CALSTRS

CALIFORNIA STATE TEACHERS'
RETIREMENT SYSTEM

INFRASTRUCTURE INVESTMENT POLICY

INVESTMENT BRANCH

APRIL 2016

L. Infrastructure Investment Policy

EXECUTIVE SUMMARY

In accordance with the CalSTRS Investment Policy and Management Plan, IPMP, the California State Teachers' Retirement System Board, has established an allocation for investment in infrastructure, also known as infrastructure investments, an illiquid equity-related asset. The primary objective for investment in infrastructure is to improve diversification of the overall investment portfolio. The Infrastructure Investment portfolio will also have secondary objectives: to achieve a rate of return greater than the actuarial earnings rate assumption, to provide a stable cash flow to the investment portfolio, to hedge against long-term liabilities and to provide a hedge against inflation.

The Infrastructure portfolio assets are to be invested, administered and managed in a prudent manner for the sole benefit of its participants and beneficiaries, in accordance with the California Constitution, the California State Teachers' Retirement Law and other applicable statutes. No investment instrument or activity prohibited by the IPMP shall be authorized for the Infrastructure portfolio. The portfolio can include limited partnerships, direct investments, co-investments and secondary interests.

The design of the CalSTRS Infrastructure Investment Policy ensures that investors, managers, consultants, or other participants selected by CalSTRS take prudent and careful action while managing the portfolio. The purchase, management and sale of all types of infrastructure investments is performed by external professionals/managers, who are monitored and evaluated by internal investment officers, an external infrastructure consultant, and/or independent fiduciaries. CalSTRS believes that environmental, social, and governance, ESG, issues can affect the performance of our investments. As a result, the CalSTRS 21 Risk Factors have been developed as a tool that both internal and external investment managers are expected to use to assess the impact of ESG risk when making an investment on behalf of CalSTRS. The internal investment officers and independent fiduciaries operate under the direction of the chief investment officer, CIO. Review of the portfolio will fall under the general consultant, who reports directly to the Investment Committee. If a specialty asset class specific consultant is retained, that consultant would also report directly to the Investment Committee.

As with all other plan assets, these policies cannot be altered without explicit direction from the Board.

POLICY

INVESTMENT OBJECTIVES

The strategic objectives of the Infrastructure portfolio are as follows:

A. To provide improved diversification to the overall CalSTRS Investment Portfolio.

B. To generate an enhanced yield to the actuarial earnings rate assumption and provide stable cash flows.

C. To provide a hedge for long-term liabilities.

D. To provide a hedge against inflation.

E. To preserve investment capital.

F. To act as a responsible steward of infrastructure investments through responsible contracting and environmental practices, efficient operation of assets, and production of quality services and products.

PERFORMANCE OBJECTIVES

The Infrastructure portfolio shall be managed over the long-term to accomplish the following:

Exceed a blended weighting of the private infrastructure benchmark and a publicly listed benchmark;

1. Private infrastructure to exceed, on a net-of-fees basis, a target return equal to the Consumer Price Index for all Urban Consumers ("CPI") plus four percent (4%) while maintaining an appropriate level of diversification to mitigate risk.
2. Publicly listed strategies to exceed the relevant public market benchmark used for the strategy.

BENCHMARK

The Infrastructure portfolio's policy benchmark is a blend of the private and publicly listed infrastructure benchmarks. Additional criteria will be applied to the performance of individual portfolio segments, managers, investments having a focus on a particular subsector or geographic location, and for investments having higher risk categories. As appropriate, customized benchmarks will be used to measure performance of investments within the portfolio.

STRATEGIC ASSET ALLOCATION

The asset allocation target and range for the portfolio shall comply with the guidelines set forth in the IPMP. Adjustments from actual to target allocation shall be implemented within a time frame consistent with the provisions set forth in the IPMP.

PORTFOLIO DIVERSIFICATION

Diversification within the portfolio is critical to control risk and concentrations and to maximize returns. The specific investments shall be aggregated, evaluated and monitored to control unintended biases. Diversification can occur across the following parameters:

A. Infrastructure Sectors

Infrastructure is characterized by investment opportunities within various industries. The Infrastructure portfolio may contain investment opportunities within, but not limited to, the following infrastructure sectors:

a. Energy resources and utilities – clean energy, electricity, gas, geothermal, hydrocarbons, pipelines, power distribution, storage and transmission, renewables, wind-generation, nuclear, etc.

b. Transportation assets – bridges, railways, roadways, transit, tunnels, airports, etc.

c. Ports – barges, terminals, etc.

d. Water and waste – water distribution, storage and treatment, desalination, waste management, etc.

e. Communications – broadcast and wireless towers, cable systems, satellite networks, etc.

f. Other infrastructure investments that are aligned with CalSTRS' strategic objectives.

