

MEMORANDUM

To: Amanda Wolf, Lendlease at Google
From: Benjamin C. Sigman and Snow Zhu
Subject: Economic Impact of Operations at Downtown West;
EPS #201019
Date: July 14, 2020

The Economics of Land Use



Economic & Planning Systems, Inc. (EPS) has conducted an economic impact analysis of ongoing stabilized operations at Google's proposed Downtown West development (the proposed Project). The analysis evaluates the Project's ongoing economic impact in the County of Santa Clara using an IMPLAN "Input/Output" model of the local economy.¹

The economic impact analysis relies on projected direct employment generated by the proposed Project to estimate indirect and induced employment countywide. It also estimates other economic impacts of the Project, including employee compensation, value added, and economic output. Key terms are defined in the Framework and Approach section of this memorandum.

Key Findings

- **The economic impact analysis estimates that Google's proposed Downtown West project will support a total of about 115,000 jobs in Santa Clara County once fully built and occupied.** This employment estimate includes direct, indirect, and induced employment. Google estimates the proposed Project will directly support approximately 31,000 on-site employees, including technology jobs, as well as retail, hospitality, building facilities, and other support functions.
- **The analysis finds that Downtown West will generate a total of nearly 84,000 indirect and induced jobs in Santa Clara County at project stabilization.** An IMPLAN analysis of the proposed Project estimates direct on-site employment will generate

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¹ IMPLAN is an Input-Output modeling system (software and data) developed by the Minnesota IMPLAN Group, and is widely used in the U.S. for estimating economic impacts across a wide array of industries and economic settings.

about 49,000 indirect jobs from industry-to-industry transactions and 35,000 induced jobs from employee compensation that re-circulates in the economy as a result of employee spending.

Framework and Approach

To measure economic impacts from Downtown West ongoing operations in Santa Clara County, this analysis relies on IMPLAN (Impact Analysis for Planning) software, an input-output (I/O) model that draws upon data collected by the IMPLAN from several state and federal sources, including the Bureau of Economic Analysis, Bureau of Labor Statistics, and the Census Bureau.

Input-Output Analysis

I/O analysis is premised on the concept that industries in a geographic region are interdependent and thus the total contribution of any one establishment's activity is larger than its individual (direct) output and/or employment. Consequently, an establishment's economic activity has a "multiplier" effect that generates successive rounds of spending and output in other economic sectors within a particular region. For example, consider the implications of operating expenditures by a technology company located in San Jose. The entity will purchase business supplies and professional services from local entities, who in turn make purchases from their suppliers. Thus, an increase/decrease in the demand for the technology company's services will stimulate an increase/decrease in output and employment in the interdependent secondary industries.

Regional economic impact analysis and I/O models in particular provide a means to quantify economic effects stemming from a particular industry or economic activity. I/O models produce quantitative estimates of the magnitude of regional economic activity resulting from some initial activity such as office operations, retail activity, and hospitality business. I/O models rely on economic multipliers that mathematically represent the relationship between the initial change in one sector of the economy and the effect of that change on economic output, employment, and income in other industries. These economic data provide a quantitative estimate of the magnitude of shifts in jobs and revenues within the local and regional economy.

The initial revenue generated by the project is referred to as the direct effect. Next the I/O model quantifies the impacts associated with the ripple or multiplier effects that result from project's initial injections. The ripple effects are categorized as indirect or induced effects. Indirect effects represent economic impacts on suppliers while induced effects represent economic impacts on household income and spending. In this report, direct, indirect, and induced effects are defined as follows:

- The **Direct Effect** is a measure of the economic value of the initial spending in the economy, or in this case, the ongoing employment generated on-site at Google's proposed Downtown West project. The direct effect also includes employee compensation received by workers in the various industries present within the project, including technology, hotel, and retail industries, among others.
- The **Indirect Effect** is a measure of the economic value of "upstream" industry-to-industry transactions that supply inputs to the production of goods and services consumed by the new Project.

