



CalPERS for California 2017

Supporting Economic
Opportunity in California



CalPERS for California



The California Public Employees' Retirement System (CalPERS) is one of the largest investors in the world, with \$323.7 billion in assets as of June 30, 2017.

Approximately \$30.0 billion (9.3 percent) of these funds are invested in California-based companies and projects.

CalPERS for California highlights some of the broad ancillary benefits of all CalPERS investments in California.

Table of Contents

Executive Summary	3
Public Markets	7
Global Equity	7
Global Fixed Income	9
Private Markets	10
Private Equity	10
Real Estate	13
Infrastructure	16
The Economic Impact of CalPERS'	
Private Markets Investments in California	17
Conclusion	18
Locations of CalPERS Investments in California	19
Endnotes	23

Executive Summary

CalPERS, the nation's largest public pension fund, plays an important role in California's economy, providing retirement and health benefits to over 1.9 million public employees, retirees and their families, and 3,000 employers.

CalPERS for California examines CalPERS' investment portfolio as of fiscal year end, June 30, 2017, and describes the scale and breadth of CalPERS' exposure to companies, properties, and projects in California, and the ancillary benefits from CalPERS' investments.

The primary objective of CalPERS' investments in California is to achieve appropriate risk-adjusted return on investment. All of CalPERS' investments must be consistent with the fiduciary responsibility of the CalPERS Board of Administration and its duty to protect the financial security of CalPERS members. CalPERS invests like other large institutions, diversifying its portfolio among categories

of investments, called "asset classes", to reduce its exposure to any one market risk and maximize its return on investment. CalPERS' investment decisions are guided by its Pension and Investment Beliefs and are made in accordance with its strategic asset allocation policy and risk management system.

Investment in California by CalPERS staff and its third-party investment managers reflects the strength and diversity of California's economy and the quality of its companies, properties, and other investment opportunities.¹ As the world's sixth largest economy, California offers a wide array of attractive investment opportunities for all investors, including CalPERS.²

As of June 30, 2017, CalPERS had invested 9.3% or \$30.0 billion of its \$323.7 billion in total assets in California.

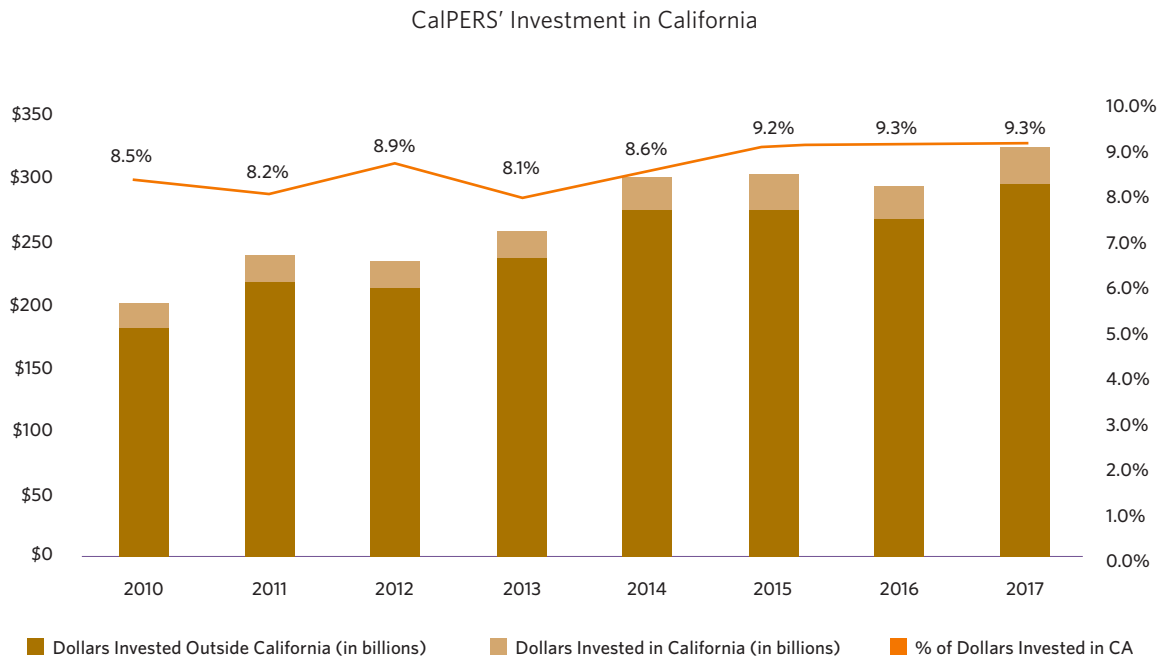
CalPERS Investments in California by Asset Class: June 30, 2017

	Total Portfolio Value (in billions) ³	Dollars Invested in California (in billions)	Percentage of Dollars Invested in California	Annual Percentage Change in Dollars Invested in California
Global Equity	\$156.2	\$14.5	9.3%	9.0%
Global Fixed Income	\$62.9	\$3.7	5.9%	12.1%
Private Equity	\$25.9	\$2.2	8.5%	-4.3%
Real Estate	\$30.5	\$9.2	30.2%	15.0%
Infrastructure	\$3.8	\$0.38	10.0%	8.6%
Other ⁴	\$44.4	—	—	—
All CalPERS Total	\$323.7	\$30.0	9.3%	10.3%

The 10.3 percent increase in dollars invested in California over the last year is a result of increases across global equity, global fixed income, real estate, and infrastructure. Factors driving year-over-year changes in dollars invested in California are described as follows for each asset class:

- **Global Equity:** Market gains in California holdings, consistent with the overall performance of the U.S. stock market, have led to an increase in dollars invested in California. Strong relationships with California investment managers and partners, who continue to offer CalPERS valuable insights and innovations, also contributed to this increase.
- **Global Fixed Income:** Increased exposure to the technology sector, which tends to be weighted towards California, led to an increase in fixed income dollars invested in California.
- **Private Equity:** The sale of California-based companies outpaced acquisitions, resulting in cash returns for CalPERS and a reduction in private equity exposure in California.
- **Real Estate:** The portfolio's weighting to California reflects the real estate team's intent to deploy capital similarly to the NCREIF ODCE Index, which holds 27.1 percent in California. Additionally, CalPERS' Real Assets Strategic Plan focuses on core markets, and there is a concentration of core gateway real estate markets in California. Over the past year, the acquisition of new properties in California, including nine apartments, six industrial buildings, and two office buildings has led to an increase in dollars invested in California. The appreciation of existing real estate investments also contributed to this increase.
- **Infrastructure:** The appreciation of existing infrastructure assets, particularly the Desert Sunlight Solar Farm, has led to an increase in dollars invested in California. A new investment in a Western Generation co-generation project also contributed to this increase.

CalPERS has had 8 percent or more of its assets invested in California since 2010. The following chart depicts CalPERS' exposure in California.



While CalPERS invests in California with the objective of achieving appropriate risk-adjusted returns, CalPERS' investments can also strengthen the communities in which they are located.

