Warriors Stadium Economics: Uncertainty and Alternatives

Version 2.0

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November 29, 2015

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Executive Summary

This report provides both a cash flow analysis of the arena development and a comparison with a plausible alternative. The focus in the report is on the effect of the project on San Francisco's General Fund. It also provides a discussion of some of the assumed revenues associated with the Golden State Warriors (GSW) project. The project is currently expected to result in a small surplus in each year, but that surplus may not materialize. Either cost overruns in ensuring the flow of traffic during events or revenue shortfalls could erase the razor thin margin for benefit.

This report provides an update to a report by the same name originally released on November 2, 2015. Since that time, much has changed regarding the parameters of the agreement. An update of the analysis is provided herein.

Fundamental Changes to the Analysis

1. City's Budget and Legislative Analyst has made it clear that off-site and dedicated and restricted revenues estimated in the fiscal impact report should not be included in stadium revenue calculations. Transit fare and parking revenues resulting from events at the arena, however, should be included. This makes the relevant revenue estimate $11.6 million rather than $14.1 million.

2. SFMTA's annual operating costs associated with the arena are now estimated to be $6.9 million. The previous $6.1 figure was a cost estimate net of fare and parking revenues associated with transit use by Event Center attendees.

3. It has been estimated that the one-time revenues ($25.4 million) available to offset one-time transportation infrastructure related expenses ($55.3 million) will fall short by $29.9 million. Annual debt service payments associated with this shortfall are estimated to be $2.1 million.

4. Total City departments' annual ongoing expenditures related to the Event Center are estimated to be $10.1 million, including debt servicing.

5. Net revenues associated with the GSW are estimated to be $1.5 million (= $11.6 million − $10.1 million), far less than previous estimates.

6. The final sales price on the 12-acre parcel has been established as $150 million. This has implications for transfer tax revenues.

These changes make it clear that the City's Budget and Legislative Analyst (BLA) is in agreement with our prior conclusion that off-site changes should not be included in anticipated revenues associated with the GSW project. The BLA has also, rightly, focused on revenues and commitments associated with the City's General Fund.

Unfortunately, the Board of Supervisors has failed to adopt this recommendation from the BLA. In the absence of very extensive and sophisticated surveys of the activities of those attending events at the Event Center, and surveys of those who would otherwise have contributed to the off-site economy (a completely unidentifiable set of people), there is no way to accurately estimate *NEW* off-site revenues; off-site revenues that do not merely displace economic activity that would otherwise have occurred. Including highly flawed estimates off-site revenues that represent additions rather than diversions of General Fund revenues will do nothing other than cover up the true costs of the Event Center to the general public. Including off-site revenues represents bad accounting, bad economics, and disingenuous communication with the public on the part of the City.

The BLA has estimated that annual expenditures related to the Arena will be $10.1 million and that on-site or direct revenues will be approximately $11.5 million, yielding net revenues of $1.5 million. A comparison with the biotechnology alternative reveals an annual difference in revenue to the General Fund of $4.5 million. Annual net revenues associated with the biotechnology alternative are estimated to be $6.0 million. The difference in one-time net revenues is $38.5 million in favor of biotechnology.

The City's General Fund is on the hook for revenue short falls and cost overruns in providing transit and traffic support to the arena. Although the ordinance establishing the Mission Bay Transportation Improvement Fund has been amended to require GSW work with the city to reduce overruns associated with the SFMTA, there are other expenses —debt servicing, police presence, and DPW expenses —that remain obligations of the General Fund. These obligations are estimated to be $3.2 million per year and will come at the expense of other City services.

> **Important note:** If it is ever the case that revenues are less than SFMTA expenses, it will necessarily be the case that the General Fund will run a deficit of between $2.1 and $3.2 million. The requirement that the Warriors provide transit services in this case does *nothing* to cover these other Event Center related obligations.

There is sufficient uncertainty in future projects to be concerned about this scenario. As was pointed out by Controller Ben Rosenfield in a memo dated October 6, 2015, revenues associated with the project are "highly sensitive to actual attendance and the number of events at the Event Center, local economic conditions when the Event Center opens, and other cyclical factors." With a slim margin of benefit and sensitive revenues, the likelihood of the City's General Fund running a deficit in any given year is significant.

The bottom line of this report is that an alternative agreement is expected to add to General Fund revenues between $3.6 and $7.4 million per year in present discounted value terms, or between $80 and $163 million over the first 20 years of arena operations. These figures can be thought of as the amount that San Franciscans are paying to bring the Warriors to town. It is the amount of revenues that the City would forgo with the GSW project, relative to a plausible alternative. This is not to say that the project is a bad idea, but merely to point out what is being given up in order to accommodate the Warriors' move.

Key Findings

1. A cash flow analysis of the arena through the first twenty years of operation suggests net revenues for San Francisco's General Fund of $22.1 million. This is after City expenses of approximately $159 million during this time for transit and traffic mitigation. (Both figures are in present discounted value.)
2. This $159 million of City spending in support of the Arena represents an implicit subsidy to the project. The City is funding transit infrastructure and the mitigation of traffic and transportation issues related to arena operations.
3. Despite claims to the contrary, the City is heavily subsidizing the Event Center.
4. Although the Arena generates significant revenues for San Francisco, the City's costs will exceed its revenues from the development for at least the first nine years of Arena operation, in the absence of financing.
5. There are elements of the estimates of City revenues that are filled with uncertainty. Numbers of spectators attending, taking mass transit, or parking, the general state of the economy. These all have implications for net revenues.
6. It is forecast that net revenues will be on the order of $1.5 million per year. The City's contribution to annual arena expenses is capped at 90% of estimated revenues. It is possible that revenues will not be sufficient to cover expenses.
7. If revenues are insufficient to cover expenses, the City's General Fund will be responsible for covering the resulting shortfall of $3.2 million.
8. If an alternative development, one suited to biotechnology, were pursued, the City's net General Fund revenues would be $80.2 million higher and possibly as much as $163.2 million higher over 22 years, or $7.4 million per year.
9. An alternative development would have considerably larger economic impacts for the rest of the San Francisco economy than would an arena, creating significantly more jobs —more than 2,000 on-site. Oracle Arena currently generates just 494 jobs.
10. An alternative development would generate as much as $1 billion in direct economic activity on-site.
11. Forgoing the biotechnology development and pursuing the Arena reduces net revenues to the City of San Francisco's General Fund by $3.6 to $7.4 million per year - and potentially much more.

