



## Memorandum

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**To:** Interested Parties

**From:** The Blue Sky Consulting Group

**Date:** July 16, 2024

**Re:** Economic Impact of Phase One the East Solano Plan: 2028-2040 and Beyond

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### Executive Summary

This memorandum presents an analysis of the economic impacts of the East Solano Plan, as proposed by California Forever. Specifically, this memorandum presents an analysis of the likely impact of Phase One of the proposed new community in East Solano County, including approximately 23,000 new homes for 50,000 new residents, 10 million square feet of commercial and other buildings, and a 2,000-megawatt solar power generation facility. Phases Two and beyond would be a continuation of the development beyond 50,000 residents. All dollar amounts are presented in today's (2024) dollars. Actual amounts would likely be larger due to increases in line with inflation.

This report assumes that this Phase One would be constructed during a 13-year period, between 2028 and 2040. On average during this 13-year period, the construction is estimated to deliver \$2.4 billion of economic impacts each year, which is about \$5,328 in additional annual economic activity for each Solano County resident per year. The construction activity would support 9,286 new jobs in Solano County during the full 13-year build-out, consisting of 6,747 construction jobs and 2,539 jobs in other sectors. Adding 9,286 new jobs to Solano County would increase the number of jobs in Solano County by 6.4%. Residents of the existing seven cities in Solano County are expected to fill 86% of these job openings.<sup>1</sup> In addition to these regular wage and salary jobs, the construction activity would support an additional 3,127 jobs for sole proprietors, business owners and independent contractors, for a total of 12,413 new jobs in Solano County. Statewide, construction is estimated to provide 14,513 jobs and \$3.7 billion of annual economic impacts during each of these 13 years.

Following completion of Phase One, the ongoing economic impacts of the project would be \$16.1 billion in new, annual economic activity and 36,887 permanent jobs in Solano County, including an estimated 23,385 jobs in the new community, 13,502 new jobs in the other seven Solano cities, and 5,059 new jobs in other counties, for a total of 41,945 new jobs statewide.<sup>2</sup> This would increase the total number of jobs in Solano County by 26% and increase Solano County total economic activity by 31%. In addition to these regular wage and salary jobs, the East Solano Plan would support an additional 16,149 jobs for sole proprietors, business owners and independent contractors, for a total of 53,036 new jobs in Solano County.

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<sup>1</sup> Includes impacts to the unincorporated area outside of the new community.

<sup>2</sup> Note some totals reported in this memo may not sum due to rounding.

The results presented above are based on the characteristics of comparable communities in terms of the number of jobs they support per resident. To the extent that the new community becomes a regional job center as California Forever anticipates, it would support a larger number of jobs, with correspondingly larger economic impacts on Solano County. Under this assumption, the East Solano Plan would by 2040 create 38,940 permanent jobs in the new community, and another 21,432 new permanent jobs elsewhere in Solano County, for a total countywide impact of 60,372 new permanent jobs. In addition to these regular wage and salary jobs, the East Solano Plan would support an additional 26,579 jobs for sole proprietors, business owners and independent contractors, for a total of 86,952 new jobs in Solano County.

Finally, to the extent that construction continues for Phase Two of the new community, such construction would create additional new jobs in addition to the 53,036 new permanent jobs in Solano County (in baseline scenario) or in addition to the 86,962 new permanent jobs in Solano County (in regional job center, Walnut Creek scenario).

### **Impacts on tax revenue for seven existing cities and Solano County**

Both the construction of the new community and the ongoing activities of its residents and businesses will generate positive fiscal effects for the seven existing cities in Solano County and for Solano County itself.

For example, construction of the new community would lead to a permanent increase in the County's property tax base. Separately, spending activities of new businesses and new residents would generate sales tax revenue increases in the County and its seven existing cities. Newly-hired construction workers will make taxable purchases in cities throughout the county for things like restaurant meals, household goods and clothing; workers and visitors from out of town will stay in local hotels, generating transient occupancy tax; and suppliers of construction materials and equipment will pay additional property, sales, utility users, and other taxes that will accrue to the region's existing cities.

## **Overview of the East Solano Plan – Phase One**

This memorandum analyses the impact of Phase One of the East Solano Plan, which consists of a new community of 50,000 residents along with commercial and industrial space to accommodate the estimated 23,385 new community jobs, plus a new solar farm with battery storage. This phase of the new community's planned construction includes:

- *Residential*: 22,804 new units of housing for future residents of the new community.
- *Non-residential*: 10.1 million square feet of non-residential buildings.
- *Infrastructure*: All basic infrastructure necessary to support the new residents and businesses, including roads and bike paths, and infrastructure for electricity, water, wastewater, telecommunications, and transportation.
- *Public facilities*: Schools, libraries, parks and open space, and government administration and public safety buildings.
- *Solar facility*: 2,000 MW of panel capacity and 5,000 MW of battery storage.

# Overview of Methodology for Estimating Economic Impacts in Solano County

Estimates of the impacts of the construction and ongoing economic activity in the new community are based on publicly available economic data from the U.S. Census, Bureau of Labor Statistics (BLS), and other federal and state agencies; economic impact modeling software; and cost estimates and new community planning information provided by California Forever. This section provides an overview of the methodology used to estimate economic impacts that result from both construction and new business activity.

## Input-Output Modeling & Types of Economic Effects

Estimates of economic effects were assessed using the IMPLAN model. Planners and regional economists use input-output models such as IMPLAN to estimate the impacts of local economic changes, including the construction of new homes and buildings and increases in spending from new residents and businesses within a given region. Input-output models estimate the effects of changes in one industry on other related industries based on purchases made in these related industries, allowing researchers to estimate the total economic impact of proposed projects deriving from three types of spending:

- *Direct effects* refer to the share of a project's budget that is allocated to paying local worker wages or purchasing local firms' goods or services. For a construction project, the total direct effect is equal to the portion of the project budget spent in the local community (excluding purchases of materials or other inputs known to derive from outside the region<sup>3</sup>). The most significant direct effects during the construction period are therefore the wages paid to workers and the purchases of construction materials.
- *Indirect effects* refer to economic activities undertaken by *suppliers* of the firms engaged at the direct effects level. For a construction project, for example, the firms supplying lumber or machinery to the construction contractor must pay their own workers and purchase their own materials. These upstream economic transactions constitute indirect effects.
- *Induced effects* represent the economic activity generated by the additional spending of the workers and business owners of the firms benefitting from the direct and indirect effects described above. The workers employed by firms that are directly or indirectly impacted by the project spend their incomes in the local region, which creates additional demand for goods and services from local firms. For example, construction workers and workers employed in supplier firms spend part of their paychecks on groceries and clothing. These employee consumption activities are known as induced effects.