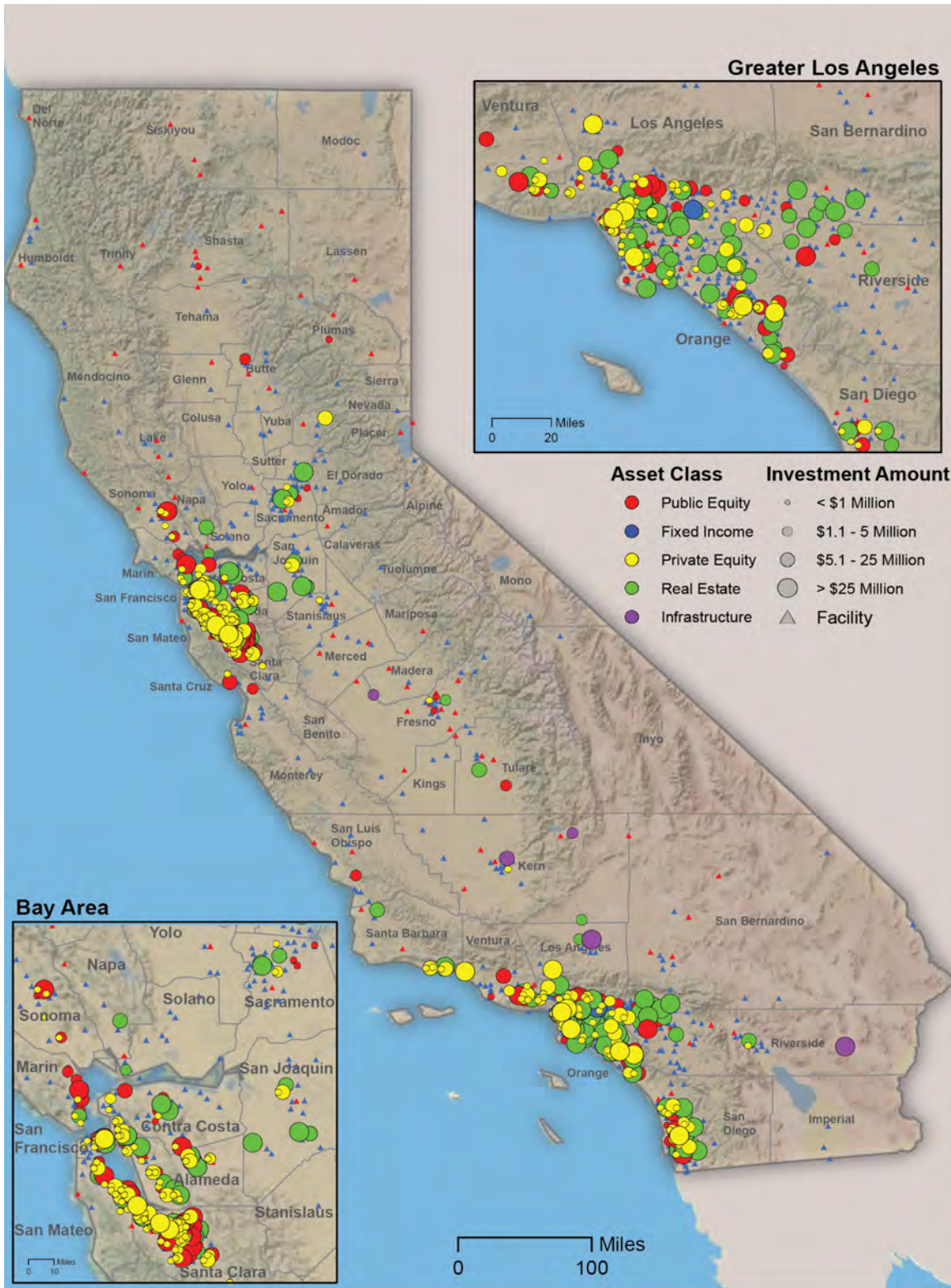
The ancillary benefits of CalPERS' private investments in California, for example, include the support of local jobs, infrastructure for communities and commerce, and business expansion and related economic activity. As of June 30, 2017, CalPERS' active private markets investments in California have resulted in \$26.2 billion in total economic activity across the state, benefiting not only businesses and projects receiving capital from CalPERS, but also suppliers, workers, and — through tax revenues — the public sector broadly.⁵

The total number of jobs supported by CalPERS' investments in private markets are presented below.

**Jobs by Private Market Asset Class:
June 30, 2017⁶**

Private Equity	111,000
Real Estate	140,000
Infrastructure	15,200
Private Markets Total	266,200

CalPERS Investments by Asset Class in California



Public Markets

CalPERS invests the largest amount of its assets in total, and in California, in the public markets through global equity and global fixed income investments.

The analysis that follows includes estimates of the number of workers employed in California by the companies in which CalPERS invests. Note that most of these holdings were acquired in the secondary market, and CalPERS is but one of many investors in these public companies. For example, CalPERS owns approximately 0.2 percent of the largest California-headquartered companies in its portfolio.

This research focuses on California-headquartered companies in which CalPERS has a more significant stake, which, because of their impact on the California economy, are more significant than those headquartered elsewhere.

Global Equity

Global Equity	Total Market Value	\$156.2 billion
	Value in CA	\$14.5 billion
	Percentage in CA	9.3%

CalPERS invests in public companies primarily as a long-term investor. The largest allocation of global equity is passively managed by an in-house team of investment professionals. CalPERS also formally engages with companies directly to better align the interests of long-term shareowners and companies in pursuit of sustainable risk-adjusted returns. CalPERS and its external investment managers also formally engage with companies directly to better align the interests of long-term shareowners and companies in pursuit of sustainable risk-adjusted returns. Global equity is the principal asset class providing growth exposure in CalPERS' strategic asset allocation.

The following table depicts CalPERS' global equity investments in California-headquartered companies.

CalPERS Global Equities Portfolio in California: June 30, 2017⁹

Total Companies	555	
Median Company Size (Employees)	942	
Average CalPERS Investment (in millions)	\$26.1	
Company Size (Employees)	1-100 Employees	9%
	101-500 Employees	28%
	> 500 Employees	63%
Company Size (Revenue, in millions)	< \$100	24%
	\$100-\$500	33%
	Over \$500	43%
Estimated Number of Jobs in California ¹⁰	1,084,000	
Percentage of Facilities in California	24%	

CalPERS' ten largest investments with companies headquartered in California account for 54 percent of CalPERS' public equity investments in California.

CalPERS Top 10 Global Equity Investments in California: June 30, 2017

Company Name	CalPERS Investment (in millions) ¹¹	Total Market Capitalization (in millions) ¹²	CalPERS % of Market Value	Company Facilities in California ¹³
Apple Inc.	\$2,004.7	\$744,552	0.27%	14%
Alphabet Inc.	\$1,449.7	\$1,273,790	0.11%	22%
Facebook Inc.	\$902.1	\$438,295	0.21%	28%
Wells Fargo & Co.	\$749.9	\$275,209	0.27%	17%
Chevron Corp.	\$511.4	\$197,706	0.26%	25%
Intel Corp.	\$488.1	\$158,544	0.31%	18%
Walt Disney Co.	\$466.8	\$170,000	0.27%	30%
Cisco Systems Inc.	\$464.4	\$156,437	0.30%	13%
Visa Inc.	\$424.5	\$214,553	0.20%	19%
Oracle Corp.	\$404.6	\$207,429	0.20%	15%

Global Fixed Income¹⁴

Global Equity	Total Market Value	\$62.9 billion
	Value in CA	\$3.7 billion
	Percentage in CA	5.9%

CalPERS' Global Fixed Income strategy seeks to diversify and mitigate risk in CalPERS' overall investment programs and to enhance total returns. CalPERS has global fixed income investments in California in four areas:

- **Corporate bonds:** Corporate bonds are debt securities issued by private and public corporations. Companies issue corporate bonds to raise money for a variety of purposes, such as building new plants or purchasing equipment.

- **Structured securities:** Structured securities are investments in a diverse group of loans and provide risk and return characteristics contingent on a range of underlying indices, interest rates or cash flows.
- **Short-term investments:** Short-term investments consist of U.S. Treasury and government sponsored securities, money market funds, commercial paper, certificates of deposit, repurchase agreements, asset backed securities, notes and bonds issued by U.S. corporations, and other allowable instruments that meet short-term maturity or average life, diversification, and credit quality restrictions.
- **Whole loans:** Whole loans include remaining California mortgages through the CalPERS Member Home Loan Program.

The following table depicts CalPERS’ global fixed income investments in California.

**CalPERS Global Fixed Income
Investment Classes in California: June 30, 2017**

	Dollars invested (in millions)	Percentage of dollars invested
Corporate Bonds	\$1,046	27.9%
Structured Securities	\$2,157	57.5%
Short-term Investments	\$495	13.2%
Whole Loans	\$52	1.4%
Total	\$3,750	100%

While CalPERS investments in structured securities, short-term investments, and whole loans do not include sufficient information to assess potential economic benefits to the state, employment, annual revenue, and other characteristics of companies represented by CalPERS’ corporate bond portfolio can be examined, as a measure of these companies’ economic presence within the state.

CalPERS’ Global Fixed Income portfolio includes corporate bond investments in 53 companies headquartered in California. CalPERS invests \$1.0 billion through an internally managed portfolio comprised of 26 of these companies. The 26 companies in which CalPERS invests internally are larger than companies invested in by other asset classes, with a median size of approximately 19,000 employees.

The following table depicts CalPERS’ internally managed corporate bonds portfolio in California.

**CalPERS Global Fixed Income Portfolio —
Corporate Bonds in California: June 30, 2017¹⁵**

Total Companies	26	
Median Company Size (Employees)	19,000	
Average CalPERS Investment (in millions)	\$18.5	
Company Size (Employees)	1-100 Employees	4%
	101-500 Employees	4%
	>500 Employees	92%
Company Size (Annual Revenue, in millions)	<\$100	0%
	\$101 - \$500	4%
	Over \$500	96%
Estimated Number of Jobs in California ¹⁶	282,000	
Percentage of Facilities in California	19%	

Private Markets¹⁷

CalPERS invests in private markets that include private equity, real estate, and infrastructure exclusively through the use of external investment managers.

Private market strategies encompass investments in companies, properties, and projects that cannot be accessed publicly. In any given deal, fund, or partnership, CalPERS is typically a larger investor among a more targeted group of institutions.