1: Introduction

In 2017, the Golden State Warriors are expected to begin playing in San Francisco. Although this is an exciting development for the City of San Francisco, the economics of the Warriors presence in the City are unclear. There are likely to be significant revenue benefits for the City, but welcoming the Warriors will also involve significant infrastructure investments and ongoing expenses for the City and County of San Francisco. The net effects of these revenues and costs have not been adequately addressed.[1]

It is not clear whether San Francisco is importing a lucrative asset or a financial burden; that is, it is not clear whether the revenues associated with the Warriors play in San Francisco exceed the considerable upfront investments that the City must make. It is also an open question as to what exactly the City might be giving up in order to host the Warriors. The 12-acre parcel on which the arena is to be built is a valuable piece of real estate. In 2010, Salesforce paid $278 million for a 14-acre site that includes the property in question. The property, located as it is across the street from UCSF and near a variety of biotech companies, seems a likely candidate for a biotech friendly building.[2] Were this to happen, it would yield significant benefits for the City. Whether or not these financial benefits exceed those associated with the Warriors is the subject of this report.

The report proceeds to review the costs and benefits associated with the Warriors, as they have been made public. The focus of the report is on the City's General Fund. The General Fund receives the majority of the revenues associated with the project, and also bears the liability for any shortfalls. This is followed by an estimate of the likely benefits of a biotech development occupying the same space. The benefits of the GSW plan are then examined from a perspective of robustness, whether or not they are likely to come to pass.

This report provides a cash flow analysis of the GSW project's effect on the General Fund and compares that analysis with an alternative development that includes a biotechnology-oriented commercial structure in place of the arena. The GSW project is cash flow positive, but not until at least the *tenth* year of operations. Relative to the alternative development, even after 20 years of operating, the GSW project falls short in terms of net government revenues by at least $80 million, or $3.6 million per year over 22 years, but potentially by as much as $163 million, or $7.4 million per year over 22 years. The alternative brings about these revenues without the need for heavy subsidization on the part of the City in

[1] Accepting the team also results in a significant revenue hole for the City of Oakland in that most events that currently take place at Oracle Arena are projected to move to the new arena.

[2] Its neighbors would include UCSF, Celgene Corporation, National Multiple Sclerosis Society, venBio, Nurix, Clovis Oncology, FibroGen, and Illumina, among others.

the early years. From a purely financial perspective, the GSW project is a significant drain on the City's General Fund revenues potentially on its own, but certainly relative to what alternative developments might yield.[3]

2: Benefits and Costs of Hosting the Warriors

As with any economic activity, there are certainly financial benefits for the City of San Francisco associated with hosting the Warriors. A report has been produced for the City of San Francisco that provides a fiscal analysis of the GSW project.[4] Subsequently, the BLA produced estimates of the effects of the project on the City's General Fund. The General Fund is the primary recipient of revenues directly attributable to the project, and also bears the burden of liabilities. The BLA memo and this report both focus on revenues that are directly attributable to the project as well as those that originate on the site of the project. This is comparable to the assignment of obligations in the agreement between the City and the GSW as outlined in the ordinance establishing the Mission Bay Transportation Improvement Fund.

These benefits are derived from one-time revenues from the purchase of the land and subsequent construction and ongoing benefits associated with the events that the stadium hosts. The ongoing benefits also include revenues from commercial and retail activity built into the project.

– Benefits/Revenues

Table 1 provides a summary of an estimate of those benefits. Annually, stadium, retail, and office operations associated with the development are estimated to provide just over $11.6 million in revenues to the City of San Francisco's General Fund. Of these revenues, $9.8 million are a direct result of activities on the project site while $1.8 million are the result of City transportation use by those attending events at the Event Center.

[3]The methodology used in this report is comparable to the methods and assumptions used by EPS in producing its fiscal impact analysis of the GSW arena and used by the City's Budget and Legislative Analyst in its November 9, 2015 memo to the Board of Supervisors Budget and Finance Committee.

[4]Economic Planning Systems, *San Francisco Multi-Purpose Venue Project - Fiscal Impact Analysis: Revenues*, 9/25/15. (EPS)

Table 1. Summary of San Francisco General Fund Revenues from Ongoing Stadium Operations (Thousands of 2014 dollars)

Annual Project-Generated Revenues	General Fund Revenues
Revenues From on-Site Businesses	$9,804 (85%)
Revenues From Transit Fares and Parking	$1,773 (15%)
Total Annual Project-Generated Revenues	$11,577 (100%)

Source: San Francisco Budget and Leg. Analyst report for Nov. 9, 2015 Budget and Finance Committee Meeting.