IMPLAN provides the detailed data necessary to estimate the indirect and induced impacts within a defined study area, given a defined amount of direct spending. Including indirect and induced effects shows that a project's total economic impact (in terms of both economic activity and jobs) is greater than the amount of direct spending; in other words, these effects are what account for a project's economic "multiplier" (i.e., the incremental increase in economic activity across all included industries

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<sup>3</sup> We exclude the portion of total solar facility construction costs that is attributable to the purchase of solar panels, inverters, and batteries, as these products are typically manufactured and sold from outside California.

that is caused by a change in demand from one or more specific industries).

For purposes of estimating the economic impacts of the new community, our IMPLAN modeling accounted for both the effects generated by the new community's construction as well as the ongoing effects generated by its future residents and businesses.

## Construction Activity versus Ongoing Activity

For purposes of clarity in presenting the new community's estimated economic impacts, we separate the economic impacts generated during the community's construction ("Construction Activity") from the ongoing impacts generated by the new community's residents and businesses ("Ongoing Activity").

### Construction Activity

The build-out of the new community will require hiring construction workers, engineers, and other workers, and purchasing the materials and equipment needed to build the infrastructure and buildings.

Our analysis reports the impacts of Construction Activity using two metrics: (1) the total dollar value of economic activity in Solano County and California tied to this construction; and (2) the total number of jobs—for both Solano County and other California counties—supported by this activity during the construction period.

The annual economic impacts represent the average impacts over each of the thirteen years of the estimated construction period. As a practical matter, actual economic impacts may vary each year according to the types and quantities of construction work performed.<sup>4</sup>

### Ongoing Activity

As construction of the new community progresses, new residents and businesses will begin moving into the area and will purchase goods and services from one another as well as from Solano County businesses located outside the new community. As with Construction Activity, analysis of the impacts of the Ongoing Activity considers both the dollar value of the economic activities conducted by these new residents and businesses as well as the number of jobs supported.

Ongoing Activity is generated as soon as the first new residents and businesses move into the new community. However, Ongoing Activity will likely not reach its full estimated scale until the end of the expected 13-year construction period, when the anticipated residential and non-residential construction will have been completed. As such, over the first 13 years, total economic impacts are the aggregation of both Construction Activity and (partial) Ongoing Activity. Following the expected completion of new community construction, impacts from Construction Activity cease (except to the extent additional development proceeds) while the impacts of Ongoing Activity continue.

## Fiscal Impacts of Construction Activity and Ongoing Activity

The economic activity associated with the Construction and Ongoing Activity will also generate positive fiscal impacts for Solano County as well as the cities within the County.

At the county level, the largest source of additional revenue during the construction period will be the local share of California's Sales and Use Tax. Construction firms' purchases of materials, equipment,

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<sup>4</sup> Specifically, the early years of construction are likely to include more infrastructure construction, as this is a prerequisite for the new community to prepare for new residents and businesses; the latter period will include more construction of homes and commercial structures.

appliances and other goods subject to sales tax constitute an estimated 36% of total construction spending. Under state law, construction contractors pay sales and use tax to the jurisdiction where their job site is located.

In addition, as construction of the new community progresses, the County and its cities will benefit from an increase in tax revenues across a range of sources. Most significantly, the new community's homes and most of its new non-residential buildings will add to the County's property tax base, and the future sales of these properties upon their completion are subject to the County's real estate transfer tax. The new community residents' consumer spending will add to the County's sales tax base, both in the new community and in surrounding cities where workers live and shop. In addition, both the County and existing Solano County cities will benefit from additional Proposition 172 public safety sales tax revenues dedicated to sheriffs, police, fire, county district attorneys, and similar uses; these revenues will result from both new construction activity as well as ongoing economic activity generated by the new community's residents and businesses. Other tax revenue sources, such as the Transient Occupancy Tax (imposed on hotels and motels) and Utility Users Tax (imposed on households' and businesses' utility bills) will also increase as the new community grows, both for the County and the cities in the County where workers live and shop.

## Impacts in Other Counties and Existing Solano Communities

Direct economic effects accrue to the region where the initial spending or economic activity occurs. Indirect and induced effects will benefit both the project's local community as well as ripple outwards to surrounding communities.

For our analysis of the new community's economic impacts, we estimated economic effects in Solano County and the aggregate effects felt across California's other 57 counties—referred to as "Other California" in the sections that follow. We have further estimated impacts on existing communities *within* Solano County; the areas outside of the new community but within Solano County are referred to as "Existing Solano County" in the sections that follow.

## Estimating Solano County Construction and Ongoing Economic Activity

For construction and ongoing business activities in Solano County, the entirety of the direct effect occurs locally, where the initial economic activity takes place. Underlying commuter flows data is used to estimate the share of a construction project or business workforce that resides in Solano County and the share that would travel to the job site from other counties. These commuter flows dictate where employee income is spent, and thus the level of induced effects generated in Solano County and neighboring counties. Similarly, commodity flow data is used to estimate the dollar value of the materials purchased by various businesses from both in-County and out-of-County suppliers. This data informs estimates of the indirect and induced effects of a Solano County construction project or new business activity.<sup>5</sup> To the extent that Solano County construction projects, for example, purchase a greater share of materials from in-County suppliers, economic activity within the county would be greater than if those materials were purchased from businesses located outside of Solano County.

## Estimating Economic Impacts for Communities Within Solano County

### *The New Community Generates Spillovers for Other Solano County Cities*

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<sup>5</sup> As a technical matter, some economic impacts would flow outside the State of California, but these impacts are not shown as part of this analysis.

Just as surrounding counties benefit from direct spending in a neighboring county, surrounding cities benefit from direct spending that occurs in neighboring communities, as the labor force, goods and services purchased by this spending is often sourced from surrounding cities.

Moreover, many of the workers employed in building the new community’s infrastructure and buildings will reside in neighboring cities in Solano County. In addition, in the early years of the new community’s construction period, the new community will not host any residents or businesses and thus will not be the beneficiary of most of the new community construction spending. Instead, the economic activity stemming from the new construction activity will flow almost entirely to surrounding Solano County cities and other counties. As detailed further below (see “Estimate of Jobs Supported During Construction Period”), we estimate that 86% of the construction workers hired to build the new community over the 13-year construction period will reside in Solano County cities outside the new community; the remainder will commute in from other counties and, eventually, some of the construction workers will reside in newly-constructed houses in the new community. Similarly, purchases made by new community builders from within the County will benefit other Solano County cities who will see increased business and economic activity.

Community-level estimates of Ongoing Activity are subject to a similar dynamic. Estimated direct effects in this context occur within the new community itself; however, the indirect and induced effects generated by these new community direct effects will benefit surrounding cities.

