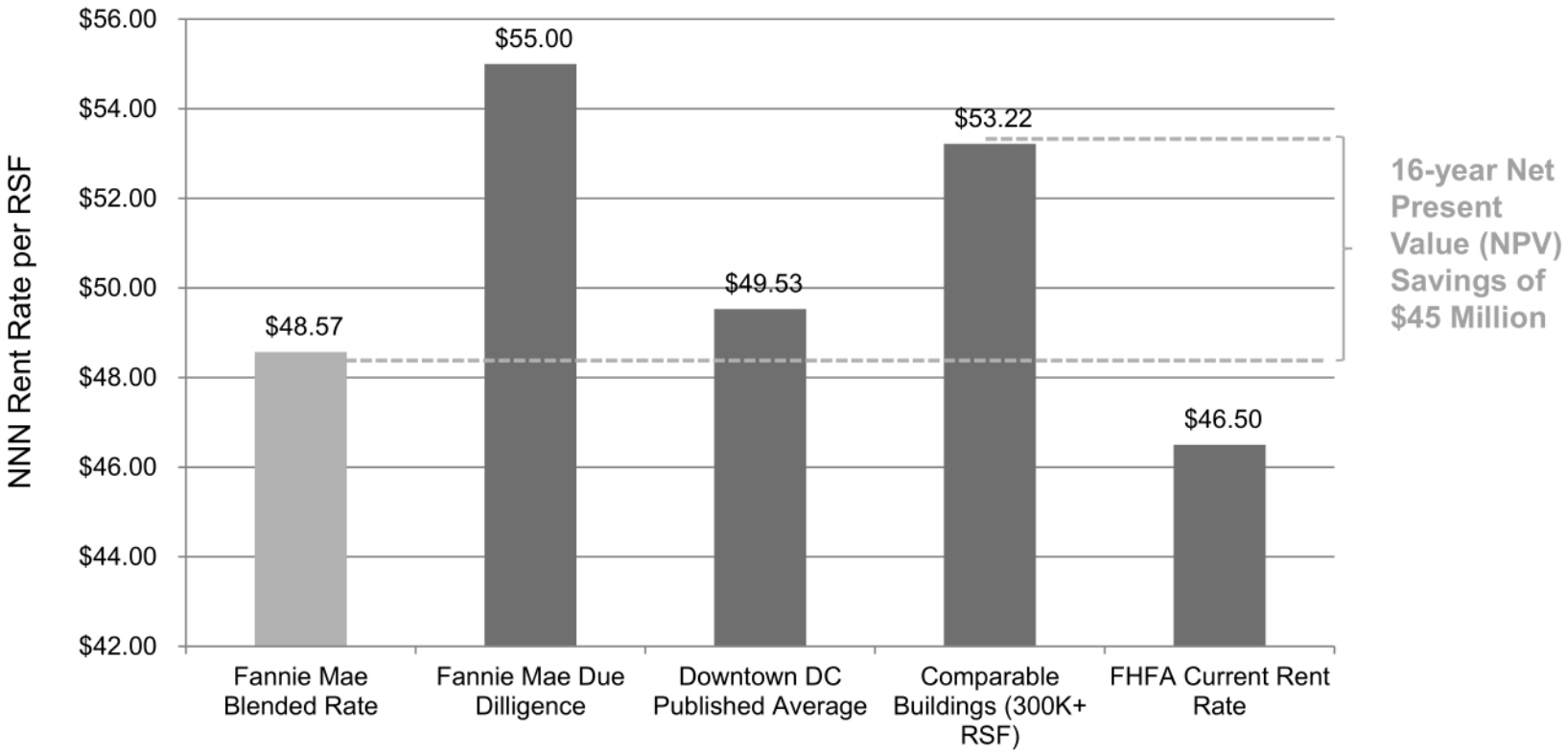


Open and collaborative workspace



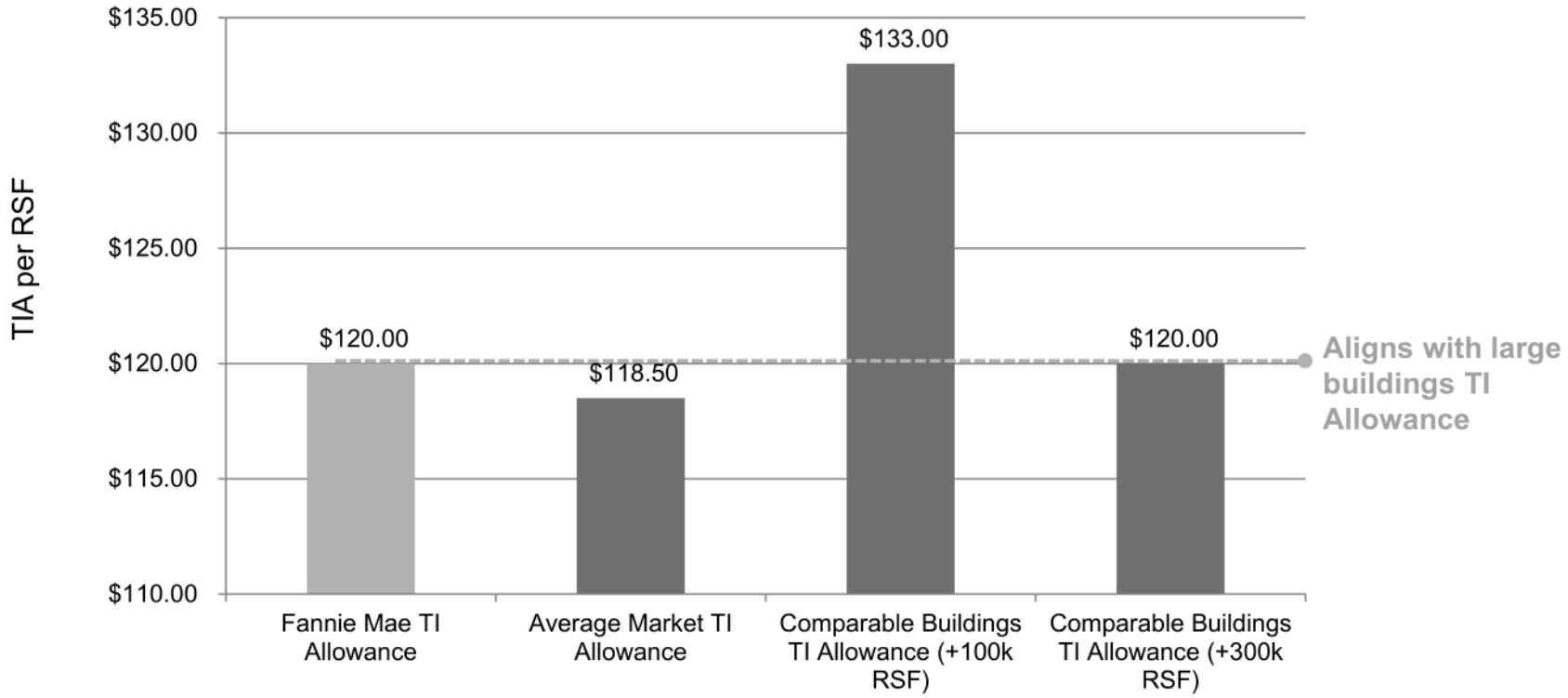
Comparison to Industry Benchmarks

NNN Lease Cost Benchmark



Conclusion: Fannie Mae's rental rate is favorable when compared to market

