

Increasing the Jobs-Housing Linkage Fee: Economic Impact Report



CITY & COUNTY OF SAN FRANCISCO

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- The proposed legislation would raise the City's Jobs-Housing Linkage Fee (JHLF) for newly-constructed office and laboratory space.
- The City assesses the JHLF on new non-residential development; the fee revenue is dedicated to affordable housing programs.
- A nexus study supporting the fee, which first prepared in 1997, was updated in May, 2019. The maximum fee supported by the nexus rose as a result of the updated study, and the proposed legislation has been introduced as a consequence.
- The current version of the proposed legislation would raise the fee for new offices from \$28.57 to \$69.60 per gross square foot. For new laboratory space, the fee would rise from \$19.04 to \$46.43.
- The legislation has the potential to raise substantial new revenues for affordable housing, while also increasing development costs in a way that could threaten future employment growth. Consequently, the Office of Economic Analysis (OEA) has prepared this economic impact report.

- Two existing studies have examined the potential impact of the proposed legislation: a nexus study prepared by Keyser Marston Associates,¹ and a feasibility study prepared by Economic and Planning Systems Inc. (EPS).²
- The JHLF is a development impact fee which, under California law, must be rationally-related to a negative consequence of new development. A nexus study is required in order to demonstrate that the fee charged to a project does not exceed the magnitude of the problem caused by the development.
- While most impact fees seek to fund expansions to public infrastructure, in order to maintain an existing level-of-service of that infrastructure, the JHLF nexus study is based on a perceived problem in the housing market that is believed to be created by employment growth in the city.
- The study estimated the number of low- and moderate-income worker households working in new commercial space of various types. A per-square-foot charge, for each type of non-commercial development, is obtained after multiplying the household numbers by the City's average cost of producing a permanently-affordable housing unit.

The Nexus Study (Continued)

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- Thus, the nexus study aims to estimate the fee that would be necessary to fully mitigate the impact of different types of commercial development on affordable housing, at a "level-of-service" at which each new low/moderate income worker household would occupy a permanently-affordable housing unit within San Francisco.
- The nexus study is not an economic impact report. It does not address any other ways in which non-residential development affects the city's economy, such as its effect on the employment or income of city residents.

The Feasibility Study

- The nexus study is also not concerned with the question of whether an increase to the JHLF will reduce the fiscal feasibility of new development, or the broader economic implications of that risk.
- To address this issue, the Office of Economic and Workforce Development published a feasibility study that assessed the impact of a \$10 per square-foot increase in the JHLF, which was the level of increase proposed in the initial version of this legislation.
- After preparing sample pro-forma models for six different office projects in areas where new development is planned, the feasibility study found that office development is currently infeasible, even without the proposed fee increase.
- It concluded, however, that “once market conditions improve sufficiently to support the feasibility of office development, the analysis suggests that some modest level of fee increase may be viable.”³
- The “market conditions” referred to involve a 25% decrease in the land costs a developer would face, and a 13% increase in the rents tenants would be willing to pay. The study does not discuss whether or when such a change in market conditions might occur.

The Office Development Model

- It is unclear, from the feasibility study, when and if market conditions can change to make the current \$40/sf proposed fee increase for office development viable.
- Because the issue of how the fee increases will affect future development and employment growth is of central importance to its economic impact, a different analytical approach is necessary for this report.
- The OEA worked with the Blue Sky Consulting Group to develop a model that would estimate how sensitive office development in the city is to changes in development costs, such as a fee increase.
- The model, which incorporates information on most parcels in the city⁴, and office permitting activity since 2001, is similar to ones built by the OEA and Blue Sky to study the impact of fee increases on housing production in the city⁵. Full details on the model are provided in the Appendix.
- Using the model, we can estimate how office development, and employment, across the city may change as a result of the fee increase. It can also estimate how JHLF revenue may change.

- The proposed legislation is expected to affect the local economy in two major ways:
 1. The proposed fee increase will raise the development cost of office and laboratory space and as a result some projects may become financially infeasible. As a result of that, the city would have less development, less space for workers, and less overall employment on an ongoing basis. To the extent development is curtailed because of the higher fee, one-time construction spending on office and laboratory space would decline as well.
 2. The fee increase should increase funding for affordable housing in the city. Depending on how this funding is used, it could increase construction and rehabilitation spending, and/or increase consumer spending, to the extent the revenue is used to make existing housing more affordable for low- and moderate-income households, and freeing up their income to be spent elsewhere in the local economy.
- The net economic impact will depend upon the relative size of these two impact factors.