Figure 1 (below) provides an overview of where the economic impacts presented in this memorandum take place.

*Figure 1 – Summary of Regional Allocation of Direct, Indirect, and Induced Jobs*

Impact Level	Description	Jobs & Activity Location	Worker Residence
<b>Construction Impacts</b>			
Direct	New Community construction activity	New Community	<ul style="list-style-type: none"> <li>Existing Solano County (majority)</li> <li>Out-of-County</li> <li>New Community</li> </ul>
Indirect & Induced	<ul style="list-style-type: none"> <li>Construction sector supplier activity</li> <li>Construction sector and supplier firms' employee spending</li> </ul>	<ul style="list-style-type: none"> <li>Out-of-County (majority)</li> <li>Existing Solano County</li> <li>New Community</li> </ul>	<ul style="list-style-type: none"> <li>Out-of-County (majority)</li> <li>Existing Solano County</li> <li>New Community</li> </ul>
<b>Ongoing Impacts</b>			
Direct	New business activity in New Community during and post-construction period	New Community	<ul style="list-style-type: none"> <li>New Community (majority)</li> <li>Existing Solano County</li> <li>Out-of-County</li> </ul>
Indirect & Induced	<ul style="list-style-type: none"> <li>Ongoing business supplier activity</li> <li>Ongoing business and supplier businesses' employee spending</li> </ul>	<ul style="list-style-type: none"> <li>Existing Solano County (majority)</li> <li>Out-of-County</li> </ul>	<ul style="list-style-type: none"> <li>Existing Solano County (majority)</li> <li>Out-of-County</li> </ul>

### *Using a Gravity Model to Estimate City-Level Impacts*

To estimate the economic impacts of the new community on the other cities within Solano County, we developed a Huff Gravity Model, which is widely used in spatial analysis to define the geographic boundaries for a given market and to estimate where economic activity occurs within that region.<sup>6</sup> Gravity Models are used to estimate the volume of flows of goods, services, or people between two or more locations, including cities, counties, or other regions. Here, the gravity model is used to estimate how the economic impacts of the new community will be distributed among the new community, the other Solano County cities, and the county's unincorporated areas.

The basic Huff Gravity Model is specified as follows:

$$P_{ij} = \frac{\frac{S_j}{T_{ij}^\lambda}}{\sum_{j=1}^n \frac{S_j}{T_{ij}^\lambda}}$$

where

$P_{ij}$ : denotes the probability of a consumer or worker at a given location  $i$  traveling to a particular retail area or job location  $j$ ,

$S_j$ : is a measure of the “attractiveness” of site  $j$  to the consumer or worker,

$T_{ij}$ : indicates the travel time involved in getting from the consumer or worker's starting point  $i$  to a given retail or job area  $j$ , and

$\lambda$ : represents the exponential effect of increased distance on the probability of a consumer or worker traveling that distance for shopping or employment opportunities (this is typically referred to as the “distance decay parameter”).

To measure the travel time ( $T_{ij}$ ) between the new community and the other Solano County locations, the shortest drive time between the geographic center of each site was estimated from Google Maps.<sup>7</sup> For the attractiveness measure ( $S_j$ ), the number of construction workers in each area was used for estimating the share of construction jobs and direct construction spending during the construction phase, and the total number of jobs was used to estimate the share of indirect and induced economic activity for each community. For the distance decay parameter ( $\lambda$ ), the appropriate value can vary depending upon the type of activity being analyzed and the distances over which the analysis is applied, and research has shown that for regional-level activity a value of 1.0 is appropriate.<sup>8</sup>

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<sup>6</sup> The Huff Gravity Model was initially developed for retail activity and is based on the principle that the probability of a given consumer visiting and purchasing goods or services at a given site is a function of the distance to that site, its attractiveness, and the distance and attractiveness of competing sites. For a detailed overview of spatial analysis and gravity models see <https://repository.bilkent.edu.tr/server/api/core/bitstreams/0212ea93-036b-451c-b999-ab8b1e0549a6/content#page=422>.

<sup>7</sup> Specifically, the drive time for a Wednesday at 3am was used for all location pairs to reduce the impact of traffic during specific times of the day. This resulted in drive times ranging from 18 minutes for Fairfield and Suisun City up to 35 minutes for Benicia, Dixon and Vallejo. For the distance within the new community itself, we applied a drive time of 5 minutes.

<sup>8</sup> See for example Young, W. J. (1975). Distance Decay Values and Shopping Center Size. *The Professional Geographer*, 27(3), 304–309. <https://doi.org/10.1111/j.0033-0124.1975.00304.x>

# Analysis of Construction Activity Impacts

## Estimates of Annual Construction Spending

Construction of the new community and its neighboring solar facility is estimated to cost \$33 billion in total, with \$19 billion spent on infrastructure, government facilities, and the planned solar facility and \$14 billion spent on the construction of residential and private non-residential buildings. As shown in Figure 2, given a 13-year construction period, total annual spending is an estimated \$2.5 billion per year.

Building of new homes and businesses in the new community will require substantial expenditures on a wide range of infrastructure, including new streets, sidewalks, and bike paths to connect residents and businesses; facilities for transportation; new electric transmission and distribution lines to provide electricity; and water, wastewater, and storm water systems to provide and treat water for the new community. In addition, the new community will need government facilities such as police and fire stations, public K-12 education facilities, parks and libraries. The planned solar facility will provide 2,000 MW of solar power capacity and 5,000 MW of on-site battery storage. In total, these infrastructure and government facilities are expected to cost \$19 billion, or \$1.5 billion annually during the construction period.

Residential construction will entail building 22,804 new residential units across both single-family and multi-family buildings, both for sale and for rent. In total, residential development costs are an estimated \$11.1 billion (\$0.86 billion annually).

Non-residential construction in the new community is expected to provide 10.1 million square feet of office, retail, industrial, and other commercial space. In total, non-residential construction costs are an estimated \$2.6 billion (\$0.20 billion annually).



Figure 2 – Planned Construction Spending in the New Community (billion 2024 \$)

Component	Summary	Total Spending	Annual Spending
<b>Infrastructure, Public Buildings, and Solar Facility</b>	<ul style="list-style-type: none"> <li>• 500 acres of new public parks and new open space</li> <li>• Transportation (roads, bike paths, sidewalks)</li> <li>• Wet utilities (water, sewage, stormwater treatment)</li> <li>• Dry utilities (electric, thermal, waste, fiber optic)</li> <li>• Government buildings (schools, libraries, police, fire and administrative)</li> <li>• Solar facility with on-site battery storage</li> </ul>	<b>\$19.05*</b>	<b>\$1.47*</b>
<b>Residential Construction</b>	22,804 new homes for 50,000 new residents	<b>\$11.13</b>	<b>\$0.86</b>
<b>Non-Residential Construction</b>	10.1 million square feet of non-residential space: <ul style="list-style-type: none"> <li>• Office (2.0 million square feet)</li> <li>• Retail (3.1 million)</li> <li>• Industrial / Warehousing (4.1 million)</li> <li>• Institutional, recreational, and other (0.9 million)</li> </ul>	<b>\$2.62</b>	<b>\$0.20</b>
<b>Total</b>		<b>\$32.81</b>	<b>\$2.52</b>

\*Includes the purchase of solar panels, inverters, and utility-scale battery storage equipment, which are expected to be sourced from outside Solano County.