The following types of assets will not be allowable investments for the Infrastructure portfolio: prisons and schools. Any uncertainty will be reviewed and approved by the chief investment officer.

B. Strategic Objectives

Over the long-term, the Infrastructure portfolio shall be divided into four portfolio sub-classes: 1) core; 2) value-added; 3) opportunistic and 4) publicly listed. The strategic objective of the core portfolio is to produce stable current income and market level returns commensurate with a low to moderate level of risk. The value-added portfolio is expected to enhance the performance of the Infrastructure portfolio and to provide additional diversification as well to take on additional corresponding risk. The opportunistic portfolio may produce a higher return while introducing more risk due to the developmental/greenfield nature of underlying investments or their location outside of more developed markets/non-OECD. The publicly listed portfolio is expected to enhance diversification, performance and liquidity of the Infrastructure portfolio. Assignment of an investment to a particular portfolio shall be based on the investment's risk and return characteristics. The following table outlines the Infrastructure portfolio sub-classifications.

INFRASTRUCTURE PORTFOLIO SUB-CLASSIFICATIONS						
Strategy	**Characteristics**	**Allocation**	**Cash Yield**	**Target Real Return**	**Leverage**	**Type of Assets (examples not limited to)**
CORE (Mature / Brownfield)	• Buy-and-hold assets • Mature operating assets with steady cash flow • Essential services • Regulated • Long-term contracts • Low risk and low growth mostly • Long-term monopolistic positions • Minimal to no patronage risk • Cash yield is dominant part of total return • Credible investment grade counterparty	45%-75%	4%-8%	3%-4%	Overall Core Portfolio Level: 45%	• Regulated utilities • Bridges, tolls • Pipelines, energy transmission and distribution • Water and waste water • Social infrastructure • Public private partnerships (PPP)/Private finance initiatives (PFI)
	Geographic Regions: Global with minimal non-OECD activities					
VALUE-ADDED (Growth/ Rehabilitated)	• Buy-and-build positions • Operating assets with growth phase • Higher risk and return • Can involve expansion or rehabilitation to assets • Increased sensitivity to GDP, patronage risk, development risk and refinance risk • Cash yield and net capital appreciation are equal	20%-50%	2%-5%	4%-6%	Overall Value-Added Portfolio Level: 55%	• Power generation • Rapid rail • Transportation • Parking systems - non concession based • Contracted renewable power
	Geographic Regions: Global with minimal non-OECD activities					
OPPORTUNISTIC (Development / Greenfield)	• Mostly development assets • High risk and return • Capital appreciation is dominant part of total return	0%-20%	0%-5%	6%-9%	Overall Opportunistic Portfolio Level: 65%	• Logistics • Satellite networks
	Geographic Regions: Global with some non-OECD activities					
PUBLICLY LISTED	• Mature, operating assets with steady cash flows • Medium risk and modest growth • Liquidity and market beta • Cash yield and capital appreciation equal • May include non-essential service - construction, manufacturing and technology • Characteristics - cyclical lifecycle, limited use of long term contracts and speculative/sub investments grade counterparty	0%-10%		4%-6%		• Master limited partnerships (MLP) • Other infrastructure stocks
	Geographic Regions: Global with minimal non-OECD activities					

OVERALL PORTFOLIO		**100%**		**4%**	**60%**	

C. Allocation

Allocations to the core, value-added, opportunistic and publicly listed portfolio sub-classes shall be made to maximize the total return to CalSTRS while mitigating risk. As a moderate risk investor, CalSTRS' long-term allocation ranges and long-term target allocations to these portfolios shall be:

Portfolio Sub-Classification	Long-Term Allocation Range
Core	**45% - 75%**
Value-Added	**20% - 50%**
Opportunistic	**0% - 20%**
Publicly Listed	**0% - 10%**

The table above depicts the targets and ranges for the various portfolio segments over the long-term. However, in response to changing market conditions, as well as other relevant factors, the actual allocation may vary within the recommended ranges, and may tilt defensively or aggressively toward the extreme ends of the ranges. A range has been set for each segment to provide capacity if the portfolio falls out of balance due to the illiquid nature of infrastructure assets and/or specific opportunities to tactically over and/or underweight a segment based on compelling opportunities or fundamental issues.

From time to time, the actual allocations to the portfolio segments may fall outside the recommended ranges. In these instances, adjustments from the actual to the prescribed allocation range shall be implemented over a reasonable time frame (within a one to three year period, unless otherwise specified), with ample consideration given to preserving investment returns to CalSTRS.

As investments in the value-added and opportunistic portfolios mature over time, their characteristics may become more like core assets and value-added assets, respectively. CalSTRS Staff and the consultant shall monitor the portfolio for instances when changes of the classification of certain investments are warranted. Reclassifications must be mutually agreed upon by staff and consultant and reported to the Investment Committee.