Estimating the Impact on Office Development

- The model described earlier was used to estimate the sensitivity of office development to changes in the JHLF. Because there is much less laboratory space in the city, the proposed legislation's impact on laboratories is not considered in this report.
- The model found a statistically-significant negative relationship between building construction costs⁶, and the likelihood of a building permit for new office construction being issued for a given parcel in a given year.
- Based on estimates of San Francisco office development costs published by Turner & Townsend of \$625/sf, and the EPS feasibility study average of \$717/sf, we calculated the proposed fee increase as equivalent to a 6% increase in non-land development costs⁷.
- The model projects that a 6% increase in development costs would lead to a 0.2% decline in overall office space in the city, equivalent to a reduction of 125,000 – 140,000 square feet per year, on average.
- Because office development is highly sensitive to the business cycle, the impact could be higher or lower in any particular year.

- To obtain an estimate of office employment lost due to office construction that is made infeasible by the fee increase, this study uses the employment density figure that is used in the updated nexus study, which is 238 square feet of office space per employee.
- An average annual loss of 125,000 to 140,000 square feet of office space would lead to a loss of 520 to 585 office jobs, at that employment density.
- To estimate the impact of the loss of feasibility on office construction, we used the same construction spending range of \$625 to \$717 per gross square foot, from the Turner & Townsend and EPS sources. The annual decline in office construction spending is estimated at \$61 million - \$87 million per year.

Impact on JHLF Revenue

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- Despite the decline in office development, the increase in the fee is projected to lead to a \$8 million - \$9 million increase in fee revenue, as shown in the table below. The model's projects, as a baseline, an average of 430,000 sf of new office per year, under condition. With the higher fee, that would fall to 290,000 – 305,000.

Inputs	Baseline	Under Proposed Legislation	Difference
Annual New Office Development (sf)	430,000	290,000-305,000	125,000 – 140,000
Applicable JHLF	\$28.57	\$69.60	\$41.23
JHLF Revenue (\$M)	\$12.3	\$20.2 - \$21.2	\$8 - \$9

- The legislation directs that 10% of the fee's revenues are to be devoted to the acquisition and rehabilitation, and another 30% to the development of permanent supportive housing. This analysis assumes the remaining 60% is used for the construction of permanently-affordable housing.

- The OEA uses the REMI model to estimate the net economic impact of legislation, based on the economic impact factors already discussed.
- In a low-impact scenario, based on a loss of 125,000 sf of office development and most spending on construction, the estimate is based on:
 - a loss of 520 office jobs, associated with the low-end estimate of lost office space, split proportionally between office-using industries⁹.
 - a loss of \$61 million in office construction spending.
 - a gain of \$9 million in fee revenue, assumed to be spent on construction.
- In a high-impact scenario, based on a loss of 140,000 sf of office development and more spending on housing subsidy, the inputs are:
 - a loss of 585 office jobs, associated with the high-end office loss estimate, split among office-using industries as above.
 - a loss of \$82 million in office construction spending.
 - a gain of \$8 million in fee revenue, assumed to be spent on construction.

- We project the proposed legislation will result in a net job loss of between 1,275 and 1,500 jobs, representing between 0.1% and 0.2% of all jobs in the city, on average over the next 20 years.
- The impact on the city's GDP is likewise projected to be negative, to the tune of \$280-\$330 million, in today's dollars.
- About 60% of the job losses will be concentrated in the office-using industries that are directly impacted by the fee. Another 25% of the losses are projected to occur in construction, with the remainder spread across other industries. No sector is projected to add jobs as a result of the proposed legislation.
- Housing prices are projected to decline, by 0.1% - 0.2%, but this is due to a proportional loss of personal income and population, not because housing would become broadly more affordable.
- The additional participants in the the expanded affordable housing programs would clearly benefit, and other low- and moderate-income residents may also benefit if the growth in affordable housing lessens competition at the low end of the private housing market.

The OEA's consultants, Blue Sky Consulting Group, analyzed the data set described on pages 14-15 to determine which factors are most useful for estimating the probability that a San Francisco parcel will be developed into additional office space in a given year. To do this, they used a common statistical technique called logistic regression analysis. A logistic regression is a special type of regression used to understand the relationship between a dependent binary (yes or no) variable, and one or more independent or explanatory variables. Here, the dependent variable is set equal to a one if the parcel added office space in a specific year, and otherwise set equal to zero.

To identify those explanatory variables that are most useful for understanding when and where office space is added, they developed a base model that included those variables most likely to be closely associated with such development based on economic theory. Those variables include office rents, construction costs, zoning restrictions, current land use, the size of the potential development given height and density restrictions, and the relative increase for the potential development given the existing development on the site. With this as the base model, they tested the impact of adding other explanatory variables such as various stock market indexes, interest rates, total employment and the unemployment rate for San Francisco, etc. These tests were evaluated based on their overall impact to the model as well as their individual predictive power. Many of these added economic variables were highly correlated with office rents and construction costs while others did not have a statistically significant relationship with office development. These variables were therefore excluded from the final model. Throughout these tests, however, it was clear that office rents and construction costs were consistently useful predictors of office development, and the nature of this relationship was quite stable regardless of the inclusion or exclusion of these additional explanatory variables.