- The **Induced Effect** is a measure of the economic value of employee compensation that re-circulates in the economy as a result of the Project, from purchases by employees in the local and regional economy.
- The **Total Impact** is the sum of the direct, indirect, and induced effects. The total impact measures the overall impact of the Project's activities on the economy.

The impact analysis measures economic significance using common economic metrics, including employment, employee compensation, output, and value added, as defined below.

- **Employment** is equivalent to jobs, a headcount that includes part-time and full-time workers.
- **Employee Compensation** represents payments to labor in the form of both income and fringe benefits paid by the employer (e.g., health, retirement), as well as proprietor income.
- **Value Added** represents a contribution to gross regional product and equals the market value of the final goods and services produced within a particular region. Value added is equal to economic output, as defined below, less the value of intermediate goods and services.
- **Economic Output** represents a measure of economic activity, calculated as production value including intermediate inputs (i.e., the goods and services used in the production of final products). Output includes spending on employee compensation as well as the production value of each intermediate input, such as equipment, supplies, insurance, rents, utilities, and communication.

Data Sources

The IMPLAN analysis relies on direct employment figures provided by Google. The total number of direct jobs generated by the Project is estimated to be about 31,000, as shown in **Table 1**. Over 29,000 employees are anticipated to be technology industry office workers, while an additional 2,000 other jobs include positions in on-site retail, hospitality, support services, and other industries. Employment estimates are derived from the Gross Square Footage (GSF) of each Downtown West program element.

EPS assigned jobs by land use to corresponding IMPLAN industries. For example, the analysis categorizes technology office employees under IMPLAN's "internet publishing and broadcasting and web search portals" industry. IMPLAN data reveal the indirect and induced effects that correspond with the direct employment associated with each industry.

Table 1 Direct Employment

Employment Category	GSF	Jobs
Google Office Jobs	7,300,000	29,200
Other Jobs		
Retail/ Restaurant/ Large Retail	350,000	1,038
Co-Working/ Small Neighborhood Office/ Non-Profit	20,000	80
Arts and Culture/ Theater/ Education/ Fitness	130,000	130
Hotels	200,000	100
Limited-Term Corporate Accommodations	533,333	267
Event Center	100,000	100
Utilities	130,000	130
Logistics/ Warehouse	<u>100,000</u>	<u>154</u>
Subtotal	1,563,333	1,999
Total	8,863,333	31,199

Sources: Google; Economic & Planning Systems, Inc.

Economic Impacts from Operations

Including the direct, indirect, and induced effects, the analysis estimates Downtown West will generate a total of approximately 115,000 jobs in Santa Clara County, with aggregate employee compensation of approximately \$22 billion, and a total annual output of almost \$70 billion, in 2020 dollars. Based on an estimated 31,000 direct jobs, roughly 84,000 additional jobs will be supported through the indirect and induced ripple effects the Project has in the Santa Clara County economy. **Table 2** summarizes the economic effects of the project by effect type.

Table 2 Ongoing Economic Impacts from Operations in Santa Clara County (2020\$)

Impact	Jobs	Employee Compensation	Value Added	Output
Direct ¹	31,199	\$13,029,080,000	\$28,911,596,000	\$46,259,996,000
<u>Multiplier Effects²</u>				
Indirect	48,636	\$6,708,716,000	\$11,242,507,000	\$16,688,280,000
Induced	<u>34,962</u>	<u>\$2,579,393,000</u>	<u>\$4,830,316,000</u>	<u>\$6,878,430,000</u>
Total	114,797	\$22,317,189,000	\$44,984,419,000	\$69,826,706,000

[1] Direct output, value added, and employee compensation are derived from direct employment, based on the number of new employees that the Downtown West project is expected to generate.

[2] Indirect impact is a measure of industry-to-industry transactions that supply day-to-day office operations. Induced effect is a measure of employee compensation that re-circulates in the economy as a result of employee spending.

Sources: IMPLAN; Google; Economic & Planning Systems, Inc.