Portfolio Development

The Infrastructure portfolio is newly established and investments made within the initial years of the program may supersede established allocation, diversification, leverage and risk investment guideline ranges due to the limited number of investments within the portfolio. In these instances, adjustments from the actual to the prescribed allocation range shall be implemented over a reasonable time frame (within a one to three year period, unless otherwise specified), with ample consideration given to preserving investment returns to CalSTRS. In addition, infrastructure investments are generally long-term investment opportunities and during volatile periods, short-term movements and tactics may be applied in managing the portfolio. From time to time, the actual allocations to the portfolio segments may fall outside the recommended ranges.

D. Geographic Regions

Investments in the Infrastructure portfolio will be made in various regions including: the United States (all regions), developed non-U.S. countries such as the United Kingdom, Japan, Western Europe, countries that are members of the Organization for Economic Co-operation and Development ("OECD"); and certain non-OECD countries regions such as Africa, Asia (non-Japan), the Caribbean, Central America and Latin America in accordance with CalSTRS policies. To reduce risk, investments in the Infrastructure portfolio shall be located in the developed countries with limited non-OECD exposure.

Geographic Region	Allocation Range	Examples (but not limited to)
United States and Canada	30% - 70%	
OECD – Ex US and Canada	10% - 50%	Australia, Austria, Belgium, Chile, Czech Rep, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Luxemburg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Rep, Spain, Sweden, Switzerland, Turkey, UK,
Non OECD	0% - 20%	Africa, Asia (non-Japan), Caribbean, Central America, Latin America,

Consideration of infrastructure investment opportunities in the state of California will be given a preference ahead of other transactions. Investments in California must have the same market risk and return as any other similar infrastructure investment; and, preference will not be given in legal or financial terms. While there are no specific guidelines for diversification based on exposure to geographies having similar economic profiles and/or industry concentrations, the Infrastructure portfolio shall be prudently diversified and monitored in this aspect.

E. Risks

The Infrastructure policy and Infrastructure investment activities are subject to the CalSTRS 21 Risk Factors identified in the CalSTRS Investment Policy and Management Plan. Risks associated with investing in infrastructure projects, assets and vehicles will be mitigated sufficiently to allow for a reasonable risk adjusted return. Potential risks associated with the Infrastructure portfolio include, but are not limited to the following:

a. **Country/Emerging Market Risk.** Geographic, economic, currency and government risks may be associated with investing in all countries.

b. **Environmental.** Investment returns may be impacted by environmental issues, events and risks.

c. **Financing Risks.** Changes and volatility in the credit and equity markets may impact financing efforts and the capital structures of underlying infrastructure investments.

d. **Labor Risk.** Infrastructure investments may have an impact on labor groups and public sector employment opportunities.

e. **Leverage.** Infrastructure investments may utilize significant leverage which may increase financial and refinancing risks.

f. **Liquidity Risk.** As infrastructure investments may have long durations, they often are illiquid. Secondary markets for infrastructure investments may not be fully established or may provide limited opportunities.

g. **Market Risk.** The infrastructure market is a developing market globally and investment opportunities may be impacted by market supply and demand.

h. **Political and Headline Risks.** Infrastructure investments may involve political activities and may introduce headline risk to investors.

i. **Regulatory Risk.** Changes in regulatory mandates may impact investment returns and strategies.

j. **Structural Risks.** CalSTRS is accustomed to negotiating certain clauses, rights and protections within its partnership agreements.

k. **Valuation Risks.** Investments and partnerships will be assessed to determine if appropriate and reasonable valuation procedures and methodologies are utilized by managers and investment partners.

INVESTMENT POLICY GUIDELINES

A. Portfolio Leverage

CalSTRS shall employ leverage in the Infrastructure portfolio in order to enhance investment returns. Such leverage may exist at the portfolio, manager or investment level. Since leverage also increases the volatility of the Infrastructure portfolio, careful consideration will be given to the impact of leverage on investment and portfolio risk. In addition, limitations on the amount of leverage at the individual asset or investment entity level, as well as debt service coverage requirements, will be negotiated or arranged wherever possible.

Leverage at the aggregate Infrastructure portfolio level shall be monitored with a long-term goal of maintaining it at no higher than 60 percent (60%). To preserve the character of the asset class with CalSTRS' composite investment portfolio, the aggregate asset class shall not be overleveraged. This shall be measured quarterly by comparing the principal amount of debt secured by infrastructure investments in the Infrastructure portfolio to the aggregate gross fair market value of the Infrastructure portfolio. To the extent that leverage exceeds the maximum, CalSTRS shall make reasonable efforts to reduce the leverage ratio to below the maximum allowable, within a reasonable time frame of one to three years.