After completing these tests, the final models consisted of the following explanatory variables. Their impact on the likelihood of office development happening (positive or negative) is shown in parentheses.

1. a dummy variable for whether or not the parcel had 1 or more housing units (negative),
2. the average asking rent for San Francisco from REIS (positive),
3. the SF building cost index from Engineering News Record (negative)
4. the potential building envelope, given height and bulk controls (positive)
5. the ratio of the potential building envelope to the existing square footage (positive), and
6. ten dummy variables for the type of zoning for the parcel. (positive and negative)

The data included in the analysis consisted of the following:

1. Permit Data—Blue Sky reviewed the City’s permit data to identify projects that added office space. The data set includes all new construction for office space as well as alterations that were identified as creating new office space via expansion or conversion. All permits for new construction of office space were included. To determine which alteration permits to include, we reviewed the description for all projects that either had the term "convert" or "erect" in the description or for which the costs were \$250K or higher. Based on a review of the permit’s description, we excluded any permits that were for tenant improvements of existing office space or other work that did not result in new office space being produced. Finally, we limited the office developments used in the analysis to only include permits issued between 2001 and 2018, the years for which parcel data are available. This resulted in 136 office development projects, or 85 new construction projects and 51 alteration/conversion projects.
2. Parcel-Specific Data—Data for every parcel in San Francisco were collected for each year from 2001 through 2018. This information includes attributes which did not change over time such as the parcel’s land area and neighborhood, as well as characteristics that may have changed, such as the parcel’s zoning requirements or maximum allowable building height. The basis for our list of parcels was the current “City Lots” database available from the San Francisco Planning Department. We then integrated annual files for 2001 through 2018 for zoning, height and bulk districts, planning districts, special use districts, and land use. In addition, because parcel identifiers may change over time as parcels are combined or divided, the Planning Department also provided a file that recorded parcel number changes over time. Finally, parcels that did not have any zoning designation were reviewed and those that were determined to be located in water were removed.
3. Demographic Data—Demographic data were also integrated for regions within the City. Specifically, data for education level and per capita income were collected by census tract from the Decennial Census for 2000 and 2010 and supplemented with annual data from the American Community Survey for 2009-2018. Where annual data were not available, values were interpolated. GIS software was then used to map parcels to census tracts so that every parcel could be assigned the appropriate annual estimates of education level and per capita income.

4. Annual Economic Data—Various measures of construction costs and office rents were also collected and integrated to account for changes that would have a direct impact on the San Francisco market for office space over time, as well as changes in general economic conditions that may influence the amount of development. These economic indicators included data specific to the City, such as total employment and the unemployment rate in San Francisco, as well as data for the greater San Francisco area, including the total employment and unemployment rate and the number and value of residential building permits issued for the San Francisco Metropolitan Statistical Area (MSA). Also integrated were numerous measures of general economic activity and consumer sentiment, including various stock market indices such as the Dow Jones Total Stock Market Index (DJ-TSM), S&P 500, and the NASDAQ; data on venture-backed companies in Northern California from the Sand Hill Index of Venture Capital; interest rates; and measures of consumer sentiment as reported by both the Conference Board and the University of Michigan. Finally, data for various price and cost indices specific to San Francisco were integrated, including an annual index of asking and effective office rents from Real Estate Solutions by Moody's Analytics (REIS) and a Building Cost Index and a Construction Cost Index prepared specifically for San Francisco by the Engineering News Record (ENR).

These data sources were combined to form a single data set, with one record for each of the City's current "base lot" parcels for each year from 2001 to 2018.

- [1] Keyser Marston Associates, "[Jobs Housing Nexus Analysis: San Francisco California](#)", Prepared for the City and County of San Francisco, May 2019.
- [2] Economic & Planning Systems, "[Final Memorandum: Jobs-Housing Linkage Fee Update Development Feasibility Assessment](#)", Prepared for the City and County of San Francisco, June 2019.
- [3] Economic & Planning Systems, page 3.
- [4] Excluding public parcels, and parcels subject to a development agreement.
- [5] San Francisco Controller's Office: "[Increasing Inclusionary Housing Requirements: Economic Impact Report](#)", February, 2016; "[Inclusionary Housing Working Group: Preliminary Report](#)", September 2016.
- [6] As measured by the Building Cost Index published for San Francisco by Engineering News Record.
- [7] Turner & Townsend, "International Construction Market Survey 2019".
- [8] Conversions to office from other uses has contributed to the growth in the city's office space in the past, but these conversions are not considered in this model.
- [9] Office-using industries include Information, Financial Services, Real Estate, Business & Professional Services, and Administrative and Support Services.

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