Table 2 provides estimates of detailed categories of revenues directly associated with ongoing economic activity once the development is completed.[5] The largest categories of revenue include the stadium admission tax ($4.3 million), gross receipts taxes ($2.4 million), and property taxes ($1.8 million, including both general fund and in lieu of VLF). These three categories account for the vast majority of revenues ($9.8 million) associated with the development. Revenues associated with transportation to and from events at the Event Center add an additional $1.8 million, bringing the total to $11.6 million.

Table 2. Details of San Francisco Revenues from Ongoing Stadium Operations (2014 dollars)

Item	Amount
Annual General Revenue	
Property Tax (General Fund)	$912,000
Property Tax in Lieu of VLF	$868,000
Sales Tax	$521,000
Parking Tax	$482,000
Stadium Admission Tax	$4,336,000
Gross Receipts Tax	$2,431,000
Utility User Tax	$254,000
Subtotal	$9,804,000
Annual Transit Related Revenue	
Event Related Fares	$869,000
Event Related Parking	$904,000
Subtotal	$1,773,000
Total Ongoing Revenues	$11,577,000

Source: BLA Report, 11/9/15, Table 3

[5] Whether or not revenues associated with transit usage are appropriately labeled *direct*, it seems reasonable to include them in the analysis. Their exclusion, however, would eliminate the General Fund surplus that is forecast to result from the project.

As mentioned, there will also be one-time General Fund revenues associated with the construction of the arena and the accompanying office and retail space (Table 3). These benefits amount to just over $25.4 million, the vast majority of which is associated with the TIDF, or Transportation Impact Development Fee.[6] Another significant source of one-time revenue comes in the form of a Property Transfer Tax, $3.7 million. Sales taxes and gross receipts taxes collected during construction add another $5.4 million.

In its analysis, the City's Budget and Legislative Analyst's report indicates just $25.4 million.[7] This number appears to omit contributions for Child Care and to use an outdated figure for "Sales Taxes During Construction" of $1.7 million, rather than the $2.4 million figure included in the table, a practice with which we agree.[8]

Table 3. Summary of One-Time Revenues from Stadium Construction (2014 dollars)

Item	Difference
City Fees (per gross building sq. ft.)	
Transit Impact Development Fee	$17,436,000
Other One-Time Revenues	
Transfer Tax and Construction Gross Receipts and Sales Taxes	$7,956,000
Total One-Time Revenues	$25,392,000

Source: BLA Report, 11/9/15, Table 2

– Costs

As with the benefits, there are also one-time and ongoing costs. The one-time costs are primarily those associated with enhancing transportation infrastructure and amount to $55.3 million.[9] These costs include transit investments (the purchase of light rail vehicles), the installation of crossovers, the construction of a new center boarding platform, power aug-

[6] `http://www.sf-planning.org/ftp/files/legislative_changes/new_code_summaries/120523_TIDF_Transportation_Impact_Development_Fee_Update.pdf` Medical and Health Services, and Retail/Entertainment economic activity categories was increased to $13.30 per square foot, except that the rate for museums, a subcategory of CIE, are $11.05 per square foot, a reduction from the current amount. The rate for the Management, Information and Professional Services (MIPS) and Visitor Services economic activity categories was increased to $12.64 per square foot, and the rate for the Production/Distribution/Repair (PDR) category was reduced to $6.80 per square foot.

[7] November 9, 2015 Budget and Finance Committee Meeting memo.

[8] There is a difference of $200 thousand between the BLA's figure and ours, but we defer to the BLA.

[9] One-time costs are from SFMTA, **Capital and Operating Cost Estimates for the Event Center and Mixed Use Development at Mission Bay Blocks 29-32**, 10/6/2015. Estimates are in 2014 dollars.

ments to idling event trains, traffic/signals engineering investments, and a Mariposa Street restriping study.

These expenses are spread out over a four-year period, with the vast majority of expenses occurring in the 2016-17 MTA fiscal year. A major expenditure on light rail vehicles is slated to take place in the 2017-18 FY, when the Event Center begins operating. The costs to MTA are heavily loaded in the early years of the project, before ongoing revenues have begun. Estimated one-time revenues will be available during this time to cover expenses, but they will fall short of the total by $29.9 million.[10] This difference will be borrowed and paid back over time.

Table 4 provides the details of the City's estimates of ongoing expenses related to the operation of the Event Center. In the BLA's November report, estimated annual ongoing costs associated with operations at the Event Center amount to $10.1 million.[11] The vast majority, $6.9 million, are associated transit costs. Other expenses include nearly $1 million in additional policing, and $100 thousand in expenses incurred by DPW. Given that the infrastructure expense shortfall is likely to be financed, the BLA's estimate of debt service payments, $2.1 million, is also included.

Table 4. Ongoing Costs of the Arena (millions of 2014 dollars)

Agency	5/18 Estimates	10/6 Revisions	11/9 Revisions
City Operating Costs			
SFMTA	$5.5	$5.1	$6.9
SFPD	$0.9	$0.9	$1.0
DPW	$0.2	$0.2	$0.1
Sub-Total	$6.6	$6.2	$8.0
Payments for Capital Improvements			$2.1
Total	$6.6	$6.2	$10.1

Source: Golden State Warriors Arena: Event Management OCII Commission Presentation, May 18, 2015, and MTA, October 6, 2015. Nov. 6, 2015 from Budget and Legislative Analyst report.

– Net Benefits

The project comes with considerable costs and benefits. Both upfront net costs and ongoing net revenues are considerable. The benefits presented here are significantly less than

[10] This figure is the difference between $55.3 million, the total estimated capital uses estimate allocated to the project, and the total one-time revenues from the Budget and Legislative Analysts' report ($25.4).