Staff will manage each Infrastructure portfolio sub-classification in order not to exceed the overall portfolio level leverage limit of 60 percent (60%):

Portfolio Sub-Classification	Leverage Level
Core Portfolio	45%
Value-Added Portfolio	55%
Opportunistic Portfolio	65%

B. Investment Life Cycle

The basic phases of an asset's life cycle can include predevelopment, development, leasing, operating and redevelopment. In general, assets/projects in the earlier stages of their respective life cycles and redevelopments possess greater risks and thus should offer the Infrastructure portfolio incrementally higher expected returns. To reduce risk, the portfolio shall be appropriately diversified accordingly to life cycle, with the core portfolio having a majority of investments that are brownfield, mature assets. The value-added and opportunistic portfolios may contain a higher concentration of investments undergoing development or redevelopment. The publicly listed portfolio shall be reasonably liquid and may not be as affected by the life cycles of underlying infrastructure assets.

C. Alignment of Interests

Preferred investments for CalSTRS will be those that exhibit the highest degree of management accountability and the greatest alignment of interests. As a matter of policy, CalSTRS will seek, but is not limited to, dedicated management teams that co-invest or have substantial ownership interest in the investment entity, controlling positions with provisions for liquidity and disclosure, as well as the mitigation of conflicts of interest.

D. Exit Strategy

Investments in infrastructure assets should have clearly articulated and viable exit strategies through which assets can be disposed of or liquidated upon termination of the investment manager. Infrastructure assets are long life assets which provide long-term investment opportunities of ten years or more. As a result, infrastructure investments occasionally can be illiquid assets that may not have clearly defined redemption or termination provisions that offer investors immediate liquidity. While some infrastructure investments may have liquidation mechanisms, others may not have clearly defined liquidation events. The current marketplace for infrastructure provides liquidation opportunities via the sale of these investments or assets to investment funds and institutional investors. However, as the marketplace for infrastructure continues to expand, more exit strategy opportunities will be available to investors. An alignment of interests between management and investors as well as management accountability needs to be maintained with infrastructure investments.

E. Environmental Liability

CalSTRS encourages the prudent use of sustainable development methods and operational practices when reasonable and economically feasible. Subject to the following provisions and restrictions, CalSTRS will prudently accept environmental exposure and potential liability in a manner consistent with overall industry standards applicable to institutional investors acting in a like manner under similar circumstances.

CalSTRS will not make investments in infrastructure with environmental conditions in the core portfolio unless: (i) the dollar value of the environmental risk can be quantified, (ii) the cost of remediation can be quantified, (iii) the environmental liability can be mitigated with measures already in place or to be implemented by the investment manager to effectively mitigate the risks to CalSTRS and result in an appropriate risk-adjusted rate of return, (iv) any such potential environmental liability is limited to the particular infrastructure investment, and (v) the infrastructure investment does not expose the entire CalSTRS portfolio to any potential liability. All environmental risks will be appropriately mitigated by factors that may include, but are not limited to: specific remediation planning, environmental insurance, indemnifications by creditworthy sellers, agreements with regulatory authorities and the legal structure of ownership.

For investments held in separate accounts, the appropriate level of environmental risks to be assumed and the appropriate mitigation approaches shall be detailed in the CalSTRS Infrastructure procedure guidelines. Environmental guidelines for investments in commingled funds, joint ventures and co-investments will be addressed in the legal documents that control the activities and responsibilities of the managing or general partner of that investment opportunity.

F. Eligible Ownership Vehicles

For CalSTRS to meet its objectives in the infrastructure asset class, staff will select appropriate vehicles with structural aspects that provide for maximum return and control while mitigating risk and cost, and the highest level of accountability on the part of management and alignment of interests with CalSTRS. For this reason, the following ownership vehicles are allowable:

Separate Accounts / Co-investments

CalSTRS may enter into discretionary separate account and/or co-investment relationships with infrastructure investment managers, subject to pre-approved investment guidelines, whenever possible, and/or clearly defined investment strategies. This delineation is known in the industry as “discretion in a box”, which means the manager shall have the authority and discretion to execute a particular investment strategy only so long as each and every investment falls within the pre-approved guidelines for the portfolio. The CIO must approve any deviations from the approved guidelines. For this reason, investments shall be structured to facilitate alignment of interests between management and CalSTRS, management accountability, investment monitoring and liquidity.

In these separate accounts, CalSTRS shall have sole ownership of the asset(s) or may co-own the asset(s) with other institutional investors. CalSTRS will reserve the right to remove the infrastructure manager of any separate account, with or without cause, in a timely manner.

Commingled Funds

To enable greater diversification and to reduce risk, investments in the portfolio shall be made in participation with other institutional investors. Infrastructure investments may be made in commingled vehicles including, but not limited to: (i) closed-ended funds such as group trusts, limited liability companies and limited partnerships; and (ii) open-ended funds.