## Construction Activity - Results

This section presents estimates of the annual economic impacts of the Construction Activity during the 13-year construction period. Estimates of total economic output and jobs supported are provided for both Solano County and other California counties.

### Estimate of Direct, Indirect, and Induced Effects from Construction Activity

Nearly all the costs incurred during the new community’s construction constitute a direct effect in Solano County. As shown in Figure 3, the \$0.96 billion spent annually in Solano County<sup>9</sup> constructing new buildings results in an additional \$0.34 billion in indirect and induced effects in Solano County, while the \$0.81 billion spent on infrastructure, government buildings, and the solar facility generates \$0.29 billion annually in Solano County indirect and induced effects. Countywide, the annual economic impact is \$2.39 billion – or \$5,328 per Solano County resident.

<sup>9</sup> Our analysis of Construction Activity direct effects assigns direct labor income (one component of the overall direct effect) to the county where the worker resides.

For the other California counties, most of the effects generated are indirect or induced.<sup>10</sup> All construction activity combined results in \$3.69 billion in statewide economic impacts annually over the 13-year construction period.

*Figure 3 – Summary of Annual Economic Impacts of Construction Activity (billion 2024 \$)*

	Solano County	Other California	All California
<b>Private Sector Buildings</b>			
Direct	\$0.96	\$0.10	\$1.06
Indirect	\$0.12	\$0.23	\$0.36
Induced	\$0.21	\$0.18	\$0.39
<b>Total Economic Impact</b>	<b>\$1.29</b>	<b>\$0.52</b>	<b>\$1.81</b>
<b>Infrastructure, Government Buildings, and Solar</b>			
Direct	\$0.81	\$0.21	\$1.03
Indirect	\$0.11	\$0.33	\$0.44
Induced	\$0.18	\$0.24	\$0.41
<b>Total Economic Impact</b>	<b>\$1.10</b>	<b>\$0.78</b>	<b>\$1.88</b>
<b>ALL CONSTRUCTION</b>			
Direct	\$1.77	\$0.31	\$2.08
Indirect	\$0.24	\$0.56	\$0.80
Induced	\$0.39	\$0.42	\$0.81
<b>Total Economic Impact</b>	<b>\$2.39</b>	<b>\$1.29</b>	<b>\$3.69</b>
<b>Per Capita (2024 \$)</b>	<b>\$5,328</b>		

### Estimate of Jobs Supported During Construction Period

We estimate that construction of the new community would support 9,286 new jobs each year for Solano County residents, including 6,730 direct jobs in the construction sector, as shown in Figure 4. These construction activities would generate 5,226 new jobs located outside Solano County, for a statewide total of 14,513 jobs supported annually during the 13-year construction period.

<sup>10</sup> For the solar facility’s construction, two direct effect adjustments are made. First, because a large share of the facility construction cost is attributable to the purchase of the panels and batteries likely to be sourced from outside of California—transactions that likely have no economic impact within California—the estimated statewide direct effect excludes these capital costs. Second, of the key components that may be purchased from within the state, it is likely that many will be purchased from outside Solano County. As a result, the Other California share is increased accordingly.

Figure 4 – New Jobs Supported During Each Year of Construction Period

	Solano County	Other California	All California
<b>Private Sector Buildings</b>			
Direct	3,674	1,055	4,729
Indirect	494	552	1,046
Induced	932	646	1,578
<b>Total Jobs Supported</b>	<b>5,100</b>	<b>2,253</b>	<b>7,354</b>
<b>Infrastructure, Government Buildings, and Solar</b>			
Direct	3,056	1,385	4,441
Indirect	351	755	1,106
Induced	779	833	1,612
<b>Total Jobs Supported</b>	<b>4,186</b>	<b>2,973</b>	<b>7,159</b>
<b>ALL CONSTRUCTION</b>			
Direct	6,730	2,440	9,170
Indirect	845	1,308	2,152
Induced	1,711	1,479	3,190
<b>Total Jobs Supported</b>	<b>9,286</b>	<b>5,226</b>	<b>14,513</b>
<b>Increase in County Jobs</b>	<b>6.4%</b>		

Figure 5 (below) shows the 10 sectors with the highest number of new jobs projected to result from this construction activity. In Solano County, indirect and induced spending generated by the new community's construction would create jobs across a range of industries, including in retail trade, health care, and hotels and restaurants.<sup>11</sup>

Figure 5 – Jobs Supported During Construction Period, by Sector

	Solano County	Other California	All California
<b>Total Jobs, All Sectors</b>	<b>9,286</b>	<b>5,226</b>	<b>14,513</b>
Construction	6,747	2,454	9,202
Retail Trade	752	245	997
Health Care and Social Assistance	476	337	814
Accommodation and Food Services	332	267	599
Other Services (except Public Administration)	276	177	453
Administrative and Support and Waste Management	147	202	348
Professional, Scientific, and Technical Services	112	208	320
Wholesale Trade	101	213	314
Transportation and Warehousing	74	232	305
Real Estate and Rental and Leasing	77	53	130
All Other Sectors	192	839	1,031
<b>Increase in County Jobs</b>	<b>6.4%</b>		

<sup>11</sup> The 6,747 construction jobs estimated for Solano County includes both indirect and induced construction jobs, and therefore exceeds the estimated 6,730 direct construction jobs shown in Figure 4.

## Impact on Solano County Cities

The jobs associated with construction of infrastructure and new homes and businesses will be performed within the new community area. However, because there will initially be no residents or businesses in the new community, we estimated that most of the workers engaged in this new construction activity will reside in other Solano County cities.

Of the \$2.39 billion in annual economic impacts and 9,286 jobs created annually in the County during the construction period, existing Solano County cities are estimated to account for 86% of the total – \$2.06 billion in economic activity and 7,992 new jobs.

## Analysis of Ongoing Activity

While the annual Construction Activity estimates presented above will occur for the duration of the construction period of Phase One of the new community, the estimated Ongoing Activity in Solano County will generate jobs and economic activity that will benefit the new community as well as surrounding cities and counties into the future.