[11] City Operating Costs in the first two columns are net of revenues from fares and parking from riders going to events at the arena. These revenues amount to approximately $1.8 million, split roughly evenly between the two sources. They are included in the final column because we support the notion of making both revenues and expenditures clear.

those discussed elsewhere. This is because the analysis here is limited to the direct benefits associated with the project and omits revenues accruing to dedicated and protected accounts. It is our view that the initial fiscal impact study inappropriately included those extra revenues. Their inclusion not only projects a false impression of the overall benefit of the project, but fails to highlight the budget obligations that befall the City's General Fund should costs rise or revenues fall short.

Table 5 summarizes the net benefits associated with the project in terms of net contributions to the City's General Fund. The table illustrates the $29.9 million hole that the project introduces into the General Fund. It also illustrates how slowly that hole would be filled. Although a surplus of $1.5 million is projected in each year, that includes debt servicing. Without the debt servicing, the surplus would be $3.6 million, which would still take in excess of eight years to fill the hole.

Table 5. Net Benefits of GSW Event Center Project (Millions of 2014 dollars)

	Benefits	Costs	Net Benefits
One-Time	$25.4	$55.3	−$29.9
Ongoing	$11.6	$10.1	$1.5

Source: Calculations by Marin Economic Consulting.

It is important to note that the annual surplus is just $1.5 million, or 13% of projected General Fund revenues. This is a relatively slim margin. Should one-fourth of the projected spectators fail to materialize, the surplus is likely to evaporate. If spectators fail to materialize, the revenues associated with the project (stadium admissions taxes and transit fares and parking, in particular) decline accordingly. However, the costs associated with managing the events do not. Should the number of events be lower, costs would then also decline.

It is also important to note that any last minute concessions by the City in terms of the Stadium Admissions Tax could eliminate the surplus in its entirety rendering a discussion of inaccuracies in spectator forecasts or economic activity unnecessary with regard to whether or not the General Fund is likely to be in surplus or deficit. The Giants currently enjoy a reduced stadium admissions tax that should the Warriors be granted a similar concession would turn the small surplus into a deficit.

A Cash Flow Analysis

In order to assess the rate at which the hole would be filled, a cash flow analysis is required. It is our view that the original EPS report was incomplete in not considering the implications of the project over time. It failed to provide a comparison of overall costs and benefits associated with the GSW project. The reviewer, Keyser Marston Associates, appeared to agree with the EPS approach, saying that a "cash flow approach is appropriate to evaluate a multi-phase project, which does not apply to this project." We respectfully disagree. There are two stages to this project: first, the one-time infrastructure investments and revenue implications of construction and parcel purchase, and second, the ongoing costs and revenues. The project's benefits to the City come inherently in two stages. If both stages yielded a net benefit, the need for a cash flow approach would not be nearly as acute. As the first stage is significantly negative, the overall net benefits must be evaluated over time in order to properly evaluate the project.

This has not been publicly done. Here, we consider a 20-year period following the construction of the Event Center. Given that many of these revenues accrue many years in the future, it is necessary to discount them to today's dollars. The bottom line is the present discounted value of the net stream of revenues to the City of San Francisco.

Assumptions crucial to the present value discount calculation:

1. Discount Rate: 4.5%
2. Rate of inflation: 2.5% (2% for property taxes, as per Proposition 13)

Table 6 provides an estimate of the present discounted value of net revenues to the City of San Francisco, using estimates from the EPS report of September 25, 2015 and from documents from the City of San Francisco. Once the facility has been operating for 20 years, net present discounted revenues are expected to be on the order of $22.1 million, or approximately $1 million per year over a 22-year period including two years of construction and 20 years of operation.[12] This estimate includes the upfront expenses incurred by the City as well as the ongoing expenses associated with event traffic mitigation.

Table 6. Net Benefits of GSW Event Center Project over 22 years (Millions of Present Discounted 2014 dollars)

	Benefits	Costs	Net Benefits
One-Time	$25.4	$55.3	−$29.9
Financed			$29.9
Ongoing	$181.4	$159.4	$22.1
Total	$206.8	$214.7	$22.1

Source: Calculations by Marin Economic Consulting.

[12] This differs from the $1.5 million per year surplus in the Budget Analyst's report because the values are presented in discounted value terms.

The project pencils out as estimated, but with a net benefit over two decades that is unimpressive. Additionally, this calculus begs two important questions:

1. This is a 12-acre plot of land in the middle of a biotechnology hub. Are there better uses for this land from a revenue perspective?
2. Estimating the costs associated with event management is a more certain endeavor than estimating the benefits. How certain is it that the benefits will materialize?

For a project of this magnitude, it is vitally important to evaluate the potential for plausible alternatives to provide more benefits than the project in question. It is also important to consider robustness tests for the revenues in question. Neither of these issues has been publicly addressed. This report will present plausible revenues associated with an alternative development, a space designed with biotech in mind, and will discuss weak points in the revenue estimates presented above.

3: On the Economics of Biotech as an Alternative

When evaluating the benefits of an economic endeavor, an exploration of alternatives is vital to understanding the full implications of an investment. Suppose that instead of building a 750,000-square-foot arena, the amount of commercial space on the property were doubled. In this section, we consider such an investment following as closely as possible the assumptions contained in the EPS estimate of revenues associated with the GSW project.

Important assumptions associated with this analysis include:[13]

1. Instead of a 750,000-square-foot arena, a commercial facility is constructed that provides 522,000 square feet of space. This constitutes an exact doubling of the commercial space in the GSW plan. This alternative development is otherwise comparable to the Warriors plan, including the original commercial, retail, and parking structures.
2. The space is designed with biotechnology in mind, which brings with it significant laboratory space. As such, it has a relatively high amount of space per worker associated with it: 250 square feet per employee.[14]

[13] It was previously assumed that a commercial facility would have ancillary benefits in terms of indirect and induced economic activity in San Francisco. Consistent with the BLA memo, we have omitted these benefits from the analysis.