Investments in closed-ended commingled vehicles shall have clearly articulated and viable exit strategies through which assets can be disposed of or liquidated upon termination of the investment and on an interim basis. The term of these closed-end comingled funds should be no less than ten years. Investment agreements for closed-ended commingled vehicles shall include flexible provisions for removal of management by investors and interim liquidation of investor holdings.

Open-ended commingled fund investments shall include flexible redemption provisions, though such provisions often do not provide investors with liquidity at times when it is most needed; therefore, it is critically important that such investments be made with the most proactive of managers. In addition, to the extent possible, investments in closed-end and open-ended commingled fund vehicles shall include an opportunity for investors to participate on advisory boards.

Direct Investments / Joint Ventures / Consortiums

CalSTRS may invest alongside with other like-minded investors, with managers and/or operating partners to execute defined investment strategies in which the managers/partners have unique expertise. In these direct/joint venture/consortium investment opportunities, the infrastructure manager/operating partner shall co-invest capital in the venture in an amount that is material to the manager/partner and may be structured as a managed account where CalSTRS obtains more governance rights and investment decision rights. CalSTRS staff shall strive to incorporate similar governance provisions into direct investment agreements as are obtained in CalSTRS' separate account relationships.

Publicly Listed Infrastructure Investments

Investments in publicly-traded vehicles can offer the total Infrastructure portfolio greater liquidity over private market opportunities; however, these investments tend to be more correlated with equities than private infrastructure investments. Therefore, the maximum equity investment to the public infrastructure portfolio shall be ten percent (10%).

G. Concentration Limits

To ensure adequate diversification and to reduce risk, after the initial start-up period for the Infrastructure portfolio, no more than ten percent (10%) of CalSTRS' Infrastructure Portfolio shall be allocated to a single commingled fund in which CalSTRS does not exercise control over its capital. For the purpose of this document, "control over its capital" refers to the ability to time the exit from an investment vehicle or the termination of the manager of such vehicle. In addition, no more than twenty percent (20%) of the CalSTRS Infrastructure Portfolio shall be allocated to a single general partner or separate account.

H. Eligible Investment Types

Infrastructure investments may include direct or indirect equity investment in infrastructure (including all rights and interests incident thereto) such as: (i) interests in corporations, partnerships, and other entities whose primary business is the acquisition, development, and operation of the underlying infrastructure assets including publicly traded, or private infrastructure assets, and infrastructure operating companies; (ii) other debt instruments convertible to equity interest in infrastructure assets based on investment terms; (iii) and all other infrastructure related securities such as lower or un-rated tranches of pre-existing securitized or structured debt instruments such as mezzanine debt, which have equity features.

I. Discretionary Authority

The approval decisions for infrastructure investments are delegated to staff with the following guidelines:

1. Staff has discretion to approve an initial commitment of CalSTRS equity to a new general partner up to $ 300 million, for Eligible Ownership Vehicles identified in section F above. Staff then has discretion to approve follow-on commitments to the same general partner for up to another $300 million.

   Thereafter, if a single general partner manages a total portfolio in excess of $ 750 million, additional allocations or commitments may still be approved by staff, but are subject to review by the Investment Committee if the Committee so requests. Staff will inform the Committee of firms under consideration via the transactions pipeline quarterly report.

2. For Eligible Ownership Vehicles such as separate accounts/co-investments and/or direct investments/joint ventures/consortiums, where CalSTRS has more governance rights (as defined in section F above) and where the general partners are approved within the above referenced general partner discretionary limits, or firms that have been selected through a request for proposal process, staff has discretion to approve individual assets. However, no single asset above $250 million will be approved by staff. Staff will inform the Investment Committee when such decisions are made through the quarterly investment reports.

The approval decision under staff delegation shall be completed following a positive written recommendation by CalSTRS staff and either 1) a program advisor, or 2) an independent fiduciary. The investment analysis and due diligence will be conducted in the same manner as previously done for the Investment Committee and as described in the CalSTRS Infrastructure procedure guidelines.

J. Responsible Contracting Policies

CalSTRS has a deep interest in the condition of workers employed by the California State Teacher's Retirement System or CalSTRS and its advisors. Through the CalSTRS Responsible Contractor Policy, CalSTRS supports and encourages fair wages and fair benefits for workers employed by its contractors and subcontractors, subject to fiduciary principles concerning duties of loyalty and prudence, both of which further require competitive returns on CalSTRS' infrastructure investments. CalSTRS endorses small business development, market competition and control of operating costs. CalSTRS believes that an adequately compensated and trained worker delivers a higher quality product and service.