The job creation and other ancillary benefits of private companies, properties and projects that receive investments directly from CalPERS, or through contracted third-party investment managers, can be more directly attributed to CalPERS than investments in public markets.

Access to capital is an important factor in business and productivity growth, job and wealth creation, innovation, and sustainable community and economic development. The benefits of access to capital accrue to the direct recipients of investments, and to the areas in which they are located.

The private markets section of *CalPERS for California* highlights four areas in which capital may be especially socially beneficial.¹⁸ This includes:

- Low- to Moderate-Income (LMI) Areas¹⁹
- High Unemployment Areas²⁰
- High Minority Areas²¹
- Rural Areas²²

As with all of CalPERS' investments, the decision of CalPERS and its third-party investment managers to support a California-based company, property or project is made solely on the basis of the financial merits of the particular investment opportunity.

Private Equity

Private Equity	Total Market Value	\$25.9 billion
	Value in CA	\$2.2 billion ²³
	Percentage in CA	8.5%

The strategic objective of CalPERS' private equity investments is to maximize risk-adjusted rates of return and enhance the equity return of the total CalPERS' portfolio. CalPERS is a significant investor in privately held California-based companies in a wide range of industries.

CalPERS invests in private companies primarily through Limited Partnerships, or comingled funds. These investments are often structured as 10-year agreements with a professional investment manager. The manager, known as the General Partner, is the intermediary between investors with capital and businesses seeking capital.

The companies in CalPERS' private equity portfolio that are headquartered in California are estimated to employ 111,000 workers in the state. An estimated \$41 billion has been co-invested alongside CalPERS in the same California-based companies by other Limited Partners.²⁴ However, these investments are not directly attributable to CalPERS' investments.

CalPERS Private Equity Portfolio in California: June 30, 2017

Total Companies	971
CalPERS Investments (in billions)	\$2.2
Estimated Jobs in CA ²⁵	111,000

CalPERS private equity investments provide a unique ancillary benefit by deploying capital to areas that have traditionally had limited access to institutional private equity assets. Private equity investment has historically been clustered in geographic regions such as Silicon Valley. Specifically, nearly 95 percent of private equity capital in California has been invested in just six percent of ZIP codes across the state. As of June 30, 2017, 13 percent of the value of CalPERS private equity investments was directed to ZIP codes outside the areas receiving the vast majority of investments from all sources of institutional private equity capital.

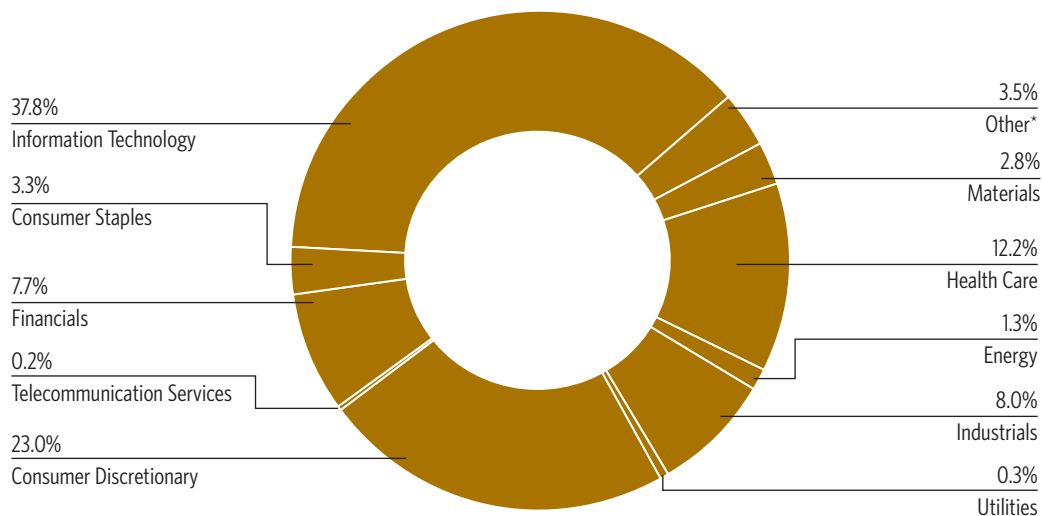
Eighty-four percent of the value of CalPERS' private equity investments in California is in high minority areas. CalPERS also has private equity investments in high unemployment, LMI, and rural areas. The following table depicts CalPERS' private equity investments in California:

Private Equity Ancillary Benefits in California²⁶

	Percentage of investments	Percentage of dollars
High Unemployment Areas	8%	10%
Rural Areas	5%	11%
High Minority Areas	88%	84%
LMI Areas	21%	12%
Limited Capital Access Areas ²⁷	11%	13%

CalPERS invests in a wide range of companies, with investments in more than eleven different industries. The following chart shows the diversity of CalPERS' California private equity portfolio with the distribution of sectors.

California Private Equity Investments by Industry²⁸



Case Study: CalPERS California Initiative

The CalPERS California Initiative (Initiative) was a private equity investment strategy that provided capital to companies primarily in California with the goal of generating financial returns that meet or exceed industry benchmarks. As an ancillary objective, the Initiative invested in traditionally underserved areas where capital had not typically been focused, supporting local job creation. The Initiative was established in 2001 and invested \$1 billion.

A final comprehensive examination of the ancillary benefits of the Initiative is available in a separate report on CalPERS website at:

www.calpers.ca.gov/californiareport.

Since inception, the California Initiative:

- Supported job creation at portfolio companies with employment growth rates that significantly outpaced national and state averages.
- Created job opportunities for employees from California’s underserved communities.
- Invested a significant share of private equity capital in areas of the state that historically had limited access to institutional equity capital.
- Invested a significant share of private equity capital in companies with women and minority leadership.

Since Inception California Initiative Results: Job Support and Job Creation

Ancillary Benefits ²⁹	Overall California Initiative	The California Initiative within California	Percentage within California
Total Jobs/ Employees Supported	176,404	43,043	24%
Total Jobs Created Since Investment ³⁰	42,513	16,781	39%
Percentage Job Growth Since Investment ³¹	32%	64%	n/a

California Initiative Ancillary Benefits: Annual Average 2011-2017 ³²

	Overall California Initiative	The California Initiative within California ³³
Percentage of Employees Classified as Low- to Moderate-Income	49%	49%
Percentage of Dollars Invested in Companies Located in Areas Underserved by Institutional Equity Capital	37%	45%
Percentage of Dollars Invested in Companies with at least one Woman Officer	37%	30%
Percentage of Dollars Invested in Companies with at least one Minority Officer	39%	42%

Real Estate

Real Estate	Total Market Value	\$30.5 billion
	Value in CA	\$9.2 billion
	Percentage in CA	30.2%

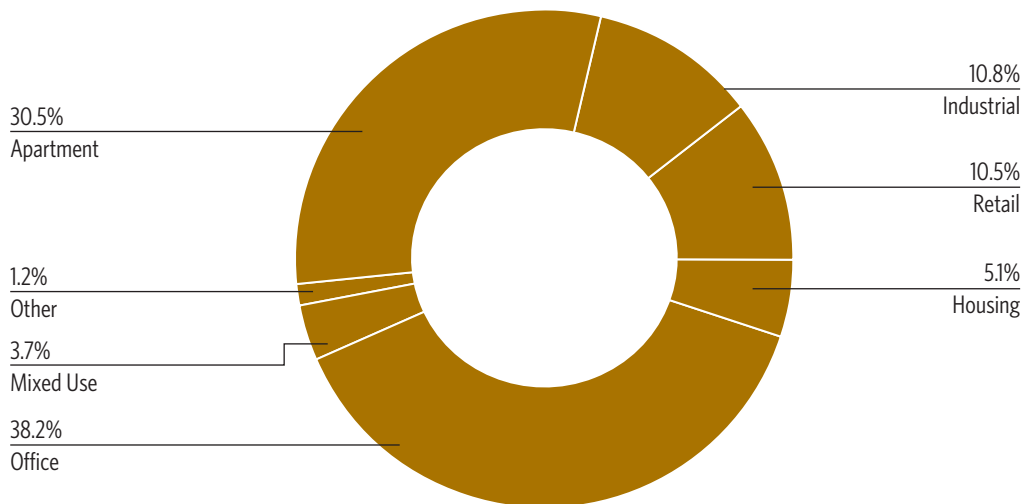
CalPERS invests in real estate primarily through separate accounts and funds with third-party investment managers. CalPERS’ investment strategy for real estate is to invest in “core” assets with stable income, diversified by property type and geography.