[14] This is an extremely conservative assumption. Some estimates suggest that a ratio of 150 to 11 is possible. This would considerably increase employment and hence output at the site, increasing the resulting income to both City residents and City coffers.

3. The transaction price for the land is $150 million.[15]
4. It is assumed that just two-thirds of the biotech revenues generated onsite are subject to gross receipts taxation in San Francisco.[16]

With the addition of these assumptions, an exercise similar to that undertaken by EPS is performed for the new development. The new development includes the same retail revenues and costs, the same parking revenues, and essentially double the revenues associated with commercial development. Doubling the office space and maintaining other assets leads to an assessed value of at least $605.5 million. This is considerably less than the project's assessed value with an arena.

Support for the notion that this construction is feasible comes not only from the 750,000-square-foot arena that the buildings will be replacing, but also from a similar planned development. UCSF was planning to build 500,000 square feet on four acres of blocks 33-34, right next to the site.[17] A new building of the size being considered is clearly feasible on the space currently to be occupied by the arena.

Table 7 presents a comparison of the one-time revenues and expenditures associated with the Event Center versus doubling the commercial space on the 12-acre property. While the Event Center brings with it a need for considerable infrastructure to accommodate the development, it is not clear that a doubling of the commercial space does. Accordingly, the Event Center brings with it a net upfront cost of $38.5 million, relative to a commercial facility in place of the Center.

Although capital expenditures related to the Event Center are significantly higher than the revenues brought in through the TIDF, such is not expected to be the case for additional commercial space. The TIDF was put in place with developments such as this alternative in mind. Therefore, the transit costs associated with the development are better approximated using the TIDF taxation formula. The TIDF collected from the hypothetical alternative development (including the commercial, retail and parking in the GSW project) will serve as our estimate of related transit costs, $10,901.

In the analysis above, the sales price for the property on which the event center and accompanying commercial and retail structures will be built is $150 million. Property transfer tax would result regardless of the purchaser and the end use, but conceivably at a higher price.

[15]The actual transaction price has been announced as $150 million. San Francisco Times, **Warriors buy Mission Bay arena site from Salesforce**, 10/13/2015. This will result in differences in the values presented here and in the EPS report.

[16]There are several avenues through which revenues may be exempt from gross receipts taxes in San Francisco. This analysis is extremely conservative in assuming that this is more likely the case for biotechnology firms (perhaps because of significant revenues accruing through pass-through companies) than for firms in other industries.

[17]**UCSF, Salesforce in talks for S.F. Mission Bay land deal**, SFGate, March 15, 2014.

Table 7. Summary of One-Time Revenues from Development
(Thousands of 2014 Dollars)

Category	Biotech	GSW Arena	Difference
Property Transfer Tax	3,651	3,651	0
City Fees - TIDF	10,902	17,436	-6,534
Construction			
- Sales Taxes	1,617	1,352	-265
- Gross Receipts Taxes	2,028	2,953	-925
Total	19,461	25,392	-5,931
One-Time Expenses Associated with Development			
Infrastructure Improvements	10,901	55,308	-44,407
Net One-Time Revenues Associated with Development			
Immediate Net Revenue Impact	8,560	-29,916	38,476

Source: BLA Report (11/9/15) and calculations by Marin Economic Consulting.

Salesforce originally paid $278 million dollars for 14 acres (including the space in question) in 2010. The actual sales price was $150 million for 12 acres. The plot of land in question represents the majority of the plot originally purchased by Salesforce, and is the largest single contiguous piece. Property values have also increased substantially since the original purchase by Salesforce.[18] It seems likely then that the value of the land would have increased significantly over the last five years as San Francisco is currently starved for commercial real estate. In the end, the price that the Warriors have paid for the land is surprisingly low. It represents the bulk of a property that was valued at $278 million in 2010 and market values have only increased in the intervening years. Therefore, the actual market value of the land may well be higher than the price the Warriors have been offered and have paid, with correspondingly higher transfer taxes resulting from some alternative development.

Table 8 provides an analysis of the annual City revenues and expenses that can be attributed to each of the projects.[19] The first column is for the alternative development which targets the biotechnology industry.[20] The second column reflects estimates regarding the current Golden State Warriors project, and the final column presents the difference in expected revenue between the two.

[18] **Salesforce.com Is Said to Plan Sale of San Francisco Land**, Bloomberg Business, March 11, 2014.

[19] This alternative is chosen because it will allow the use of most of the EPS parameters and assumptions in producing annual revenues for the alternative project. See the Appendix to the first version of this report for a comparison of calculations between this project and the EPS report.

[20] The City seems to have performed its own analysis of a 100% commercial alternative. This can be found on page 1 of **Warriors Handout Sierra Club 11.17.15.pdf**. The estimates presented here are somewhat higher, in particular for sales taxes. This is in part because they eliminated retail in their estimates. Overall, the estimate here is just $737 thousand more than in the City's estimates.

Table 8. Summary of Annual Revenues and Expenses (in Thousands of 2014 Dollars)

Category	Biotech	GSW Arena	Difference
Annual Direct General Revenue			
Property Tax (General Fund)	$603	$912	-$309
Property Tax in Lieu of VLF	$570	$868	-$298
Sales Tax	$253	$521	-$268
Parking Tax	$243	$482	-$239
Stadium Admission Tax	$0	$4,336	-$4,336
Gross Receipts Tax	$4,078	$2,431	$1,647
Utility User Tax	$249	$254	-$5
Transit Related	$0	$1,773	-$1,773
Total Annual Revenues	$5,996	$11,577	-$5,581
Annual Development-Related Expenses			
SFMTA	$0	$6,912	-$6,912
SFPD	$0	$952	-$952
DPW	$0	$95	-$95
Debt Service	$0	$2,123	-$2,123
Total Annual Expenses	$0	$10,082	-$10,082
Annual Net Revenues	$5,996	$1,495	$4,501

Source: BLA Report and calculations by Marin Economic Consulting.