CalSTRS shall secure a written agreement from infrastructure investment managers for which the Responsible Contractor Policy applies, such that all contractors, investors, managers, consultants or other participants shall adhere to the CalSTRS Responsible Contactor Policy, as updated by CalSTRS. If an investment manager does not adopt either the CalSTRS Responsible Contractor Policy or an internal policy, CalSTRS will not invest in the investment manager.

CalSTRS shall give a strong preference to all domestic infrastructure investment vehicles that have adopted an internal policy regarding responsible contracting consistent with the CalSTRS Responsible Contractor Policy, subject to CalSTRS' fiduciary duty. This preference shall apply to any domestic infrastructure investment vehicle for which the Responsible Contractor Policy is not applicable by its terms other than to make a good faith effort to comply with the spirit of the policy. This specifically applies to investments including, but not limited to, commingled funds, opportunity funds, mezzanine debt and hybrid debt investments. If the manager of any domestic infrastructure investment vehicle does not agree to comply with the CalSTRS Responsible Contractor Policy or adopt an internal policy regarding responsible contracting, and, if staff deems it appropriate based on all the circumstances, including the intent of this policy as well as the investment merits of the investment vehicle, staff may recommend the potential investment to the Investment Committee and the Committee shall make a determination whether or not to invest in such investment vehicle.

In addition, in the event CalSTRS has determined that during the life of an investment vehicle there is a violation of the above stated terms, staff shall be precluded from making an investment in a follow on fund with the investment manager. If staff determines it appropriate, based on all the facts and circumstances, staff may recommend the investment in the follow on fund to the Investment Committee, which will determine whether to invest in the follow on fund consistent with its fiduciary duty.

K. Domestic Public Sector Jobs

Staff will present to the Investment Committee for consideration any investment that would directly impact California public sector jobs. Staff shall secure a written agreement from the managers of any domestic investment vehicle (as described herein) that states, substantially in all material respects, that in circumstances where the investment vehicle is working with a state, local or municipal agency to establish public-private partnerships ("PPPs") or to bid on public offers for the sale, lease or management of public assets, the investment vehicle shall make every good faith effort to recognize the important role and contribution of public employees to the development and operation of such assets. In particular, the investment vehicle shall make good faith efforts to ensure that such transactions have a de minimus adverse impact on existing jobs. These efforts may include working directly with public employees, government officials or collective bargaining groups, as appropriate; in order to take such reasonable actions as may be within the (investment vehicle's) control to mitigate such potentially adverse effects. Compliance with this requirement shall be a key consideration by CalSTRS when reviewing any future investment opportunities with an investment manager.

In addition, in the event CalSTRS has determined that during the life of an investment vehicle there is a violation of the above stated terms, staff shall be precluded from making an investment in a follow on fund with the investment manager. If staff determines it appropriate, based on all the facts and circumstances, staff may recommend the investment in the follow on fund to the Investment Committee, which will determine whether to invest in the follow on fund consistent with its fiduciary duty.

VALUATION AND REPORTING

These assets will be valued in accordance with FASB and GASB regulations for long-term illiquid investments. Values will be marked to market as available. Performance will be reported semi-annually as part of the overall investment performance review. Annually, staff will prepare a specific report on infrastructure investments. If the portfolio grows beyond its initial allocation more detailed and re-occurring reporting will be required.

GUIDELINES FOR SELECTION, MONITORING, EVALUATION AND TERMINATION OF MANAGERS

The selection of infrastructure investments shall be guided by the "prudent expert" standard, embracing the prudent decision-making process typically employed by experts in the areas of infrastructure acquisition, development, operation, disposition and portfolio management.

Selection of Investment Managers

CalSTRS seeks to retain investment managers that possess superior capabilities in the selection and management of infrastructure assets. With this objective in mind, prospective investment managers shall be evaluated for selection based on criteria including, but not limited to: (i) the suitability of the organization's investment, relative to CalSTRS' Investment Policy and Management Plan; (ii) the quality, stability, integrity, and experience of the management team;

(iii) the ability and willingness of the organization to dedicate sufficient resources and personnel to optimally manage CalSTRS' investments; (iv) the reasonableness of investment terms and conditions, including provisions to align interests of management and CalSTRS; (v) the appropriateness of management controls and reporting systems; and (vi) commitment to responsible contracting policies, workplace diversity and community involvement.

Monitoring, Evaluation and Termination of Investment Management Organizations

CalSTRS' investment managers shall be monitored and evaluated continuously, based on their performance relative to stated objectives and benchmarks, and relative to the performance of firms managing similar investments in the marketplace. In addition, investment managers shall be monitored for compliance with investment guidelines, policies and procedures of the Infrastructure portfolio, and other contractual provisions. Manager performance should be evaluated over meaningful time intervals to ensure that performance is indicative of management's efforts. The performance of the core portfolio should be evaluated on a three-year trailing performance basis, while the performance of the value-added/opportunistic portfolios should be evaluated on a three- to five-year trailing performance basis. Performance will be reported to the Investment Committee within the semi-annual performance report.