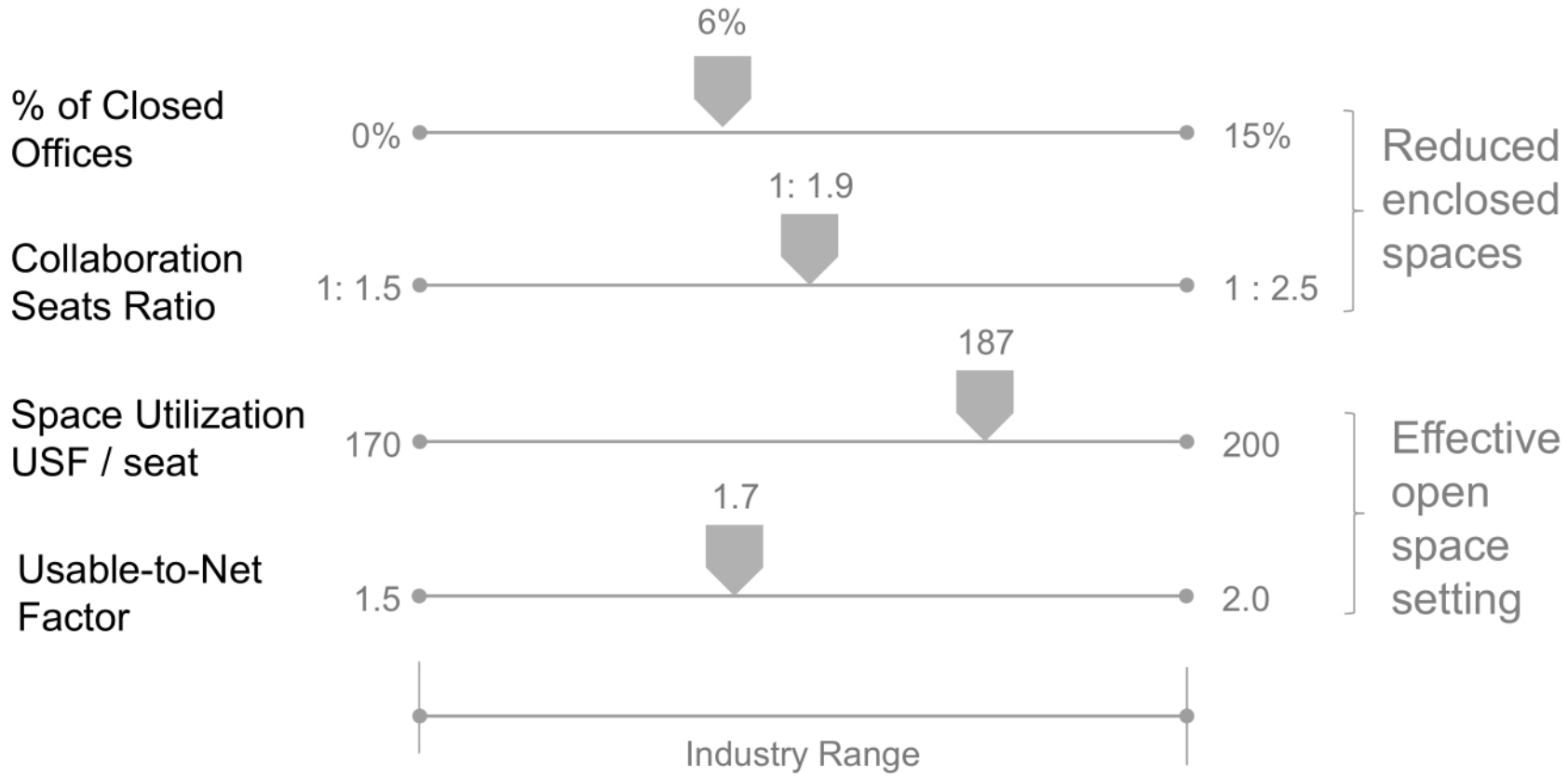
Tenant Improvement Allowance (TIA)



Conclusion: Fannie Mae's TI Allowance is favorable when compared to market

Workplace

***Key driver**: Promote open, collaborative, connected and productive workplace*



Conclusion: Workplace metrics are within industry benchmarks

Value Engineering Analysis

Design Features

Base Building Modifications:
- Additional connecting bridge (1/3 of cost only)
- 3rd freight elevator
- Market Trading Room upgrades
- Audio-Visual Studio
- Lobby turnstiles