## Framework for Analysis of Ongoing Impacts

As construction of the new community progresses, its resident and business population will increase, generating ongoing economic activity in Solano County and statewide. Estimated Ongoing Activity is a function of both *new business* activity and *out-commuter household spending*:

- **New businesses:** New community businesses will hire local workers and purchase goods and services from other businesses in the new community, in existing Solano County cities, and in other counties. Estimating new business activity direct effects requires estimating: (1) the industry mix in the new community; (2) the number of jobs the new community will support in each industry; and (3) the average income earned at new community jobs in each industry.
- **Out-Commuters:** In addition to the new businesses (and the local workers they employ), a portion of the new community's residents will be "out-commuters," i.e., will travel to work in neighboring communities. The income earned by these workers outside of the new community but spent locally in Solano County constitutes additional economic activity for the region.<sup>12</sup> Estimating out-commuter household spending requires estimating (1) total income earned by new community residents; and (2) the share of this total income earned by out-commuters.

In the sections that follow, we provide estimates of new business direct effects and out-commuter household spending.

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<sup>12</sup> Roughly 24% of the workers hired at new community businesses will commute into the new community from other counties. These employees' incomes generate induced effects largely outside Solano County. Similarly, out-commuter income (earned by new community residents from jobs located outside the County) generates induced effects in Solano County.

## Estimating the Direct Effects of New Businesses in the New Community

The annual direct effect of new business activity is equal to the annual aggregate spending of the new businesses located in the new community. Because each business's spending is tied to both its industry and its employee count, it is necessary to estimate the new community's industry mix and the number of jobs offered.

### *Estimating the Number of Jobs in the New Community*

To estimate the number of new community jobs and the new community's industry mix, we evaluated the economic and demographic characteristics of cities across the Bay Area and Sacramento Delta regions to identify cities that possess the likely characteristics of the new community (i.e., "Comparable Cities"). Whether a city was selected for inclusion in the Comparable Cities cohort depended on its size and geography. The Comparable Cities chosen all have populations roughly comparable to the estimated new community population at completion of the Phase One buildout of 50,000 residents. Additionally, the selected cities are all within a short driving distance of the largest population centers of San Francisco, Oakland, San Jose, and Sacramento, and are proximate to the suburban and rural areas to the north and east of the Bay Area. The list of Comparable Cities covers jurisdictions in Solano, Contra Costa, Alameda, Sonoma, Napa and Yolo counties.

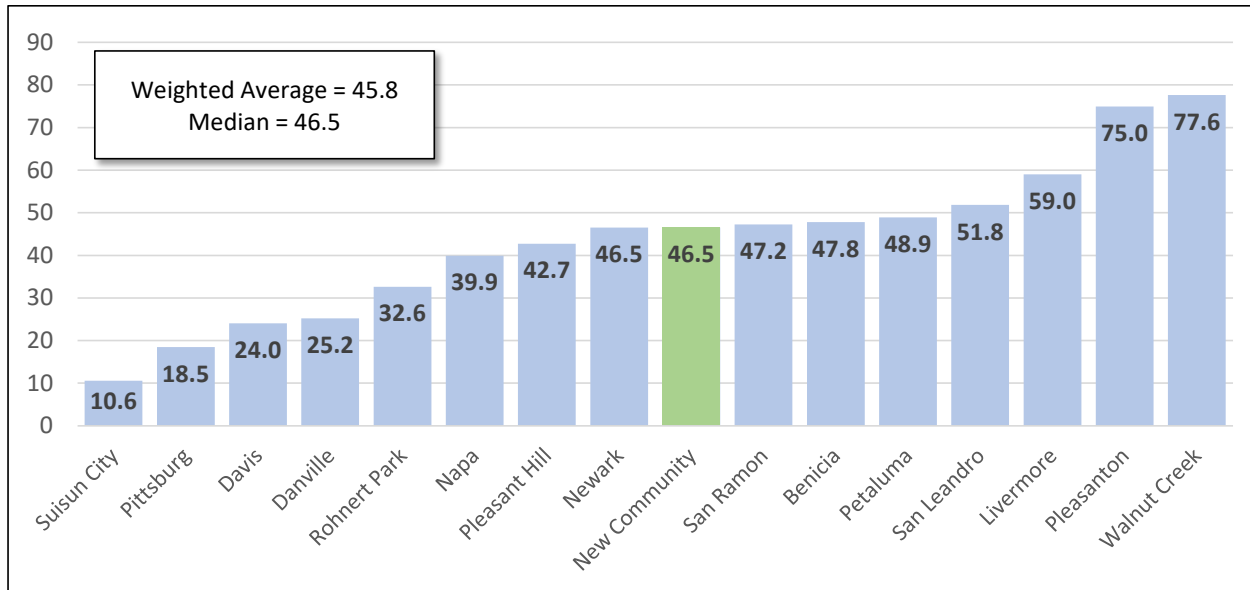
The number of jobs per 100 residents varies across the Comparable Cities, from as few as 10.6 jobs per 100 residents in Suisun City to 77.6 jobs per 100 residents in Walnut Creek, as shown in Figure 7.<sup>13</sup> For our analysis of Ongoing Activity, we adopted the median ratio—46.5 jobs per 100 residents—across the Comparable Cities set.<sup>14</sup> Therefore, given an estimated new community population of 50,000 residents, we estimate that the new community would host an expected 23,398 new, ongoing jobs.

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<sup>13</sup> The number or industry mix of regional "jobs," as used in this memorandum, refers to jobs sited in that region; i.e., jobs are tied to the business's location. Regional "employment" refers to the residents of the region. Thus, the number of regional jobs may differ from the level of regional employment. In Solano County, for example, there are nearly 200,000 employed residents, though businesses in the County provide roughly 146,000 jobs, as of April 2024. In other counties, such as coastal job centers like San Francisco and Santa Clara, conversely, the number of jobs exceeds the number of employed residents.

<sup>14</sup> This median value was adjusted to reflect the additional direct jobs created by the ongoing operations of the solar facility.

Figure 6 – Jobs per 100 Residents for New Community and Comparable Cities



### Estimating the New Community’s Industry Mix

Because business spending and wages vary across industries, we also estimated the specific industries in which these new jobs would be created based on the average industry mix and incomes from the set of Comparable Cities.