The real estate asset class is more heavily weighted to California than any other asset class. This weighting reflects the real estate team’s intent to deploy capital similarly to the current benchmark, the NCREIF ODCE Index, which holds 27.1 percent in California, and also the CalPERS Real Asset Strategic Plan’s focus on core markets, which are concentrated

in California for real estate. The portfolio in California includes a diverse group of assets that provide ancillary benefits in the areas in which they are located, including the creation of construction jobs and economic activity connected to construction, the accommodation of new retail, industrial and commercial employers and the anchoring of communities with real assets.

The following chart highlights the distribution of CalPERS’ California real estate investments, which span more than six property types.

California Real Estate Investments by Property Type ³⁴



In aggregate, CalPERS’ real estate investments support a total of 140,000 jobs.³⁵ This figure encompasses jobs at the development and construction phase as well as from income-generating properties.

CalPERS’ California real estate projects in the development and construction phase support a total of 1,000 jobs. The construction of CalPERS’ California real estate projects not only supports workers within the construction industry, but also indirectly supports workers throughout the state.³⁶

Additionally, CalPERS’ California real estate investment portfolio includes income-generating properties with high occupancy levels such as apartments, mixed use developments, retail centers, office buildings, and industrial centers. These properties provide housing, as well as infrastructure and operating space for retail, professional service providers, and manufacturers. CalPERS’ properties with high occupancy levels also support workers in property management, service, security, and other related industries.³⁷ The sales and leasing income from these income-generating properties supports a total of 139,000 jobs.

**CalPERS Real Estate Portfolio in California:
June 30, 2017**

CalPERS CA Portfolio Value (in billions)	\$9.2
Number of Investments	165
Estimated Jobs in California ³⁸	140,000

In addition to CalPERS \$9.2 billion in investments, an estimated \$1.8 billion has been co-invested alongside CalPERS in the same third-party partnerships.³⁹ However, these investments are not directly attributable to CalPERS’ investments.

Real estate investments are often in Central Business Districts and concentrated in urban areas, where property investments of all types are more readily available. These urban districts typically include a larger proportion of LMI, High Unemployment, and High Minority Areas.

Real Estate Ancillary Benefits in California⁴⁰

	Percentage of investments	Percentage of invested dollars
High Unemployment Areas	35%	26%
Rural Areas	9%	6%
High Minority Areas	78%	75%
LMI Areas	46%	43%

Case Study: City National Plaza

City National Plaza is an iconic 2.5 million square foot commercial high-rise office building situated in the heart of Los Angeles' financial district, with two 52-story office towers, one four-story granite "jewel box" building, a roughly one-acre landscaped plaza, one subterranean retail level, and more than 3,000 on-site parking spaces. City National Plaza has remained a central fixture of downtown Los Angeles since its construction in 1972. On behalf of CalPERS, Commonwealth Partners acquired City National Plaza for \$850 million in 2013.

Since 2013, Commonwealth Partners, in partnership with CalPERS, has invested over \$150 million in City National Plaza to upgrade and fully renovate the property's amenities, create additional conference and event space, and introduce energy efficiency upgrades. During construction of these tenant improvements, 75 percent of all debris was recycled and diverted from landfills. These property enhancements have enabled City National Plaza to attract new tenants and to retain and extend commitments from existing tenants, with many committing to long-term 10 or 15-year leases. City National Plaza's occupancy rate and long-term tenant commitments has enabled the property to deliver steady investment returns to CalPERS.

The \$150 million in improvements and optimized operating strategies at City National Plaza have not only enabled consistent investment returns but have also supported local jobs and broader economic activity. City

National Plaza's responsible contractor program generated upwards of \$21 million per year for vendors and suppliers, supporting fair wages, benefits, and market competition. Additionally, City National Plaza houses approximately 8,000 thousand office workers whose business activities and local spending support the Los Angeles and wider California economy.

City National Plaza also demonstrates the potential to realize ongoing cost savings through environmental efficiency improvements and initiatives. City National Plaza boasts a LEED Gold certification and through its property upgrades has achieved a 38 percent energy reduction on a real per square foot basis that resulted in \$1.1 million in cost savings. Furthermore, City National Plaza was awarded the first place in overall energy management in 2016 by the Los Angeles Department of Water and Power for cumulative savings of over 5.3 million kilowatt-hours of energy through enhanced operating strategies and energy efficiency upgrades. City National Plaza's recycling programs have resulted in over 57 percent of overall building waste diverted from landfills.

CalPERS' investment in City National Plaza, through its partnership with Commonwealth Partners, demonstrates its commitment to acquiring high quality properties that produce stable, attractive returns to CalPERS' members and beneficiaries while supporting important economic infrastructure for California.

Infrastructure

Infrastructure	Total Market Value	\$3.8 billion
	Value in CA	\$377.3 million
	Percentage in CA	10.0%

CalPERS Infrastructure Portfolio in California: June 30, 2017

CalPERS CA Portfolio Value (in millions)	\$377.3
Number of Investments	5
Estimated Jobs in California ⁴²	15,200

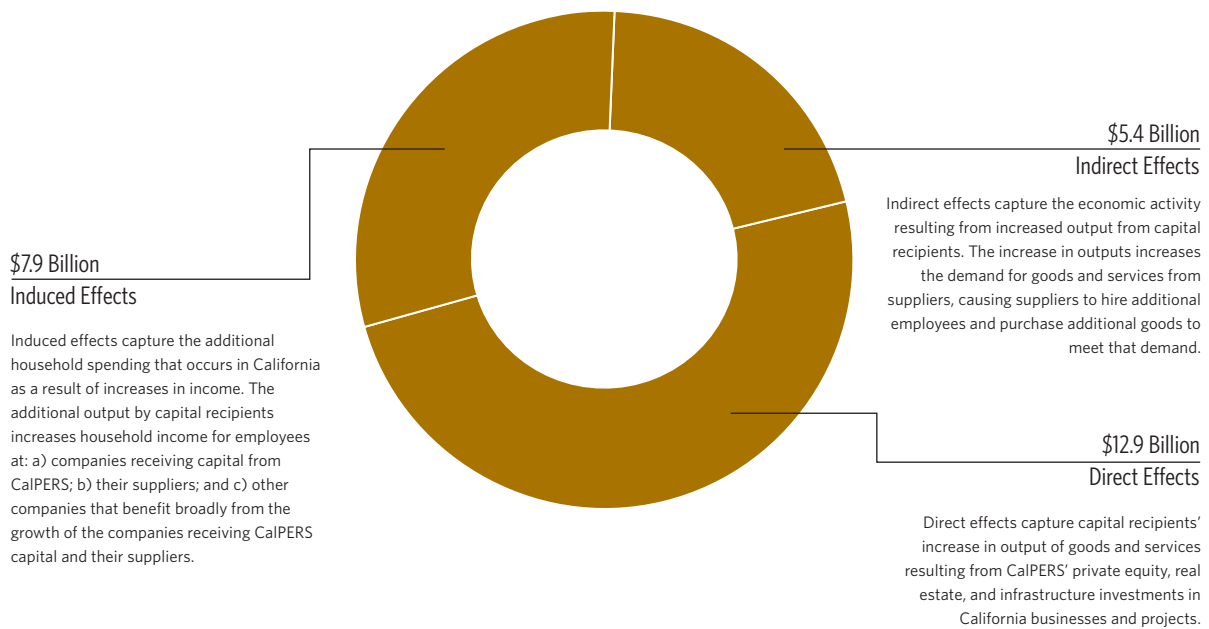
CalPERS seeks stable, defensive infrastructure investments within the water, energy, waste, transportation, technology, and communications sectors. CalPERS invests both directly and in partnership with third-party investment managers. Infrastructure investments have the potential to benefit local economic development and provide essential community services within the state.

CalPERS' infrastructure investments in California are estimated to employ 15,200 workers in the state. In addition to CalPERS \$377 million in investments, an estimated \$964 million has been co-invested alongside CalPERS in the same infrastructure projects.⁴¹ However, these investments are not directly attributable to CalPERS' investments.

The Economic Impact of CalPERS Private Markets Investments in California

CalPERS' private markets investments in California generate \$26.2 billion in economic activity across the state through the "multiplier effect", which accounts for the way in which CalPERS' capital reverberates throughout California's economy. CalPERS' investments result in direct effects, indirect effects, and induced effects within the California economy as described in the chart below.⁴³ A more detailed explanation of the methodology employed for estimating the total economic impact of CalPERS' private markets investments in California is included in the report's endnotes.