Amenities, Collaboration and Finishes
- Cafeteria/Dining Space
- "Town Center" collaborative spaces
- Floor penetrations and connecting stairways
- High-quality of finishes of walls and ceilings
- Single-User Restrooms

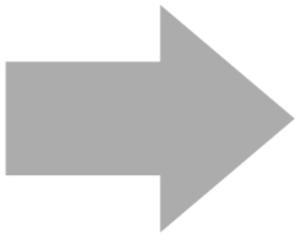
Mechanical, Electric, Plumbing
- Floors 13 and 14 HVAC upgrades
- Electrical
  - LED lighting
  - Upsized Building Generator
  - Dedicated Standby Generator
  - UPS system and distribution

Upgrades Cost: $46 per RSF

Conclusion: Jacobs considered tenant design features reasonable upgrades

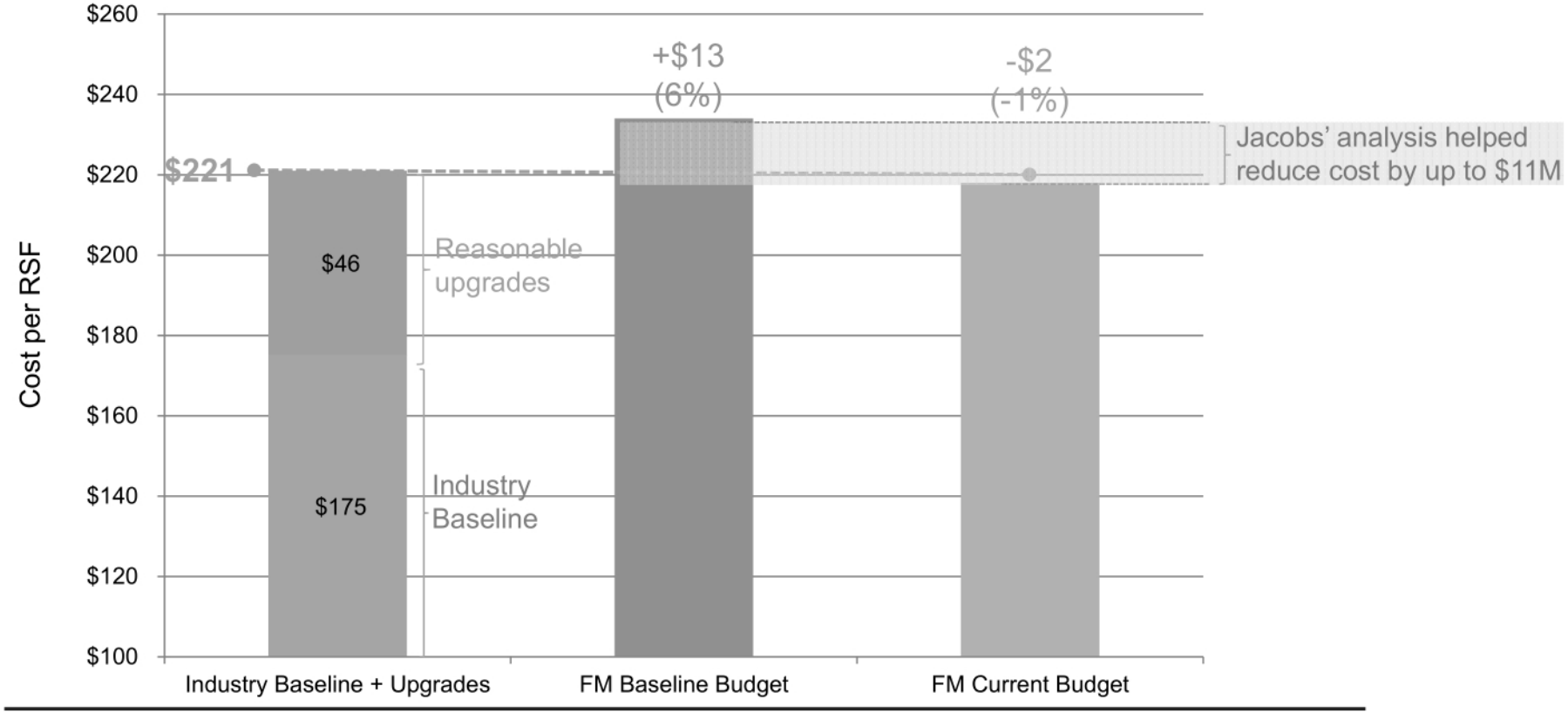
Estimate and Budget Analysis

- Initial Budget:
  - $234 / RSF ($160M)
- Developed Industry baseline:
  - $175 / RSF ($119M)
- Identified reasonable upgrade costs
  - $46 / RSF ($32M)
- Developed industry benchmark:
  - $221 / RSF ($151M)
- Identified $14.9M in estimate and budget variances
- GMP negotiations reduced cost by $11M
- Current Budget: $149M ($219 / RSF)



Description	Value
Estimate Variances	$6.3M
Budget / Estimate Variances	$8.6M
Total Variances	**$14.9M**

TI Cost Benchmark



Cost / RSF	$221 / RSF	$ 234 / RSF	$219 / RSF
Budget Cost	$151 M	$160 M →	$149 M

Conclusion: Fannie Mae current budget is below Jacobs' industry benchmark

Conclusions Summary

Jacobs' Benchmark Analysis shows that:

Benchmarks

- Lease Rent Rate is below current market and comparable building rates
- TIA aligns with current market conditions
- Workplace design metrics are within industry best practices

Value Engineering

- VE upgrade proposals are considered reasonable when compared to financial institution headquarters