In most categories, the annual revenues are greater for the Event Center than for a development with additional commercial space. The exception is in the Gross Receipts Taxes, where a biotech firm occupies the additional commercial space. Taken as a whole, annual revenues from a purely commercial development are $5.6 million less than for the project under consideration. Accounting for expenses related to the different projects, the commercial development results in $4.5 million more in General Fund revenues annually than would the arena (last line of Table 8). From a net revenue perspective, a commercial development clearly dominates the construction of the Event Center.

As discussed above, merely calculating the one-time costs and an estimate of the ongoing revenue is insufficient. Were it sufficient, a commercial project focused on biotech would clearly dominate the current project. Table 9 provides an evaluation of the 22-year net benefits of an alternative development with space devoted to biotechnology comparable to the evaluation for the current project.[21]

According to these calculations, an alternative development would provide an extra $80.2 million in revenues for the City of San Francisco (as in Table 10). Net present discounted

[21] Net one-time benefits for the GSW project are zero, which follows the assumption that the deficit brought on by infrastructure developments will be financed. The debt service payments are incorporated in the ongoing net benefits line.

Table 9. Net Benefits of Alternative Developments after 22 Years
(Millions of Present Discounted 2014 Dollars)

	Biotechnology		Net Benefits		
	Benefits	Costs	Biotech	GSW	Difference
One-Time	$19.5	$10.9	$8.6	$0.0	$8.6
Ongoing	$93.7	$0.0	$93.7	$22.1	$71.7
Total	$113.2	$10.9	$102.3	$22.1	$80.2

Source: Calculations by Marin Economic Consulting

revenues for the project with an Event Center are $22.1 million, while a project with commercial space devoted to attracting biotechnology firms has a discounted value of net revenues expected to be $102.3 million, a difference of $80.2 million dollars, or an additional $3.6 million each year on average over the 22 years.

From a cash flow perspective, there is a deep hole early on with the Event Center. The first three columns of Table 10 present annual present discounted flows of revenues into San Francisco City coffers. The second set of three columns provide a cash flow, or cumulative contribution to City coffers. The final column indicates the annual cash flow position of the City were it to cover the deficit without financing. Several things are immediately apparent from the table:

1. The Event Center puts an enormous hole in the City's budget in the first year (row 1, last column).
2. It will take *ten* years of operation of the Event Center to dig the City out of the hole (last column).
3. Substituting a commercial development is cash flow positive in the first year (row 3, column 4).
4. Although the gap in annual discounted net revenue closes over time, it remains significant even in year 20 (last row, column 4).
5. In year 20 of Event Center operations, there remains a surplus of revenue in the amount of $80.2 million for the biotechnology development (last row, column 7), which continues to grow in subsequent years.

A final issue that differentiates a biotechnology-centric development over an arena is one of economic impact. It is clear from the economics literature that sports stadiums and arenas provide little economic boost to the local economy. At the same time, it is clear that these facilities are responsible for generating some local economic activity. The failure to

Table 10. Stream of Net Revenues over Time
(Thousands of 2014 Discounted Dollars)

	Annual			Cumulative			GSW Balance
Year	Biotech	GSW	Difference	Biotech	GSW	Difference	w/o Financing
One-Time Net Revenues:							
2016	$8,559	$0	$8,560	$8,559	$0	$8,560	-$29,908
Start of On-Going Revenues:							
2017	$5,642	$1,386	$4,256	$14,201	$1,386	$12,815	-$26,519
2018	$5,529	$1,352	$4,177	$19,730	$2,738	$16,993	-$23,202
2019	$5,418	$1,318	$4,100	$25,148	$4,056	$21,092	-$19,956
2020	$5,309	$1,286	$4,024	$30,458	$5,342	$25,116	-$16,780
2021	$5,203	$1,254	$3,949	$35,660	$6,595	$29,065	-$13,672
2022	$5,099	$1,222	$3,876	$40,759	$7,817	$32,942	-$10,631
2023	$4,996	$1,192	$3,804	$45,755	$9,009	$36,746	-$7,655
2024	$4,896	$1,162	$3,734	$50,652	$10,172	$40,480	-$4,742
2025	$4,798	$1,133	$3,665	$55,450	$11,305	$44,145	-$1,893
2026	$4,702	$1,105	$3,597	$60,152	$12,410	$47,742	$896
2027	$4,608	$1,078	$3,530	$64,760	$13,488	$51,272	$3,625
2028	$4,516	$1,051	$3,465	$69,275	$14,539	$54,737	$6,296
2029	$4,425	$1,025	$3,400	$73,700	$15,563	$58,137	$8,909
2030	$4,336	$999	$3,337	$78,037	$16,562	$61,474	$11,466
2031	$4,250	$974	$3,276	$82,286	$17,536	$64,750	$13,969
2032	$4,165	$950	$3,215	$86,451	$18,486	$67,965	$16,418
2033	$4,081	$926	$3,155	$90,532	$19,412	$71,120	$18,815
2034	$4,000	$903	$3,097	$94,532	$20,315	$74,216	$21,161
2035	$3,920	$881	$3,039	$98,452	$21,196	$77,256	$23,456
Year 20 of Event Center operation:							
2036	$3,841	$859	$2,983	$102,293	$22,055	$80,238	$25,702

Source: Marin Economic Consulting

add to a region's economy is because they tend to displace other entertainment purchases from the broader economy rather than to stimulate new spending. An individual may go to a basketball game instead of to a play, opera, symphony, or rock concert. These facilities are therefore not additive to the economy.