CalPERS Total Economic Impact in California: \$26.2 billion⁴⁴



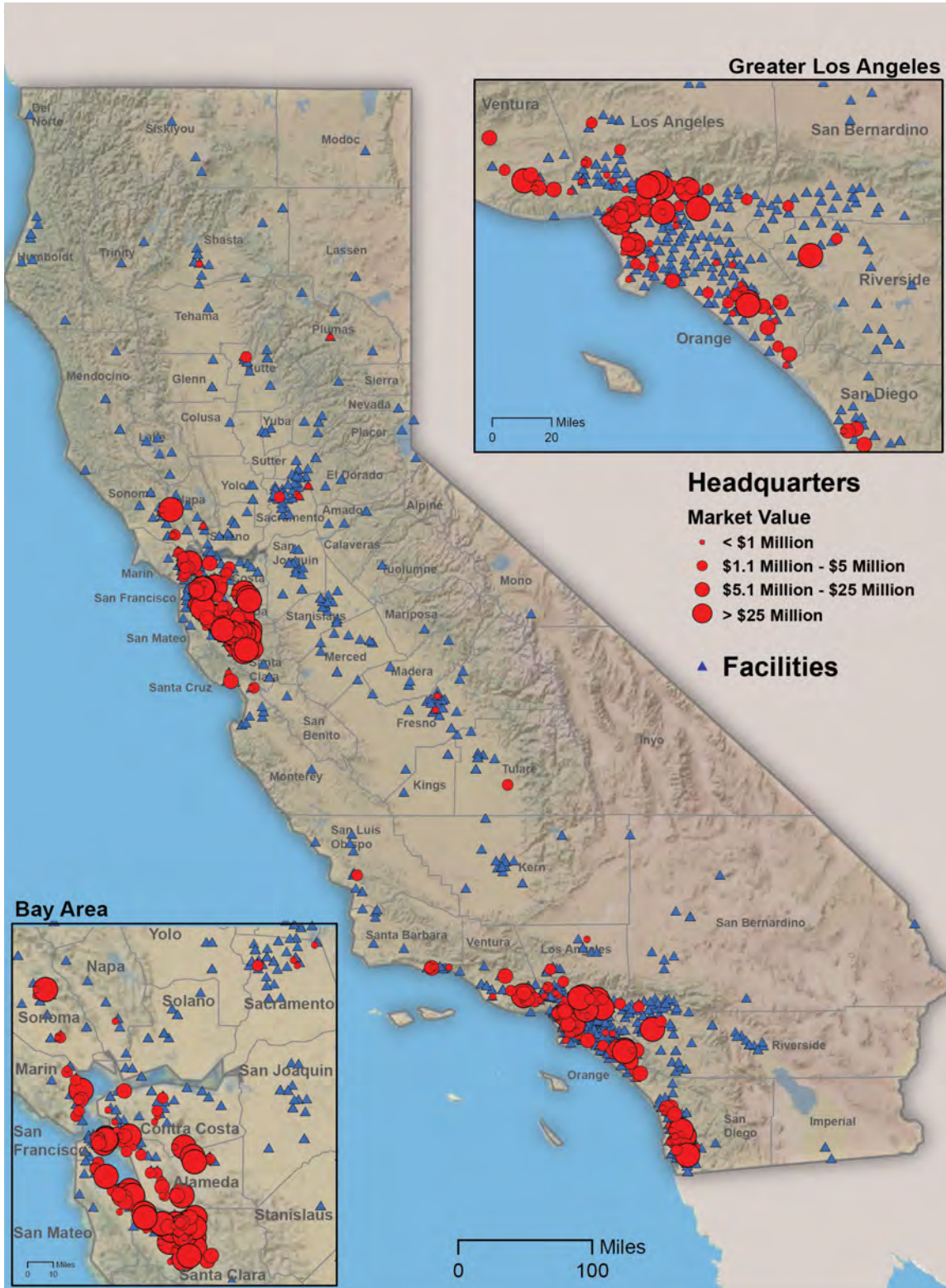
Conclusion

CalPERS invests \$30.0 billion (9.3 percent) of its \$323.7 billion in assets in California, including in the state's underserved communities. CalPERS' private markets investments in California generate \$26.2 billion in economic activity and provide significant ancillary benefits resulting from the magnitude and breadth of CalPERS' presence in the state.

CalPERS will continue to pursue California-based investment opportunities grounded in the historic strength of the state economy, seeking attractive risk-adjusted financial returns. *CalPERS for California* demonstrates CalPERS' ongoing commitment to rigorously track and report on these efforts.

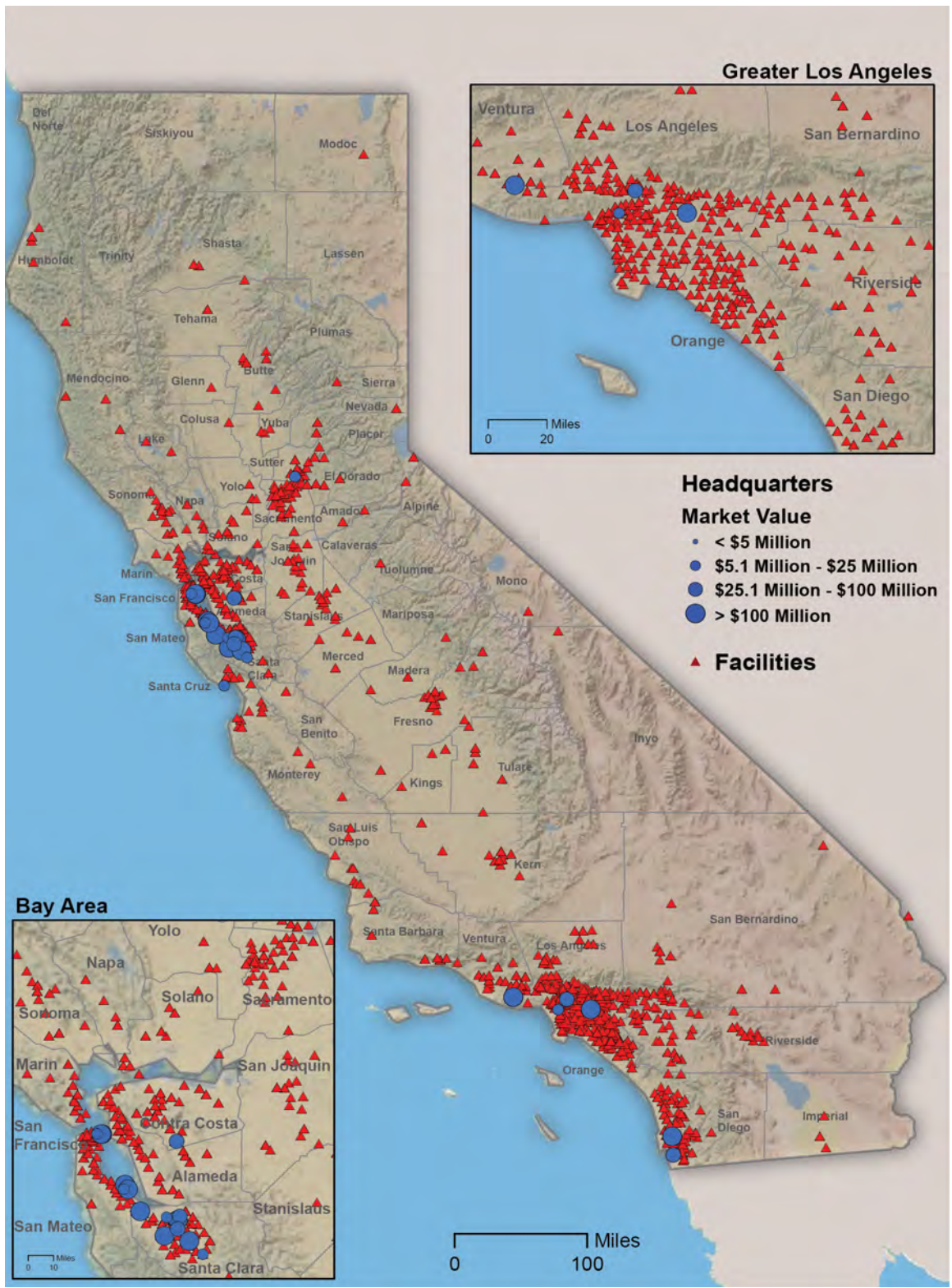
Locations of CalPERS Investments in California