Census data provides, for each city, the number of jobs in each industry sector.<sup>15</sup> Of the approximately 423,000 jobs across all Comparable Cities, 16% are in the “Health Care and Social Assistance” industry, for example, and an additional 11% provide “Professional, Scientific, and Technical Services.” As shown in Figure 7, these percentages were applied to the estimated 23,385 new community jobs to derive estimated job counts in the new community for each industry.<sup>16</sup>

The estimated average labor income for each industry sector is based on BLS’s “Quarterly Census of Employment and Wages” (CEW), which provides county-level income data for each industry.<sup>17</sup> Because incomes vary across regions,<sup>18</sup> estimated new community incomes for each industry were based on the

<sup>15</sup> “LEHD Origin-Destination Employment Statistics (LODES),” U.S. Census Bureau (2021), accessed June 1, 2024. Available at: <https://www.census.gov/programs-surveys/ces/news-and-updates/updates/11152023.html>.

<sup>16</sup> The Utilities sector’s share of the total in the new community is higher than in the Comparable Cities due to the solar facility’s ongoing operations.

<sup>17</sup> “Quarterly Census of Employment and Wages,” BLS. Available at: <https://www.bls.gov/cew/home.htm>. The estimated incomes as shown in 2024 dollars for this analysis were extracted from IMPLAN, which collects and organizes BLS’s CEW data.

<sup>18</sup> 2-digit NAICS codes classification allocates types of employment to one of 20 industry sectors, as shown in Figure 8. Within each industry sector, there is a broad range of occupations, and thus a broad range of incomes. For example, the Finance and Insurance sector includes both banking executives and upper-level management as well as administrative staff. To the extent that the types of occupations within each industry vary by county, there can be disparities in industry incomes across counties. For Finance and Insurance sector jobs in Solano County and Yolo

weighted average income across the set of six counties covering the 15 Comparable Cities (Alameda, Contra Costa, Napa, Solano, Sonoma, and Yolo), with each county’s weight for an industry average set proportional to its cities’ share of total industry employment across all Comparable Cities.<sup>19</sup>

*Figure 7 – Estimated New Community Job Count by Industry*

Industry	New Community Metrics	
	Share of Total Jobs	Number of Jobs
Health Care and Social Assistance	15.9%	<b>3,717</b>
Professional, Scientific, and Technical Services	11.2%	<b>2,626</b>
Retail Trade	10.4%	<b>2,437</b>
Accommodation and Food Services	7.6%	<b>1,785</b>
Manufacturing	7.4%	<b>1,739</b>
Construction	7.2%	<b>1,685</b>
Educational Services	7.1%	<b>1,654</b>
Administrative and Support and Waste Mgmt.	6.6%	<b>1,545</b>
Wholesale Trade	4.3%	<b>996</b>
Finance and Insurance	3.6%	<b>849</b>
Information	3.5%	<b>827</b>
Management of Companies and Enterprises	2.9%	<b>686</b>
Transportation and Warehousing	2.8%	<b>664</b>
Other Services (except Public Administration)	2.3%	<b>536</b>
Government Enterprises	2.1%	<b>501</b>
Arts, Entertainment, and Recreation	1.8%	<b>421</b>
Real Estate and Rental and Leasing	1.8%	<b>419</b>
Utilities	0.7%	<b>155</b>
Agriculture, Forestry, Fishing and Hunting	0.3%	<b>79</b>
Mining, Quarrying, and Oil and Gas Extraction	0.3%	<b>64</b>
<b>ALL SECTORS</b>		<b>23,385</b>

### *Total Direct Effects of New Community Business Activity*

The job count, industries, and average income data were used to estimate that new community businesses will generate \$12.4 billion annually in direct effects.

### **Estimating Out-Commuter Household Spending**

To the extent that new community jobs are staffed by new community or other Solano County residents,

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County, the average income is roughly \$53,000, while in Sonoma County the average is just over \$74,000 and in Alameda the average is just over \$96,000. Though Solano County incomes for each industry are typically below the average across the counties covering the set of Comparable Cities, for some industries Solano County jobs pay more than the average.

<sup>19</sup> For example, across all 15 Comparable Cities, Census data shows there are 44,411 retail jobs. Solano County’s two Comparable Cities—Benicia and Suisun City—account for 3.2% of these retail jobs, and therefore, the average Retail sector income in Solano County (\$40,684 in 2024 dollars) accounts for 3.2% of the weighted average used to estimate average Retail sector incomes in the new community.

the IMPLAN model captures the economic impact of this consumer spending in Solano County (i.e., as an “induced” effect). Economic data suggests that 24.4% of new community jobs will be staffed by “in-commuters” (i.e. individuals living outside Solano County); the income earned by these in-commuters largely constitutes “leakage” for purposes of estimating Solano County economic impacts, as these workers will spend most of their income in their county of residence.<sup>20</sup>

Similarly, some new community residents will commute to work outside Solano County (i.e., “out-commuters”). These out-commuters will spend most of their income in Solano County, generating benefits for the new community and surrounding Solano County cities.

Estimating out-commuters’ economic impacts within Solano County requires estimating the total labor income earned by out-commuters. In the IMPLAN model, this constitutes a “household income” event; the model estimates induced effects within a region given the total additional household income earned. This household income is itself a function of (1) the number of out-commuters; and (2) the average income per out-commuter.

Estimates of out-commuter household income are derived from the expected prices of new community homes and the conventional assumption that housing costs account for 30% of total household income.<sup>21</sup> For purposes of estimating household incomes, therefore, we estimate that the average new community household will similarly devote 30% of its income housing costs. Of the total \$3.26 billion of estimated annual new community household income, we estimate that 21.7%, or \$707 million, is earned by out-commuters.

## Ongoing Activity – Results

This section presents estimates of the annual economic impacts of Ongoing Activity in the new community. Estimates of total economic output and jobs supported were developed for both Solano County and other California counties.

### Estimate of Direct, Indirect, and Induced Effects from Ongoing Activity

Figure 8 (below) shows estimated economic Ongoing Activity from the new businesses and out-commuter household income. Approximately \$12.36 billion in annual business spending generates an additional \$3.43 billion in indirect and induced effects in the County, while out-commuter household income generates an additional \$0.35 billion in induced effects. In total, therefore, the new community delivers \$16.14 billion in annual Ongoing Activity in Solano County.

In other California counties, this business activity and household spending generates a total of \$1.64

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<sup>20</sup> The new community’s in-commuters will spend some portion of their income in the new community or elsewhere in Solano County as well (e.g., expenditures on lunch during the workday or trips to surrounding retail locations on their trips home). As a technical matter, in IMPLAN, the model estimates that 22.3% of total labor income paid by new community businesses leaks outside Solano County, which is consistent with our estimate the 24.4% of new community workers will be in-commuters who spend most—but not all—of their income in their county of residence.