Nonetheless, it has been estimated that economic activity associated with Oracle Arena accounts for $44.9 million in economic Activity and 494 jobs in Alameda County.[22] It seems likely that the impact of the new arena will be of a similar magnitude.

By comparison, a 522,000 square foot biotechnology facility, with a ratio of space to employee of 250 to 1 can accommodate more than 2,000 employees. That represents four times more employment for biotechnology than for the Event Center It is also consistent

[22]Memo to Patrick Soluri, Attorney at Law, from Philip King, Ph.D., regarding Urban Decay Analysis of Proposed Relocation of Golden State Warriors from Oakland to San Francisco, page 9.

with an estimate of economic output on the order of $1 billion, an order of magnitude higher than for the Arena. Accordingly, the biotechnology development can serve as a much more significant engine of economic growth for the region than can the new event center.

4: Questioning the Benefits and Costs of the GSW Project

There are few guarantees with economic endeavors. Assuming that the conditions that exist today will exist tomorrow, the day after that, or 20 years from now is of dubious merit. Conditions change. The level of success of a basketball team ebbs and flows (though hopefully not for the Warriors), the economy grows and shrinks, and modes of transportation change.

This certainly holds true for the construction of an arena. While it is quite likely that the Warriors will play at the arena for the foreseeable future and experience a high level of success for some time, it is not certain that the estimated revenues will materialize. As a case in point, the EPS study assumes a sales price for the land of $172,546,000. The actual sales price was $150,000,000. That represents a reduction in sales price of 13%, with a corresponding reduction in revenues that are tied to the sales price: transfer taxes and ongoing property taxes. Although the long-term implications of a decline in ongoing property taxes is likely small, the transfer tax is reduced from $4.2 million to $3.65 million, a reduction in one-time revenues of $549,000. Granted, this is just one percent of the one-time transit costs associated with the project, but it is more than half a million dollars no longer available for other city needs.

Of the sources of General Fund revenue, only two are relatively secure. Property taxes and utility user taxes are both likely to materialize in the projected amounts, securing only about $2 million out of $11.5. The gross receipts taxes are highly dependent on the occupants of the commercial facilities and all of the other sources are dependent on numbers of and the behavior of event attendees.

Most important assumptions regarding both revenues and costs surround the number of event attendees and their mode of transportation. If they drive, walk, or ride bikes more often than is anticipated, transit revenues will fall. If ride sharing or autonomous vehicles take over, parking revenue will fall. If attendees fail to materialize, then both revenues from transit and other sources will fall. Whether or not costs do is an open question. Costs are related to numbers of events, so if there are fewer events, costs may also fall.

The City also has a history of relaxing stadium admissions taxes. From the general City code, tickets to Giants games are granted an exemption. Whereas most tickets to a Giants game would be subject to a stadium admissions tax of $1.50, they are currently taxed at $0.25 per ticket. Were such an exemption to be granted to the Warriors, General Fund revenues would decline by $2 each, or approximately $1.5 million. Such an act would wipe out the General Fund surplus. Were the exception granted to all events at the Event Center, that would reduce revenues by $3.6 million.

The point of this discussion is that estimated revenues are suspect, while estimated costs are much more likely accurate. Fixed investments, in particular, are known and not subject to market whims. However in this case, there are unknowns lurking in the cost estimates. It is likely that the revenue implications are biased high, resulting in uncertainty over their future stream with more downside risk than upside. It is already the case that actual one-time revenues have turned out to be less than anticipated (such as the transfer tax, which was lower by $549,000). Clearly, there is great uncertainty in almost all of these estimates.

5: Some Sensitivity Analysis

The revenue estimates relating to the GSW project and the revenue estimates relating to a biotechnology center are both uncertain. It is therefore worthwhile to experiment with basic assumptions to better understand the implications for City revenues. Table 11 offers some evidence for the implications of particular assumptions. We provide three separate alternatives that relax in different ways the assumptions inherent in the baseline analysis. The top line of the table presents the baseline results of the analysis, the estimates of present discounted net revenues accruing to the City (corresponding to the last row in Table 8). In the case of the biotechnology development net present discounted revenues are $102.3 million whereas they are just $22.1 million for the GSW project, a difference of $80.2 million.

The first alternative assumes a greater density of employment in the new commercial facility, leaving the existing commercial plans constant. If there are 200 square feet per employee, rather than 250, revenues associated with the new facility increase by more than $8.2 million relative to the baseline. This increase in revenue stems largely from an increase in the output produced by the building's occupants, resulting in increased gross receipts tax revenues. Further reducing the space per employee will have correspondingly larger increases in revenues.