CalPERS Global Equities Investments in California

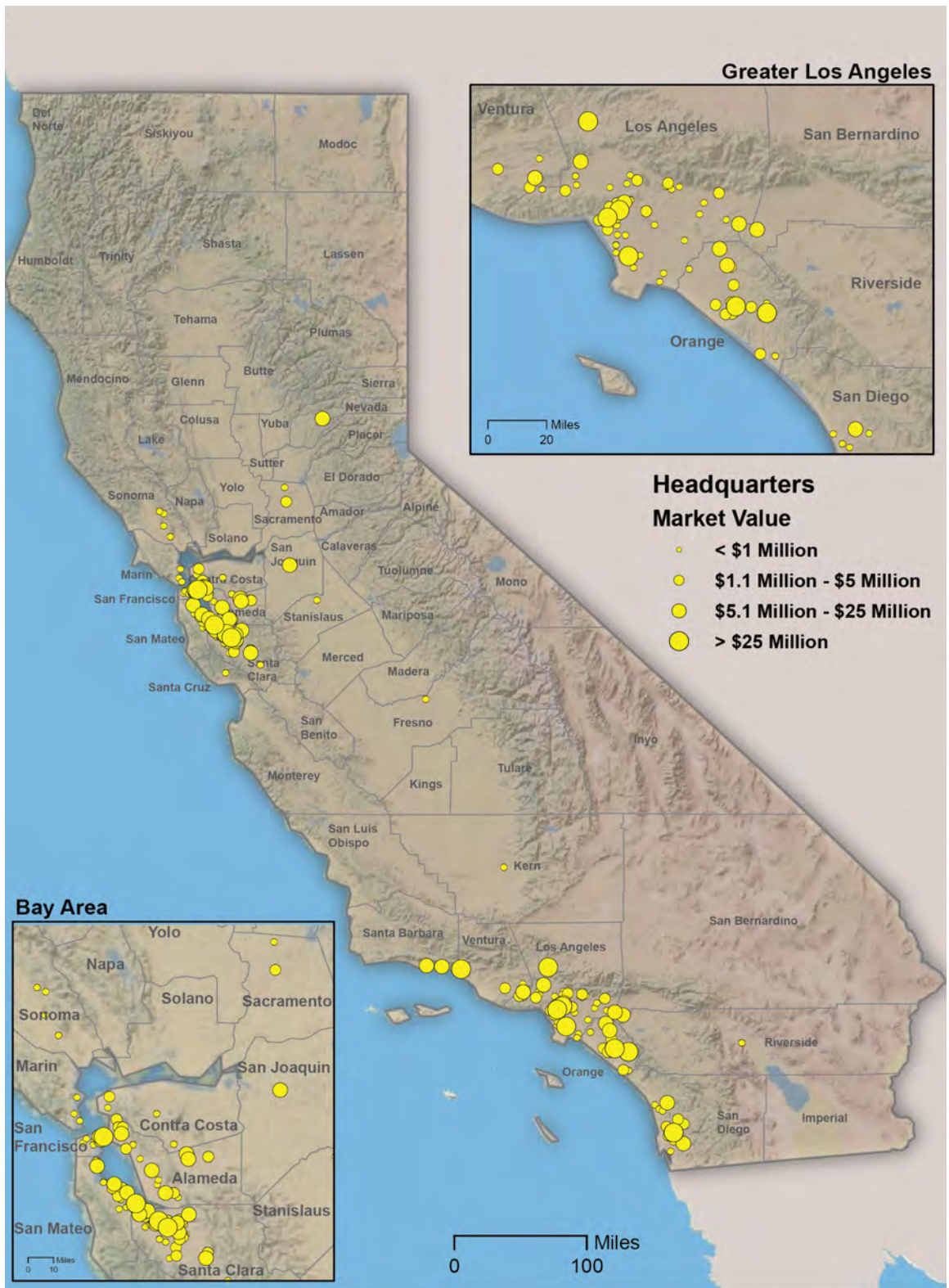


* These maps only contain information on CalPERS investments headquartered in California.

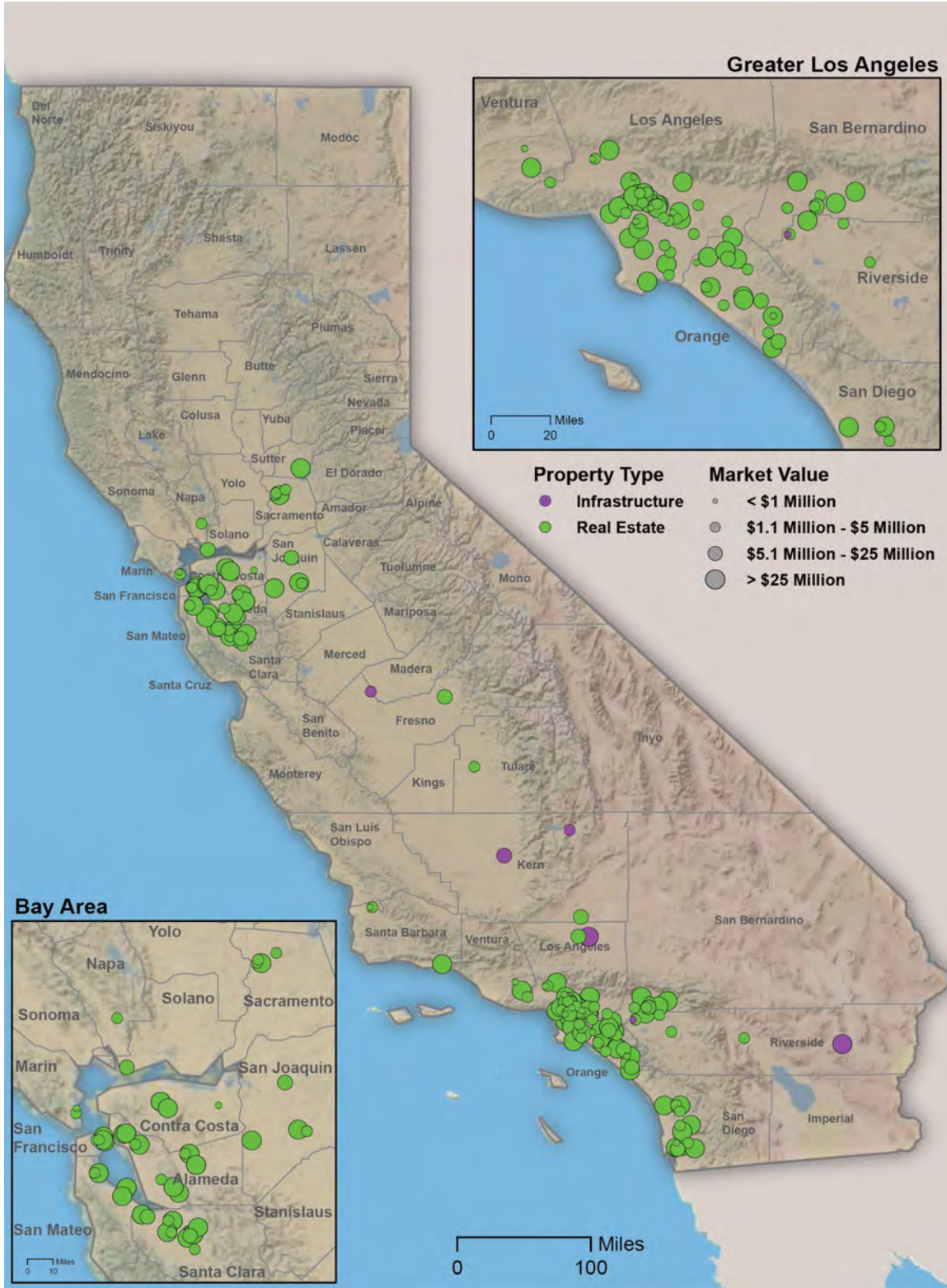
CalPERS Global Fixed Income Investments in California



CalPERS Private Equity Investments in California



CalPERS Real Estate and Infrastructure Investments in California



Endnotes

¹ The capital that CalPERS invests in California is usually not explicitly directed to the state, but is the consequence of a typical institutional investment process weighing the financial merits of companies, properties, and projects, regardless of location. The size and dynamism of California's economy are the primary drivers of CalPERS' significant exposure to local communities and the related benefits that this brings, like job creation.

The research methods in this report are fully documented in footnotes. The difficulty of directly attributing ancillary benefits to CalPERS is especially notable and explains why public market and private market investments are discussed separately in CalPERS for California.

The data in this report offers a snapshot of CalPERS' investments and has been analyzed by Pacific Community Ventures (PCV), a third-party research organization.

² Center for Continuing Study of the California Economy (July 2017). <http://www.ccsce.com/PDF/Numbers-July-2017-CA-Economy-Rankings-2016.pdf>

³ Willshire Associates, California Public Employees' Retirement System, available at <https://www.calpers.ca.gov/docs/board-agendas/201708/invest/item05b-01.pdf> (June 30, 2017)

⁴ CalPERS total portfolio value was \$323.7 billion at 6/30/2017. The five asset classes above do not comprise the entire portfolio. "Other" consists primarily of forestland, inflation linked securities, absolute return strategies, cash, and cash-equivalents.

⁵ Total economic activity in California is calculated as of June 30, 2017 and uses data from CalPERS California private markets investments in private equity, real estate, and infrastructure.