- Fannie Mae's Current TI Budget of $219 / RSF is below the Jacobs' industry baseline of $221 / RSF

Back-up / Support Slides

Lease Cost Benchmark - Backup

Fannie Mae Due Diligence

Building Address	RSF	Term (Years)	Commence Date	NNN Rental Rate
1200 17th Street NW	105,687	10.2	1/1/2015	$53.00
2050 M Street NW	115,000	15	1/1/2019	$59.00
2001 K Street NW	160,000	16	10/1/2016	$56.00
600 Mass Avenue NW	245,000	16	1/1/2017	$52.00
601 Mass Avenue NW	376,000	15	10/1/2015	$53.00
850 10th Street NW	420,000	20	8/1/2013	$57.00
Average	236,948	15.4		$55.00

Comparables

Building Location	Building Status	Average Rent[1]	RSF
850 10th Street, NW	Existing	$57.00	420,000
801 Penn Ave. NW	Existing	$56.92	346,855
701 Penn Ave. NW	Existing	$56.76	357,142
800 17th St. NW	Existing	$56.21	384,502
1200 19th St. NW	Existing	$55.33	334,175
601 Mass Ave. NW	Existing	$52.53	478,882
1001 Penn Ave. NW	Existing	$52.49	861,209
1717 K St. NW	Existing	$51.44	385,791
555 12th St NW[2]	Existing	$51.05	587,840
1900 K St. NW	Existing	$50.08	339,060
601 13th St. NW	Existing	$45.55	438,474
	Average Rent	$53.22	

Average $53.22

Fannie Mae $48.57

Source: CBRE Group Inc. (Business Journal Report) and Cushman & Wakefield

Market

	Rental Rates/RSF (Class A)	
Source	Full Service	Triple Net
CoStar Mid-Year Report (2016)	$57.71	$50.35
CBRE Research (Q3 2016)	$57.57	$50.23
JLL Research (Q3 2016)	$55.64	$48.55
Cresa Tenant's Guide (Q2 2016)	$56.13	$48.97
Average Rental Rate	$56.76	$49.53
FM Triple Net		$48.57
Delta		1.9%

Tenant Improvement Allowance - Backup

Table 10: 16-Year TIA Comparison

	TIA/RSF (16-Year Term)
Fannie Mae	$120.0
Market Average	$118.4
Difference	$1.6
Difference (%)	1.35%