A second alternative assumes a larger facility is constructed, with 722,000 square feet of space rather than 522,000 square feet of space. This increases the number of employees

Table 11. Summary of Net Present Discounted Value Associated with Alternatives (22 Years, 2015-2036) Comparing the Multi-Purpose Venue with a Biotechnology Center (Millions)

Item	Biotech	GSW	Difference	
			Over 22 Years	Per Year
Baseline	\$102.3	\$22.1	\$80.2	\$3.6
Alternative 1	\$110.6	\$22.1	\$88.4	\$4.0
- Area to employee ratio for Biotech of 200/1		*Over Baseline*:	\$8.2	
Alternative 2	\$116.5	\$22.1	\$94.3	\$4.3
- Add 200,000 sq ft to New Commercial Space		*Over Baseline*:	\$14.0	
Alternative 3 (Extreme)	\$185.3	\$22.1	\$163.2	\$7.4
- Area to employee ratio for Biotech of 150/1		*Over Baseline*:	\$83.0	
- 100% of Biotech revenues are subject to GRT				
- Add 200,000 sq ft to New Commercial Space				

Source: Marin Economic Consulting

working in the space by nearly 40%, maintaining the assumption of 250 square feet per employee. With greater space comes increased employment and increased output. Accordingly, revenues are estimated to increase by \$14.0 million with an expanded space. Under this scenario, the net discounted value of City revenues increases by \$94.3 million relative to the GSW project. Even larger spaces would have a correspondingly larger impact on City revenues.

Finally, an extreme alternative is offered. Alternative 4 allows for a 150 to 1 ratio of square feet to employees, assumes that all of the revenues accruing to the biotech occupants are subject to the GRT, and involves a building with 722,000 square feet. Under this alternative, City revenues increase by \$83.0 million relative to the baseline, with biotechnology revenues exceeding GSW revenues by \$163.2 million over 22 years and \$7.4 million per year.

These alternatives are not put forward to suggest that there is \$163.2 million being left on the table (though there may be), but rather to illustrate the range of differences that underlying assumptions can make. At the same time, even the extreme alternative is plausible.

6: Re-Evaluating the Net Benefits of Hosting the Warriors

There are two fundamental points made in this report:

1. Estimates of costs and revenues are highly speculative, and the evidence suggests that there is more downside risk to the GSW project than upside.
2. There is significant revenue that is forgone by the City in order to bring the Warriors to town.

Both of these points raise significant questions about the Warriors arena project from a financial perspective. First, how comfortable are taxpayers in their understanding of the implications of this development? Second, is this the right development?

The respective answers are "not very" and "quite possibly no." There is uncertainty in the information available and replacing the Event Center in the project with additional commercial space has the potential to increase City revenues significantly.

Another way of thinking about the differences in revenues between the GSW project and a biotechnology development is that these differences reflect the price the City is paying in order to bring the Warriors to town. There are certainly other more tangible costs, but these costs are also real.

The above analysis indicates that even with relatively conservative assumptions, in particular those regarding employment in the new development and the size of the new development, a biotechnology center would increase City revenues significantly relative to the Event Center. Under the baseline scenario, the difference is $80.2 million over 22 years. Under the most extreme, yet plausible, scenario presented, an additional $163 million could be raised over the 22-year period. This analysis suggests that the citizens of San Francisco, through lower levels of revenue in the City's General Fund, are paying between $3.6 and $7.4 million per year to host the Warriors.

Every economic development represents a choice. That choice is between the proposed development and plausible alternatives. The City has chosen to pursue a basketball team without exploring or disclosing the relative merits of the project compared with plausible alternatives. This report is not designed to condemn the choice, but rather to better inform the debate on the implications of this choice.

Aside from foregone revenue, it is quite possible that the GSW project could require additional General Fund expenditures. The ordinance establishing the Mission Bay Transportation Improvement Fund spells out shares of GSW revenues that are to be spent on transportation, including a cap of 90% of estimated revenues directly associated with the project. This would appear to guarantee that the General Fund will be increased by at least 10% of revenues from the project. The ordinance has even been amended to indicate that if SFMTA's expenses exceed the revenues from the Warriors project, "□ [I]f the revenue cap is insufficient to cover SFMTA□ s expenditures for transportation services to the Warriors Project, then the Warriors will be responsible to provide additional transportation services to comply with EIR mitigation measures TR-2b and TR-18.□ (Nov. 9 staff report, p. 10). It is not clear the extent to which this language obligates GSW to do anything other than work with the City to pursue one or more of a list of strategies. This language is not necessarily strong enough to ensure that future shortfalls will not occur.

This provision appears to be a guarantee that the General Fund will at worst be left whole. However, this amendment applies only to the SFMTA expenditures. There are other expenditures, including police, DPW, and debt servicing that are not covered by this amendment. If it does happen that SFMTA's expenses exceed revenues from the Warriors project, the City's General Fund will still be responsible for these expenses, which amount to $3.2 million. In a year where SFMTA expenses are high and revenues are low, the existence of the Event Center will result in the balance of the General Fund being reduced by $3.2 million, with correspondingly fewer general services provided by the City to its residents.

> **Important note:** If it is ever the case that revenues are less than SFMTA expenses, it will necessarily be the case that the General Fund will run a deficit of between $2.1 and $3.2 million. The requirement that the Warriors provide transit services in this case does *nothing* to cover these other Event Center related obligations.[23]

In the ordinance, the City has also made a commitment to ameliorate any remaining congestion issues related to the functioning of the hospital at UCSF. Remaining congestion issues and any sense of their cost are significant unknowns. Should they be significant, this would represent another financial obligation of the City's General Fund.

There has also been language used that indicates that there is no public subsidy of the Arena. In announcing the deal, Warriors COO Rick Welts said:

> "We're the only sports team in America doing this all w/ private funds, on private land, with *no public subsidy*." (Italics added.)

This is simply not true. Any economic activity coming to the City will generate revenues. Some of these revenues, from the TIDF, for instance, are expected to support the activity. The remaining revenues are expected to supplement the services provided by the City to its residents. In the case of the GSW project, $25.4 million in one-time revenues and $10.1 million in revenues in each subsequent year will be spent to facilitate the Event Center. These funds represent a clear and present public subsidy of the project.

[23] Confirmed with the Budget and Legislative Analyst's office, 11/24/15.