Consideration shall also be given to the financial strength of the investment manager, the level of client service given to CalSTRS, as well as changes within the managing organization such as the continuity of personnel assigned to CalSTRS' investments, among other items. CalSTRS shall seek to liquidate investments with management organizations found to be deficient relative to CalSTRS' investment standards.

ANNUAL BUSINESS PLAN

The Infrastructure portfolio will be managed according to an annual business plan whose main business components will encompass an analysis of the investment environment, a review of the investment strategy, a review of the diversification ranges, a review of projected versus actual returns, and a resource allocation budget.

Cash Transfer Limitations

The following non-cumulative limits apply with respect to infrastructure investment officers and senior investment staff signing for daily cash disbursements for investment portfolio transactions:

Investment Officer I	$ 20 million
Investment Officer II	$ 30 million
Investment Officer III	$ 50 million
Associate Portfolio Manager	$ 65 million

Portfolio Manager	$ 75 million
Investment Director	$ 200 million
Deputy Chief Investment Officer	$ 500 million
Chief Investment Officer	$ 500 million

Based on recently audited CalSTRS Investment Programs, internal auditors have recommended the use of percentages in lieu of specific dollar amounts for daily trading limits. As investments are added to the Infrastructure portfolio and the portfolio matures, the daily cash transfer limits will be revisited, so as to have a daily transfer limits based on a percentage of the portfolio.

POLICY MONITORING AND MODIFICATION

The general consultant or specialized infrastructure consultant, if retained, shall monitor the investment process for compliance with this policy and report to the CalSTRS Investment Committee on a semi-annual basis.

This Infrastructure investment policy shall be reviewed periodically to determine if modifications are necessary or desirable. Any changes shall be subject to the approval of the Investment Committee.

Initial Adoption July 2008
Revised to provide a more clear and focused approach for the program, April 7, 2011
Revised sections related to excluded assets, co-mingled fund size limit, leverage and daily cash limits, November 2012
Revised to add ESG Risks policy reference on September 10, 2013
Revised to provide staff discretion and remove obsolete glossary terms, February 7, 2014
To revise the program benchmark and to provide more clarity to program guidelines, February 6, 2015
To primarily revise the benchmark objective and individual asset discretionary limit, April 8, 2016

GLOSSARY

ADVISORY BOARDS – A group of investors in the partnership whose primary functions are to address certain partnership related issues. Based on the roles and responsibilities outlined in the limited partnership agreement, the advisory board may review conflicts of interest and operating budgets, vote on partnership term extensions and perform other duties, as appropriate.

APPRAISAL – An estimate or opinion of market value.

APPRECIATION – The percentage change in the market value of a property or portfolio over the period of analysis.

ASSET MANAGEMENT – The various disciplines involved with managing real property assets from the time of investment through the time of disposition. Proper asset management plans and policies include: requirements for operating and capital budgets, property management, leasing, physical property analysis, operational and financial reporting, appraisal, audits, accounting policies and asset disposition plans (hold/sell analyses).

BENCHMARK – An index derived from database information that allows for comparative performance evaluation within an asset class.

BROWNFIELD – Projects and/or assets that are pre-existing and have a history of use. These assets are cash generating assets that typically represent lower risk. This contrasts to “greenfield” where assets are new projects in development or under construction.

CO-INVESTMENT – Investments where the management organization has a capital investment and ownership share. Also, an investment into a portfolio company by limited partners alongside the general partner.

CONSORTIUM – An investment in partnership with like-minded investors and a managing partner where the investors have more investment decision rights and governance rights. These investments may also be referred to as alliances or joint ventures.

CORE INVESTMENT – Typical core portfolio investments shall be mature, brownfield/existing assets that produce steady and predictable cash flows. These assets should be difficult to replicate and will be long life assets. The assets shall be located in well-established developed nations.

COMMINGLED FUND – A term applied to all open-ended and closed-ended pooled investment vehicles designed for institutional tax-exempt investors. A commingled fund may be organized as a group trust, partnership, corporation, insurance company separate account, private real estate investment trust or other multiple ownership entity.

- **Open-ended Fund –** A commingled fund with no finite life, which allows continuous entry and exit of investors and typically engages in ongoing investment purchase and sale activities.

- **Closed-ended Fund –** A commingled fund with a stated termination date, with few or no additional investors after the initial formation of the fund. Closed-ended funds typically purchase a portfolio of properties to hold for the duration of the fund and, as sales occur, typically do not reinvest the sales proceeds.

DISCRETION – The level of authority given to an investment manager over the investment and management of a client's capital once that capital is allocated to the investment manager.