Table 11: TIA Allowance for Comparable Properties in Downtown DC - Triple Net Leases Only

Building Address	RSF	Term (Years)	Commence Date	TIA	Average per Year	16-Year TIA
1200 17th Street NW	105,687	10.2	1/1/2015	$105.00	$10.5	$168
2050 M Street NW	115,000	15	1/1/2019	$130.00	$8.7	$139
2001 K Street NW	160,000	16	10/1/2016	$130.00	$8.1	$130
600 Mass Avenue NW	245,000	16	1/1/2017	$125.00	$7.8	$125
601 Mass Avenue NW	376,000	15	10/1/2015	$135.00	$9.0	$144
850 10th Street NW	420,000	20	8/1/2013	$115.00	$5.8	$92
Average	236,948	15.4		$123.33		$133

Source: CBRE Group Inc. (Washington Business Journal Report - 2016)

Variances - Backup

Table 1: Variances Cost Summary

VJ Estimate Variances	Estimated Value
Window shades appear to include material cost	$1,667,022.00
Fire Suppression - Sprinkler Coverage	$2,037,000.00
HVAC Ductwork and Insulation	$1,697,500.00
Electrical Power Distribution	$1,018,500.00
Fire Alarm System	$679,000.00
Subtotal	$5,432,000.00
Contractor Markups in Estimate (16%)	$869,120.00
Total VJ Estimate Variances	$6,301,120.00
$/RSF	$9.28

Budget/Estimate Variances	
Multiple Contingencies (Design, Contractor and Owner)	$4,293,838.00
Budget versus estimate variance	$500,000.00
Builders Risk Insurance Appears to be duplicated	$200,000.00
Kitchen Equipment appears to be duplicated	$3,249,360.80
Room Signage appears to be duplicated	$320,597.00
Total Budget/Estimate Variances	$8,563,795.80
$/RSF	$12.61

Total Variances	$14,864,915.80
$/RSF	$21.89

TI Cost Benchmark - Backup

Table 16: Industry Baseline Fit-Out Costs

	Industry Baseline		Upgrades		Industry Baseline + Upgrades Benchmark	
	Cost	Cost / RSF	Cost	Cost / RSF	Cost	Cost / RSF
Construction	$69,284,685	$102	$27,025,333	$39	$96,310,018	$141
FF&E	$30,666,220	$45	$-	$-	$30,666,220	$45
IT	$7,469,000	$11	$-	$-	$7,469,000	$11
Design & CA	$6,946,170	$10	$2,432,280	$4	$9,378,450	$14
Subtotal	**$114,366,075**	**$168**	**$29,457,613**	**$43**	**$143,823,688**	**$211**
PMCM Fees	$4,574,643	$7	$2,338,855	$3	$6,913,498	$10
TOTAL	**$118,940,718**	**$175**	**$31,796,468**	**$46**	**$150,737,186**	**$221**

Table 17: Industry Baseline and Upgrades Benchmark vs FM Budget

	FM Baseline Budget		Industry Baseline + Upgrades Benchmark		FM Current Budget	
	Cost	Cost / RSF	Cost	Cost / RSF	Cost	Cost/ RSF
Construction	$111,158,150	$163	$96,310,018	$141	$105,924,972	$155
FF&E	$23,420,597	$34	$30,666,220	$45	$19,920,204	$29
IT	$8,084,417	$12	$7,469,000	$11	$5,865,454	$9
Design & CA	$10,736,836	$16	$9,378,450	$14	$10,495,447	$15
Subtotal	**$153,400,000**	**$225**	**$143,823,688**	**$211**	**$142,206,077**	**$209**
PMCM Fees	$6,400,000	$9	$6,913,498	$10	$6,912,222	$10
TOTAL	**$159,800,000**	**$234**	**$150,737,186**	**$221**	**$149,118,299**	**$219**
Industry Delta /RSF		**$13**		**$0**		**-$2**
% Delta		**6%**				**-1%**

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Important

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