



Memorandum

To: Rhode Island State Investment Commission

From: Capital Cities, L.L.C.

Date: December 4, 2018

Re: CollegeBound 529 (Advisor Plan) Age-Based & Target Risk Portfolios' Construction

Age-Based Portfolios & Target Risk Portfolios' Overview:

The Invesco CollegeBound 529 (Advisor Plan) Age-Based Portfolios are designed to offer account owners and advisors with diversified portfolios that automatically become more conservative as high school graduation and college enrollment approaches for the designated beneficiaries. CollegeBound 529 has 11 Age-Based Portfolios. These Portfolios are offered in two-year age bands to closely align asset allocation with the optimal portfolio for the designated beneficiary's age (e.g., Invesco CollegeBound 2037-2038 Portfolio, Invesco CollegeBound 2035-2036 Portfolio, etc.). The goal of Invesco's approach to the CollegeBound 529 Age-Based Portfolios' construction is to provide a lower-risk savings plan designed to seek capital preservation and outpace college inflation as measured by the Higher Education Price Index (HEPI).

Similarly, the Invesco CollegeBound 529 Target Risk Portfolios give account owners and advisors the opportunity to invest based on specific investment goals and risk tolerance. The asset allocation of each Portfolio will seek to reflect the specified level of risk, which remains the same throughout the life of the investment. Three Target Risk Portfolios are offered in the CollegeBound 529 Plan, including Invesco Growth College Portfolio, Invesco Moderate College Portfolio, and Invesco Conservative College Portfolio.

As evidenced in the following tables, the Invesco CollegeBound 529 Age-Based and Target Risk Portfolios represent nearly \$4.7 billion (or 84%) of the CollegeBound 529 Plan's combined assets, with the Age-Based Portfolios being the most popular type of Portfolio offered with \$3.5 billion (or 63%) of the Plan's assets.

Portfolio	9/30/18 Market Value	% of Program Assets
Invesco CollegeBound Age-Based Portfolios	\$3,532,765,160	63.1%
Invesco CollegeBound Target Risk Portfolios	\$1,143,392,369	20.4%
Individual Fund Portfolios	\$918,223,316	16.4%
	\$5,594,380,845	100.0%

Approximately \$1.5 billion (or 32%) of the Plan's Age-Based and Target Risk Portfolios' assets are within equities, while the remaining ~\$3.2 billion (68%) in assets are allocated to fixed income. This is a result of the concentration of assets within the CollegeBound 529 Age-Based and Target Risk Portfolios. For instance, \$2.1 billion of the CollegeBound 529 Plan's assets fall within the two most conservative Age-Based Portfolios, Invesco CollegeBound 2019-2020 and Invesco CollegeBound Today Portfolios (see table below).

Age-Based and Target Risk Portfolios	Style	9/30/18 Market Value	% of Plan Assets	# of Accounts
Invesco CollegeBound 2037-2038 Portfolio	Age-Based	\$175,399	0.0%	40
Invesco CollegeBound 2035-2036 Portfolio	Age-Based	\$10,592,277	0.2%	1,206
Invesco CollegeBound 2033-2034 Portfolio	Age-Based	\$24,320,617	0.5%	2,234
Invesco CollegeBound 2031-2032 Portfolio	Age-Based	\$51,569,182	1.1%	3,715
Invesco CollegeBound 2029-2030 Portfolio	Age-Based	\$86,475,664	1.8%	5,283
Invesco CollegeBound 2027-2028 Portfolio	Age-Based	\$146,713,563	3.1%	7,555
Invesco CollegeBound 2025-2026 Portfolio	Age-Based	\$241,373,029	5.2%	12,046
Invesco CollegeBound 2023-2024 Portfolio	Age-Based	\$364,026,116	7.8%	17,299
Invesco CollegeBound 2021-2022 Portfolio	Age-Based	\$553,094,916	11.8%	24,457
Invesco CollegeBound 2019-2020 Portfolio	Age-Based	\$869,913,907	18.6%	38,064
Invesco CollegeBound Today Portfolio	Age-Based	\$1,184,510,490	25.3%	68,671
Invesco Growth College Portfolio	Target Risk	\$738,441,114	15.8%	36,483
Invesco Moderate College Portfolio	Target Risk	\$340,107,975	7.3%	16,399
Invesco Conservative College Portfolio	Target Risk	\$64,843,279	1.4%	3,101
		\$4,676,157,528	100.0%	

Upcoming Enhancements:

Capital Cities and the Rhode Island Office of the General Treasurer Staff have been closely working with the Invesco Global Solutions' team to further examine the portfolio construction of CollegeBound 529's Age-Based and Target Risk Portfolios, as part of the ongoing evaluation of the Portfolios. In particular, periodic reviews are conducted of the Portfolios' returns, risk,

asset class allocations and factor exposures. It is anticipated that the Age-Based and Target Risk Portfolios' construction will be enhanced in the first half of 2019, in light of Invesco's updated research platform and a growing menu of potential underlying investments.

The largest impact will occur within the equity component of the Age-Based and Target Risk Portfolios. As previously mentioned, equity accounts for approximately one-third of these Portfolios' assets. Specifically, Invesco will reduce the exposure to active investment management within equities in favor of factor-weighted equity. This enhancement allows for the addition of new funds to the Portfolios, including Invesco S&P 500 Pure Growth ETF, Invesco S&P 500 Low Volatility ETF, Invesco S&P Mid Cap Low Volatility ETF and Invesco S&P International Developed Low Volatility ETF. In addition, Invesco will be adjusting the underlying sub-asset classes (e.g., domestic vs. international and large cap vs. small cap) based on updated capital market assumptions. Slight adjustments will also be made to the fixed income allocation in order to realign the allocation to bring duration closer to target levels, while seeking to control the credit exposure. Further details, including the specific underlying allocations and portfolio characteristics, can be found within Invesco's Portfolio Construction presentation dated December, 2018.

Overall, Capital Cities favorably views Invesco's proposal. **Capital Cities recommends the CollegeBound 529 Program adopt Invesco's portfolio construction changes to the Age-Based and Target Risk Portfolios, as we believe the upcoming enhancements will reduce the manager concentration (particularly within underlying funds, Invesco Diversified Dividend and Invesco Global Growth), provide more balanced factor exposures, move the Portfolios' beta closer to market, and decrease the Portfolios' fees.**