<sup>21</sup> For homeowners, annual housing costs are the sum of household mortgage payments, homeowners’ insurance, and property taxes, and were offset by expected rental income from these households’ accessory dwelling units. Estimated mortgage payments were based on 20% down payments, with 30-year loans issued at a 5% annual mortgage rate. Annual insurance costs were set equal to 0.38% of the home price. Annual property tax rates were set equal to 1.0% of the home price. For renter households, annual housing costs are equal to annual estimated rents paid.



billion of economic activity annually. Statewide, the new community’s Ongoing Impact is therefore \$17.78 billion.

*Figure 8 – Summary Ongoing Activity (billion 2024 \$)*

	Solano County	Other California	All California
<b>New Business Activity</b>			
Direct	\$12.36	\$0.00	\$12.36
Indirect	\$2.18	\$0.66	\$2.84
Induced	\$1.26	\$0.94	\$2.19
<b>Total Economic Impact</b>	<b>\$15.79</b>	<b>\$1.60</b>	<b>\$17.39</b>
<b>Out-Commuter Household Income</b>			
Induced	\$0.35	\$0.05	\$0.40
<b>Total Economic Impact</b>	<b>\$0.35</b>	<b>\$0.05</b>	<b>\$0.40</b>
<b>ALL ONGOING</b>			
Direct	\$12.36	\$0.00	\$12.36
Indirect	\$2.18	\$0.66	\$2.84
Induced	\$1.61	\$0.98	\$2.59
<b>Total Economic Impact</b>	<b>\$16.14</b>	<b>\$1.64</b>	<b>\$17.78</b>

### Estimate of Jobs Created by Ongoing Activity

Estimated job creation due to the new community’s ongoing activities is shown in Figure 9. The 23,385 jobs created in the new community result in an additional 11,957 indirect and induced jobs in the County. Out-commuter consumer spending creates an additional 1,544 induced jobs. In total, the new community’s ongoing activities create an estimated 36,887 jobs in Solano County.

Outside Solano County, the new community would support 5,059 new jobs. As a result, the new community would provide 41,945 total new, ongoing jobs statewide.

*Figure 9 – Jobs Summary - Ongoing Activity*

	Solano County	Other California	All California
<b>New Business Activity</b>			
Direct	23,385	0	23,385
Indirect	6,599	1,494	8,093
Induced	5,359	3,400	8,759
<b>Total Jobs</b>	<b>35,342</b>	<b>4,894</b>	<b>40,236</b>
<b>Out-Commuter Household Income</b>			
Induced	1,544	165	1,709
<b>Total Jobs</b>	<b>1,544</b>	<b>165</b>	<b>1,709</b>
<b>ALL ONGOING</b>			
Direct	23,385	0	23,385
Indirect	6,599	1,494	8,093
Induced	6,903	3,565	10,468
<b>Total Jobs</b>	<b>36,887</b>	<b>5,059</b>	<b>41,945</b>

Figure 10 (below) summarizes this job creation by job sector, showing the 10 sectors with the largest number of ongoing jobs. Of the estimated 36,887 jobs created in Solano County, 5,615 are in the Health Care and Social Assistance sector, along with 3,751 in the Professional, Scientific, and Technical Services sector. Retail Trade would account for an additional 4,125 jobs throughout the County. This analysis and the results presented in the table do not capture any jobs created by the construction of Phase Two of the new community, i.e. construction for residents over the 50,000 in Phase One. The start of that construction process would add a significant number of additional jobs on top of the 41,495 jobs estimated here from the ongoing activity of the new community of 50,000 residents. In addition, these results do not reflect the additional jobs for sole proprietors and business owners, reported in the section “Total Employment Including Wage and Salary Jobs and Proprietor Employment.”

*Figure 10 – New Ongoing Jobs by Sector*

	Solano County	Other California	All California
<b>Total Jobs, All Sectors</b>	<b>36,887</b>	<b>5,059</b>	<b>41,945</b>
Health Care and Social Assistance	5,615	870	6,468
Retail Trade	4,125	485	4,597
Accommodation and Food Services	3,838	627	4,450
Professional, Scientific, and Technical Services	3,751	415	4,161
Administrative and Support and Waste Management	3,583	329	3,893
Construction	2,144	47	2,190
Other Services (except Public Administration)	1,887	396	2,274
Educational Services	1,854	130	1,982
Manufacturing	1,830	93	1,922
Finance and Insurance	1,504	298	1,799
All Other Sectors	6,756	1,369	8,210
<b>Increase in County Jobs</b>	<b>25.5%</b>		

## Ongoing Activity in Solano County Cities

To estimate the ongoing economic activity and jobs for the jurisdictions within Solano County, we first used the Comparable Cities analysis described above to estimate the jobs in the new community. We then used a gravity model to estimate the jobs in each of the other jurisdictions within the County. Of the \$16.1 billion in new County economic activity, roughly \$3.78 billion (or 23.4%) is estimated to occur as indirect or induced effects in the other seven existing cities.<sup>22</sup> Similarly, of the 36,887 new jobs created, existing communities are estimated to account for 13,502 (or 36.6% of the total).

<sup>22</sup> Includes impacts to the unincorporated area outside of the new community.

## Potential for Larger Economic Impacts

The analysis presented in this is based on the characteristics of comparable communities in terms of the number of jobs they support per resident. To the extent that the new community becomes a regional job center as California Forever anticipates, it would support a larger number of jobs per resident, with correspondingly larger economic impacts on Solano County. In order to anticipate the potential economic effects of such an outcome, we modeled the impacts assuming that the new community supported as many jobs per 100 residents as Walnut Creek (77.6) rather than the average for comparable cities (46.5).

Under this assumption, the East Solano Plan would by 2040 create 38,940 permanent jobs in the new community, and another 21,432 new permanent jobs elsewhere in Solano County, for a total countywide impact of 60,372 new permanent jobs.

## Total Employment Including Wage and Salary Jobs and Proprietor Employment

The results presented in this memorandum show total wage and salary employment, the most commonly reported measure of employment. This measure excludes workers who are self-employed, business owners, or independent contractors. Jobs for these types of workers are classified as "Proprietor Employment." For example, a self-employed realtor would not be counted in the measure of wage and salary employment but would be counted in the proprietor employment category. Many of those who hold jobs in this category also have wage and salary jobs. For example, a self-employed realtor might also work as an office manager for a real estate company; similarly, a restaurant owner might pay themselves a salary as the restaurant manager and also earn income from the restaurant's profits. In this case, there would be one wage and salary job and one proprietor employment job. Thus, some of the jobs classified as proprietor employment do not reflect full time effort or are held by individuals who also earn income from a wage and salary job. However, some of the employment counted as proprietor employment does reflect full-time work for individuals with no other source of employment, such as a business owner who does not pay themselves a salary.

During construction of Phase One, proprietor employment would account for an additional 3,127 jobs for sole proprietors, business owners and independent contractors, for a total of 12,413 new jobs in Solano County.