DIRECT INVESTMENT – An investment in which CalSTRS has a direct ownership interest in underlying infrastructure projects and/or assets. Direct investments are made outside of a limited partnership structure. While a co-investment is made alongside of a limited partnership investment, a direct investment is not. Direct investments need a greater level of due diligence and involve a greater level of risk in comparison to a co-investment.

DIVERSIFICATION – Investing in a wide range of assets/projects or asset classes in order to reduce financial risk.

DUE DILIGENCE – The process of investigating, evaluating and analyzing a potential investment's characteristics, investment philosophy and terms and conditions.

FAIR MARKET VALUE – The highest price a property would bring if exposed for sale in the open market by a willing seller to a willing buyer with both parties being fully informed of all the uses and purposes to which the property is reasonably adaptable and available.

FIDUCIARY – A person in whom CalSTRS reposes, and the person accepts, a special trust and confidence involving the exercise of professional expertise and discretion.

GENERAL PARTNER – Managing partner of a limited partnership responsible for performing the day-to-day administrative operations of the partnership and acting as investment advisor to the partnership.

GREENFIELD – Projects and/or assets that are in development or under construction. Assets such as these, typically involve higher risk due to the construction and completion risk in addition to operating risk, but provide higher returns to compensate for additional risks. This contrasts with "brownfield" assets that are operational and have a stable return profile.

INCOME – The component of return derived from property or portfolio operations during the period of analysis.

INFLATION – The general upward price movement of goods and services in an economy over a period of time.

INFLATION-LINK – Investments that allow inflation risk to be mitigated contractually through inflation-adjusted pricing agreements such as water utilities where the user fees are linked to Consumer Price Index (CPI).

INFRASTRUCTURE – The basic physical and organizational structures needed for the operation of a society or enterprise, or the services and facilities necessary for an economy to function. The term typically refers to the technical structures that support a society, such as roads (transportation assets), water supply, sewage systems, power grids, telecommunications, and so forth. Viewed functionally, infrastructure *facilitates* the production of goods and services; for example, roads enable the transport of raw materials to a factory, and also for the distribution of finished products to markets.

INVESTMENT MANAGER – A company that, by contractual agreement, provides infrastructure investment opportunities and/or property asset management services.

JOINT VENTURE – A structure wherein CalSTRS and a partner form a partnership to purchase and/or operate an investment or investments.

LEVERAGE – The use of borrowed funds to increase purchasing power and, ideally, to increase the profitability of an investment.

LIMITED PARTNERSHIP – A partnership with both general and limited partners in which the general partner manages the business and assumes full liability for the partnership obligations with the liability of the limited partners generally restricted to their capital contributions.

MASTER LIMITED PARTNERSHIP (MLP) – A limited partnership that is publicly traded on a securities exchange. The entity combines the tax benefits of a limited partnership with the liquidity of publicly traded securities.

NET ASSET VALUE (NAV) – Represents total assets at fair market value minus liabilities.

NEW FIRM – Investment manager with whom CalSTRS Infrastructure Unit has a contractual relationship of less than one year.

OECD – The Organization for Economic Co-operation and Development. An organization that acts as a meeting ground for thirty-four (34) countries (including the U.S. and Canada) which are advocates of the free market system and promotes policies that will improve the economic and social well-being of people around the world. The OECD provides a forum in which governments can work together to understand what drives economic, social and environmental change.

OPPORTUNISTIC – A phrase characterizing an investment in underperforming and/or undermanaged assets/projects typically purchased from distressed sellers, utilizing high levels of leverage at times with the expectation of near-term increases in cash flow and value.

PRIVATE FINANCE INITIAVE (PFI) – A way of creating public–private partnerships (PPPs) by funding public infrastructure projects with private capital. Capital investment is made by the private sector on the strength of a contract with government to provide agreed services and the cost of providing the service is borne wholly or in part by the government. These schemes are sometimes referred to as PFI.

PROPERTY MANAGEMENT – The various functions that are performed at the property level in order to assure timely collection of rents, payment of expenses and supervision of on-site activities.

PUBLIC PRIVATE PARTNERSHIPS (PPP) – A government service or private business venture which is funded and operated through a partnership of government and one or more private sector companies. These schemes are sometimes referred to as PPP, P3 or P^3.

REAL RATE OF RETURN – Yield to the investor after adjusting for inflation (typically determined by the Consumer Price Index).

REHABILITATED – Projects and/or assets that need significant maintenance and repairs while generating some income from operations.

SOCIAL INFRASTRUCTURE – Infrastructure projects and assets which focus on the facilities and networks to support the people and community, such as health services, judicial buildings, schools and universities, etc.

TOTAL RETURN – The sum of the income and appreciation returns.

VALUE-ADDED – A phrase commonly used by investment managers to describe a management approach to an asset or project with the connotation that their skills will add value, which otherwise would not be realized.