⁶ For methodologies calculating the number of jobs supported in California please refer to individual asset class sections within the report.

⁹ Analysis based on a 30 percent random sample (n=167). All data was collected from the Hoovers Inc. online database of publicly traded companies. Hoovers Inc. is a Dun & Bradstreet company.

¹⁰ The number of jobs in California is estimated using the percentage of total company facilities in California. Given that 24 percent of sample facilities are in California, and assuming that employment is spread evenly by facility, $1,079,000 = \text{total jobs at California-headquartered companies} \times 24 \text{ percent}$.

¹¹ CalPERS investment is Market Value at 6/30/2017.

¹² Total Market Capitalization at 6/30/2017.

¹³ The percentage of facilities in California is determined using Hoovers, Inc. data and includes all company facilities with a California address.

¹⁴ The global fixed income asset class includes five distinct investment types. Only publicly available data was used to conduct analysis for this asset class, which was available only for companies that issued corporate bonds. According to the state of domicile, 53 corporate bond issuers (and \$1,046 million in investments) are considered California companies.

¹⁵ Data from corporate bond issuers with headquarters in California as listed in the Hoovers Inc. database. This includes 26 companies and \$1,014 million of investments. This table does not include California corporate bond issuers receiving investment through external managers. There are 30 California corporate bond issuers receiving a total of \$32.1 million in investment from third-party investment managers with an average of \$1.1 million. Five of these 30 corporate bond issuers receiving investment from third-party investment managers also receive direct investment from CalPERS.

¹⁶ California job data is estimated by multiplying total number of employees by the percentage of facilities in California.

¹⁷ The analysis in this section uses the demographic and income characteristics of ZIP codes. If the ZIP code in which an investment is located is determined to be an LMI, High Unemployment, High Minority, or Rural Area, then the investment and the dollars associated with the investment are considered to be in the defined community.

In the case of High Unemployment, Rural, and High Minority Areas, the calculations are relatively straightforward. The data used to determine the appropriate status of relevant populations is available by ZIP code and uses 2010 U.S. Census and 2010 California Employment Development Department data.

Calculating the LMI status of a ZIP code is more complex. The following method is applied using U.S. Census Bureau 2010-2014 American Community Survey data for every tract in the United States:

1. The number of census tracts and percentage of each census tract that geographically overlaps with every ZIP code is determined using geographic information systems (GIS) data.
2. The percentage of land in a ZIP code that overlaps with LMI census tracts is calculated for every ZIP code by combining partial census tracts.
3. The ZIP code is considered to be LMI if more than 50 percent of the total land in a ZIP code overlaps with LMI census tracts.

In the United States 46 percent of all ZIP codes are classified as LMI using this analysis. In California, 65 percent of all ZIP codes are classified as LMI, including 85 percent in the "urban core" comprising the Central Business Districts of San Francisco, Oakland, Los Angeles, and San Diego.

¹⁸ To determine the dollar amounts invested in these areas, the market value of each investment is attributed to the ZIP code provided for a given company, property or project. Dollars invested in all ZIP codes that match the given criteria are summed and reported as a percentage of the total market value for each asset class invested in California.

The proportion of CalPERS' investments in LMI, High Unemployment, High Minority, and Rural Areas reflects the demand for capital in the asset classes in which CalPERS invests. For example, CalPERS invests in companies and properties in central business districts and other economic hubs that offer attractive investment opportunities. These areas tend to be more ethnically and economically diverse, but CalPERS' investment is not a result of these characteristics.

¹⁹ Low- to Moderate-Income (LMI) Areas are predominantly (50 percent or more) composed of LMI residents (46 percent of U.S. ZIP codes fall into this category). A census tract is determined to be LMI based on the following criteria:

- Median income of the tract is at or below 80 percent of the metropolitan statistical area median or below 80 percent of the statewide, non-metropolitan area median income
- At least 20 percent of the population lives in poverty
- The unemployment rate is at least 1.5 times the national average (based on US Census Bureau and 2006-10 American Community Survey data, consistent with research on the California Initiative. 1.5 times the 2006-10 national average of 6.8 percent is 10.2 percent)

See the Milken Institute Center for Capital Access and Job Formation for extensive literature on the lack of access to capital in LMI communities, at www.milkeninstitute.org.

²⁰ High Unemployment Areas are defined by the State of California Employment Training Panel as being 15 percent higher than the California average. At June 30, 2017, the California average unemployment rate was 4.8 percent; therefore any ZIP code with an unemployment rate above 5.5 percent is considered a High Unemployment Area.

²¹ High Minority Areas are defined as ZIP codes in which the percentage of the minority population is higher than the median percentage of the minority population in all California ZIP codes (above 24 percent). See 'MBDA Study Finds Capital Access Remains Major Barrier to Success for Minority-Owned Firms' for more information on access to capital in minority communities. US Department of Commerce Minority Business Development Agency, January 29, 2010, available at www.mbda.gov/pressroom/press-releases/mbda-study-finds-capital-access-remains-major-barrier-success-minority-owne. According to the MBDA study, minority-owned firms receive fewer loans and smaller equity investments than non-minority owned firms, even when controlling for firm size.

²² Rural areas are defined as ZIP codes in which the percentage of the rural population is higher than the median percentage of the rural population in all California ZIP codes (above 3.67 percent). See 'Advancing Rural America', U.S. Small Business Administration Office of Advocacy, available at www.sba.gov/advo/research/rural_sb.html for more information on access to capital in rural areas. According to the SBA, rural businesses access to capital has historically been limited and may be constrained further as bank mergers replace

community banks with larger entities that are less interested in non-credit card small-sized loans.

²³ This includes CalPERS' direct private equity partnership investments, direct investments, and externally managed investments. This number may differ from total portfolio numbers in other CalPERS reports due to varying standards for defining a California company.

²⁴ Includes all other capital invested alongside CalPERS in the same companies in the same private equity fund, not the total market value of the company. Other co-invested dollars are determined only from \$2.1 billion in direct partnership investments.

²⁵ Estimated jobs in California is determined by applying the total number of California jobs supported by the California Initiative to the entire California Private Equity portfolio. Due to the small number of California Initiative companies still active and reporting in 2017, this report applies a weighted average of private equity jobs created per CalPERS dollar invested between 2010 and 2016. Weighting is based on the number of companies in the portfolio each year.

²⁶ Private equity ancillary benefits in California were determined using private equity California investment amounts and ZIP code data from direct partnerships and does not include data from other externally managed investments.

²⁷ According to data from Thomson Reuters analyzing all private equity transactions between 2002 and 2011, nearly 95 percent of all private equity in California has been committed to 6 percent of California ZIP codes. ZIP codes not included in this 6 percent are considered Limited Capital Access Areas.

²⁸ Note: "Other" includes unclassified investments.

²⁹ Ancillary benefits are derived from data from all companies ever receiving investment under the California Initiative and includes both active and fully realized investments that have reported data. These ancillary benefits capture the entirety of the Initiative's Job Support and Job Creation ancillary benefits since inception.

³⁰ Total Jobs Created Since Investment represents net jobs created for the entire California Initiative portfolio and aggregates job losses and gains at both active and exited portfolio companies.

³¹ From 2007-2017, U.S. private sector employment increased seven percent and California private sector employment increased nine percent.

³² Ancillary benefits are derived from data from all CA Initiative companies ever reporting. All percentages represent a weighted average across all reporting years between July, 2010 and June 30, 2017, with weighting based on the number of active reporting companies in the California Initiative Portfolio each year. These metrics were not reported prior to the 2011 CalPERS for California report.

³³ The California Initiative invests in companies with operations and employees in and outside of California. This column examines the Initiative's ancillary benefits solely in California.

³⁴ "Other" includes hotels, land, and a parking lot.

³⁵ Estimated jobs supported by CalPERS' real estate investments in the California are determined using the IMPLAN Version 4.0 economic multiplier model software package. IMPLAN is used by hundreds of government agencies, colleges and universities, non-profit organizations, corporations, and business development and community planning organizations for analyzing economic impacts (for more information visit www.implan.com).

To determine jobs supported by CalPERS' California real estate investments, the IMPLAN model examines the state of California as the geographic area of the study, capturing and accounting for economic benefits resulting from CalPERS real estate investments statewide. Methodologies specific to property type and development phase were used in defining input values for the IMPLAN model to best capture the economic impacts resulting from the construction / operation of various property types. The methodologies are described as follows:

Construction of Residential and Nonresidential Properties

Total net asset values for residential and non-residential properties including apartments, single-family housing, senior housing, office, and retail under the predevelopment, development, and redevelopment categories were uploaded directly to the IMPLAN model for analysis where they are matched with construction activities.

