Memo

To:	Members of the Investment Committee California Public Employees' Retirement System
From:	StepStone Group
Date:	February 13, 2017
Subject:	Semi-Annual Consultant Report - Infrastructure

StepStone has reviewed the performance of CalPERS' Infrastructure Program (the "Program") as of December 31, 2016 provided in Wilshire's Executive Summary. Based on our review, we make the following comments with respect to the Program:

- For the quarter ending December 31, 2016, the Program continued to outperform its benchmark, returning net 4.0% compared to the policy benchmark of 1.2%. Over the trailing one, three, and five-year periods, the program returned net 8.3%, 14.0%, and 12.0%, respectively. Returns for each of these periods exceeded the benchmark by 2.8%, 8.9%, and 6.7% in the respective periods.

Infrastructure Performance	Quarter	One Year	Three Year	Five Year
Infrastructure Program Returns[1]	4.0%	8.3%	14.0%	12.0%
Policy Benchmark (CPI+400bps)	1.2%	5.5%	5.1%	5.3%
Difference	2.8%	2.8%	8.9%	6.7%

[1] Net of management fees and other costs

- By investment type and risk classification, the Program's Direct Investments and Defensive Plus investments, respectively, have consistently delivered strong performance through all reporting periods. Since the performance of more recent commitments to Defensive Custom Accounts and Commingled Funds is not yet meaningful, we expect performance to moderate over time. Further, as infrastructure is a long-term, private market investment strategy, quarterly results will be less significant than performance over longer periods.
- Competition for core infrastructure assets remained strong in the second half of 2016, particularly in developed markets, such as North America, the UK, Europe, and Australia. Robust capital flows into mature, operational infrastructure assets were supported by the low interest conditions. On a risk-adjusted basis, the stable and predictable cash flow profile of high-quality infrastructure appears attractive relative to the yields offered by sovereign or corporate debt securities. Other factors, such as concerns about rising inflation also contributed to the increasing demand for infrastructure investments globally.
- The year was again an active one with 413 infrastructure transactions counted by Preqin, with a total value of US$413 billion, which is US$50 billion more than the previous year. Owing to the relatively small transaction size as well as the strong growth of the industry, most transactions took place in the renewables sector, with 42% of all transactions representing a 3% increase over 2015.
- The last quarter of 2016 was marked by the U.S. presidential elections. President-elect Donald Trump has vowed to make investments in transport, energy and social infrastructure a focal point of his economic policy through a US$1 trillion investment plan over a 10-year period. While the Trump administration's infrastructure plan is not expected to take shape until several months into his term, his election immediately led to a 20 bps jump in the 10 year US Treasury on November 9, followed by further sustained yield increase in US government paper. Government yields in the UK and Europe followed a similar pattern. In historic perspective yields are still

relatively low and at these levels we only expect a modest impact on required returns and prices in infrastructure transactions.

- Unlisted infrastructure funds raised a record US$58 billion of capital in 2016.[1] The number of GPs that raised funds has become more concentrated into a smaller group of managers, with 51 funds securing commitments in 2016, the lowest number since 2010 (52). The $14 billion closing of Brookfield Infrastructure Fund III and the US$10.5 billion first close of Global Infrastructure Partners III are examples of this trend. The demand for infrastructure as an asset class is further evidenced by the speed of fundraising and the proportion of funds meeting or exceeding fundraising targets. Funds that closed last year spent on average 18 months in market, down from 27 months in 2015. The percentage of funds exceeding the target size rose from 37% in 2015 to 55% in 2016. Successful managers such as Antin Infrastructure Partners managed to complete a EUR3.6 billion fundraising in less than 5 months and EQT managed to close their third infrastructure fund at a EUR4 billion size, while seeing a substantial oversubscription.
- The popularity of growth-oriented funds is part of the wider theme of managers and direct investors to broaden the definition of infrastructure as a result of continued pressure on returns for core infrastructure. Examples include KKR's acquisition of Calvin Capital, which finances smart meter installations on behalf of energy suppliers in the UK; and two recent exits by Antin Infrastructure to long-term institutional investors: the sale of the UK crematorium operator Westerleigh to OTPP and USS, and the sale of the French telecommunications business FPS Towers to PGGM.
- Core infrastructure continues to draw high prices as demonstrated with the sale of a 61% stake in UK gas distribution company National Grid to a Macquarie led consortium for GBP5.4 billion. In Australia, two major transactions drew attention. Firstly, the privatization of Port of Melbourne won by a consortium comprising of Future Fund, Global Infrastructure Partners, OMERS and QIC Global Infrastructure (including commitments from CalPERS) who paid AU$9.7 billion for the seaport representing 25x EV/EBITDA. The other was the unsolicited bid of AU$16.2 billion for Ausgrid by IFM and AustralianSuper representing an EV multiple of 1.4x RAB. The bid followed the federal government's blocking of the acquisition by State Grid and Cheung Kong Infrastructure for the electric distribution network that includes Sydney.
- A number of US utility transactions closed in the second half of the year. Fortis effected the take-private of electric transmission company ITC Holdings, including a partial sell-down to GIC. And, in the gas distribution sector, Duke Energy closed the takeover of Piedmont Natural Gas, Emera Inc. bought TECO Energy and Dominion effected the acquisition of Questar Corporation.
- In a long anticipated speech on Brexit priorities, UK's Prime Minister May recently stated that Britain cannot remain within the European single market, however it is looking for a trade agreement with the EU to allow to trade as freely as possible. Similar to other asset classes, the longer-term impact of the UK's Brexit vote on infrastructure remains unclear, both with respect to existing investments and fundraising conditions in the UK and Europe, a region that is arguably home to the largest core infrastructure market. Exit negotiations are expected to take at least two years from notice in March 2017. In response to the UK's vote to exit the European Union in June, infrastructure managers with investments in the region have expressed concern that uncertainty may postpone decision making with respect to infrastructure spending by the public sector.

StepStone welcomes the opportunity to answer any questions from the Investment Committee.

[1] Source: Preqin, January 2017. Data as of January 3, 2017; Figures are subject to upward revisions as further information becomes available