Following the completion of Phase One, the East Solano Plan would support ongoing wage and salary jobs as well as proprietor employment jobs. Figure 11 below shows ongoing new wage and salary employment as well as proprietor employment by sector. The total is 36,887 new jobs and additional 16,149 new jobs for sole proprietors, business owners and independent contractors, for a total of 53,036 new jobs in Solano County.

*Figure 11 – Total Jobs by Sector Including Wage and Salary and Proprietor Employment  
[Baseline scenario – based on median of comparable cities]*

Industry	Wage And Salary Employment	Proprietor Employment	Total Employment
Agriculture, Forestry, Fishing and Hunting	129	81	<b>210</b>
Mining, Quarrying, and Oil and Gas Extraction	74	213	<b>287</b>
Utilities	311	62	<b>374</b>
Construction	2,143	599	<b>2,743</b>
Manufacturing	1,830	134	<b>1,964</b>
Wholesale Trade	1,299	240	<b>1,539</b>
Retail Trade	4,111	1,170	<b>5,281</b>
Transportation and Warehousing	1,066	1,311	<b>2,376</b>
Information	968	303	<b>1,271</b>
Finance and Insurance	1,501	1,694	<b>3,195</b>
Real Estate and Rental and Leasing	739	2,180	<b>2,920</b>
Professional, Scientific, and Technical Services	3,746	2,325	<b>6,071</b>
Management of Companies and Enterprises	848	49	<b>897</b>
Administrative and Support and Waste Mgmt.	3,613	2,060	<b>5,673</b>
Educational Services	1,852	593	<b>2,445</b>
Health Care and Social Assistance	5,598	991	<b>6,589</b>
Arts, Entertainment, and Recreation	681	807	<b>1,488</b>
Accommodation and Food Services	3,824	471	<b>4,295</b>
Other Services (except Public Administration)	1,877	866	<b>2,744</b>
Government Enterprises	676	0	<b>676</b>
<b>Total</b>	<b>36,887</b>	<b>16,149</b>	<b>53,036</b>

To the extent that the new community becomes a regional job center as California Forever anticipates, it would, in addition to supporting a larger number of jobs regular wage and salary jobs, also support additional proprietor employment. Figure 12 below presents the total number of jobs under these assumptions, including wage and salary jobs and proprietor employment. The total is 60,372 new jobs and additional 26,579 new jobs for sole proprietors, business owners and independent contractors, for a total of 86,952 new jobs in Solano County.

*Figure 12 – Total Jobs by Sector Including Wage and Salary and Proprietor Employment  
[Regional job center scenario – based on Walnut Creek]*

Industry	Wage And Salary Employment	Proprietor Employment	Total Employment
Agriculture, Forestry, Fishing and Hunting	215	134	<b>349</b>
Mining, Quarrying, and Oil and Gas Extraction	123	355	<b>478</b>
Utilities	357	67	<b>423</b>
Construction	3,569	998	<b>4,567</b>
Manufacturing	3,052	223	<b>3,276</b>
Wholesale Trade	2,158	400	<b>2,558</b>
Retail Trade	6,652	1,894	<b>8,546</b>
Transportation and Warehousing	1,759	2,156	<b>3,916</b>
Information	1,611	504	<b>2,115</b>
Finance and Insurance	2,478	2,800	<b>5,277</b>
Real Estate and Rental and Leasing	1,220	3,603	<b>4,823</b>
Professional, Scientific, and Technical Services	6,232	3,870	<b>10,102</b>
Management of Companies and Enterprises	1,413	82	<b>1,495</b>
Administrative and Support and Waste Mgmt.	5,998	3,415	<b>9,413</b>
Educational Services	3,068	983	<b>4,051</b>
Health Care and Social Assistance	9,048	1,615	<b>10,663</b>
Arts, Entertainment, and Recreation	1,119	1,327	<b>2,446</b>
Accommodation and Food Services	6,186	765	<b>6,950</b>
Other Services (except Public Administration)	2,994	1,386	<b>4,380</b>
Government Enterprises	1,122	0	<b>1,122</b>
<b>Total</b>	<b>60,372</b>	<b>26,579</b>	<b>86,952</b>

## About the Blue Sky Consulting Group

The Blue Sky Consulting Group is a public policy and economics consulting firm founded in 2005. The firm's subject matter experts come from the highest levels of government, academia and the private sector, offering insights, analysis, and strategic advice to clients across a broad range of practice areas. Our clients have included the State Treasurer, State Controller, and multiple state departments and agencies, including the Department of Housing and Community Development, Housing Finance Agency, and Office of Emergency Services. We have also worked for numerous local governments, including Los Angeles County, City of Los Angeles, City and County of San Francisco, and City of Oakland.

This report was prepared by Matthew Newman, Shawn Blosser, and James Paci.

Matthew Newman is a joint founder of the firm and an expert in the state-local fiscal relationship, county finance, and economic analysis. Mr. Newman's economic modeling work includes experience with REMI and IMPLAN, as well as custom-built economic forecasting and simulation models. Previously, Mr. Newman was the Executive Director of the California Institute for County Government, a nonpartisan public policy research institute. He also worked for LECG, an international economics and public policy consulting firm and California's Legislative Analyst's Office. Mr. Newman is a Phi Beta Kappa, magna cum laude graduate of the College Honors program at the University of California at Los Angeles and holds a Master of Public Policy degree from Harvard University's Kennedy School of Government.

Shawn Blosser is a Senior Consultant with the Blue Sky Consulting Group, focusing on quantitative analyses of large datasets. Mr. Blosser has designed and implemented complex quantitative analyses in areas as varied as affordable housing, consumer financial services, health care, waste management, and public finance, among others. Previously, Mr. Blosser was a fellow at the California Institute for County Government, where he assisted with the development of a series of regional economic forecasting models. Mr. Blosser worked for six years at LECG, Inc., where he was a Senior Economist primarily involved in preparing economic analyses for corporate litigation and regulatory matters. Mr. Blosser received his B.A. with Honors in Economics from Stanford University and attended the graduate program in Economics at the University of Chicago, where his studies focused on environmental and urban economics.

James Paci has professional experience in policy research and the design, procurement, and evaluation of public programs; previous academic work focused on economics, public finance, and statistical analysis. Previously, James worked as the Deputy Director of Innovation & Analysis at the Massachusetts Bay Transportation Authority. James also worked as a litigator in New York, with a primary focus on SEC and CFTC enforcement actions, and other securities, commercial, and environmental lawsuits. James received a Master of Public Policy degree from Harvard University's Kennedy School of Government and holds a JD from Cornell Law School and a Bachelor of Arts in Philosophy from the University of Pennsylvania.