Sales of Goods and Services

Property square footage data for retail properties with current occupants is multiplied by industry data on retail sales.

Property square footage for other non-residential properties including the office and industrial sectors are multiplied by property-specific data on rental income. Total rental income amounts are subsequently divided by a rent-to-revenue to derive total sales of goods / services for each tenant property. Mixed use establishments are assumed to be 60 percent apartment, 30 percent retail, and 10 percent office. For hotels, the process property square footage is multiplied by revenue per square foot to determine industry sales. Total sales of goods and services at tenant properties are then uploaded to IMPLAN where they match industry activities.

Rental/Leasing

Property square footage data for properties with current occupants including apartment, office, industrial, and retail are multiplied by industry data on property-specific rental income. Mixed use establishments are assumed to be 60 percent apartment, 30 percent retail, and 10 percent office. Housing leasing income was not included in the IMPLAN analysis because accurate square footage data was unavailable. The total rental income amounts are uploaded directly into the IMPLAN model for analysis where they match with rental, leasing, and property management activities.

As with other asset classes, this analysis does not imply that the jobs created and sustained by CalPERS' investments in real estate are directly attributable to the system. Rather, it is an estimate of employment directly related to the properties in question, for which CalPERS' investments play an important enabling role.

Estimated California Jobs from CalPERS California Real Estate Investments

Construction of Residential and Non-Residential Properties	1,000
Sales of Goods and Services	4000
Rental/Leasing	135,000
Total Estimated Jobs in California	140,000

The following table outlines rental income per square foot, retail sales per square foot, rent to revenue ratios, and IMPLAN industry codes used in this analysis.

Assumptions for Real Estate IMPLAN

Industry	Rental Income per Square Foot	Retail Sales per Square Foot	Revenue per Square Foot	Rent-to-Revenue Ratio	IMPLAN Industry Codes and Descriptions
Land	—	—	—	—	58: Other Construction
Mixed Use	—	—	—	—	58: Other Construction 440: Real estate 405: Retail: General Merchandise
Housing	—	—	—	—	440: Real estate
Retail	\$29.38	\$341.00	—	—	57: Construction of new commercial structures, including farm structures 440: Real estate 405: Retail: General Merchandise
Office	\$32.17	—	—	4.0%	57: Construction of new commercial structures, including farm structures 440: Real estate 447-460: Various professional services (legal, accounting, architectural, technical, scientific, etc.)
Apartment	\$1.86	—	—	—	440: Real estate
Industrial	\$7.98	—	—	2.1%	440: Real estate 395: Wholesale Trade
Hotel	—	—	\$0.94	—	411: Hotels and motels, including casino hotels

Sources: Cassidy Turley, IBIS World, Retail Sales, and Hotel News Now

³⁶ CalPERS' California real estate projects in the development and construction phase indirectly support workers across the state through the purchase of goods and services needed for construction of these projects and through the personal consumption by construction workers tasked to these particular projects.

³⁷ CalPERS' California investments in income generating real estate properties directly support tenant businesses through the provision of critical infrastructure and operating space. Additionally, tenant businesses indirectly support workers across the state through the purchase of goods and services needed for day-to-day business operations and through the personal consumption of workers at their businesses on household purchases.

³⁸ See endnote 35 for methodology.

³⁹ Value includes all other capital invested alongside CalPERS in the same real estate investments in the same third-party funds, partnerships and real estate investment trusts.

⁴⁰ Ancillary benefits are based on the 169 California real estate investments for which valid ZIP code data was available.

⁴¹ Value includes all other capital invested alongside CalPERS in the same infrastructure projects.

⁴² California infrastructure supports an estimated 15,200 jobs statewide. This estimate is derived from the IMPLAN version 4.0 economic multiplier model software package. Stage of development, land acquisition costs, and development costs were examined for California infrastructure projects. For each project, net asset values less land acquisition costs were inputted directly into the IMPLAN model using IMPLAN Industry Code 58: Construction of other new non-residential structures.

⁴³ The total economic impact of CalPERS' private markets investments in are calculated using the IMPLAN Version 4.0 economic multiplier model software package. IMPLAN utilizes social accounts to analyze the consequences of projected economic transactions in a particular region. Used by over 2,000 public and private institutions, IMPLAN is a widely employed and accepted regional economic analysis tool.

Social accounts describe the structure and function of a specific economy. IMPLAN employs input-output analysis in conjunction with region specific social accounts or Social Accounting Matrices (SAM) and multipliers to analyze economic impacts.

CalPERS' California private markets investments in private equity, real estate, and infrastructure are input separately into the IMPLAN economic multiplier model using the specific industries and sectors receiving investment.

CalPERS' public markets investments are intentionally excluded from this analysis due to the more indirect relationship between the investment of capital by CalPERS and the use of this capital by recipient public companies

IMPLAN cannot be applied to CalPERS' public markets investments in California, for the following reasons:

1. Attribution: CalPERS cannot directly tie its provision of capital to the operations and economic activity occurring at California headquartered public companies given it is one of many investors in these businesses.
2. Overestimation: Applying the IMPLAN economic multiplier model to CalPERS' public markets investments in California would overstate CalPERS' total economic impact.
3. Area of Study Limitations: IMPLAN is an input-output economic multiplier model that requires a set geographic area of study. As California headquartered public companies have a significant number of facilities and operations in and outside of California it is difficult to specify what proportion of CalPERS' investment in these companies is injected directly into California's economy, limiting the accuracy of the resulting total economic impact figure.

⁴⁴ To determine the total economic impact of CalPERS' California private markets investments in private equity, real estate, and infrastructure, the IMPLAN model examines the State of California as the geographic area of study, capturing and accounting for economic benefits resulting from CalPERS' investments statewide. Methodologies specific to each asset class were used in determining the input values for the IMPLAN model to best capture the economic impacts resulting from the CalPERS investments. The methodologies are described below:

Private Equity Investments

CalPERS' private equity investment amounts in California private companies are uploaded directly into the IMPLAN model alongside an industry spending pattern that matches each company's industry or sector. Only CalPERS' direct partnership investments and investments through third party investment managers were included in this analysis. Sector/

industry data was available for \$1.6 billion of CalPERS' California private equity investments. The \$1.6 billion CalPERS invests in California private companies is distributed across 96 industries based upon each company's industry and the amount of capital that company has received. For the \$525 million of investments where sector/industry data was not available, our analysis assumes they reflect the same industry/sector distribution as the wider portfolio. Accordingly, the remaining \$525 million has been distributed pro rata amongst the portfolio's 96 sectors.

Real Estate Investments

CalPERS' investment amounts in California real estate projects are uploaded into the IMPLAN model to capture the economic impacts resulting from the construction/operation of various property types. The same methodology that is used to

calculate jobs supported by CalPERS' California real estate investments is used to calculate the total economic impact resulting from CalPERS California real estate investments. This methodology is described in greater detail above in endnote 35.

Infrastructure Investments

CalPERS' investment amounts in California infrastructure projects are uploaded into the IMPLAN model to capture the economic impacts resulting from the construction/operation of various projects. The same methodology that is used to calculate jobs supported by CalPERS' California infrastructure investments is used to calculate the total economic impact resulting from CalPERS' California infrastructure investments. This methodology is described in greater detail above in endnote 42.

CalPERS Profile

The California Public Employees' Retirement System (CalPERS) is the nation's largest public pension fund with assets of approximately \$355 billion as of May 2018.

Headquartered in Sacramento, CalPERS provides retirement and health benefit services to more than 1.9 million members and more than 3,000 school and public employers. The System also operates 8 Regional Offices located in Fresno, Glendale, Orange, Sacramento, San Diego, San Bernardino, San Jose, and Walnut Creek. Led by a 13-member Board of Administration, consisting of member-elected, appointed, and ex officio members, CalPERS membership consists of approximately 1.4 million active and inactive members and more than 660,000 retirees, beneficiaries, and survivors from State, school and public agencies.

Established by legislation in 1931, the System became operational in 1932 for the purpose of providing a secure retirement to State employees who dedicate their careers to public service. In 1939, new legislation allowed public agency and classified school employees to join the System for retirement benefits. CalPERS began administering health benefits for State employees in 1962, and 5 years later, public agencies joined the Health Program on a contract basis.

A defined benefit retirement plan, CalPERS provides benefits based on a member's years of service, age, and highest compensation. In addition, benefits are provided for disability and death.

Today CalPERS offers additional programs, including a deferred compensation retirement savings plan, member education services, and an employer trust for post-retirement benefits. Learn more at our website at www.calpers.ca.gov.



California Public Employees' Retirement System
400 Q Street | Sacramento, CA 95811

www.calpers.ca.gov

For more information, please contact:

Pacific Community Ventures | www.pacificcommunityventures.org

