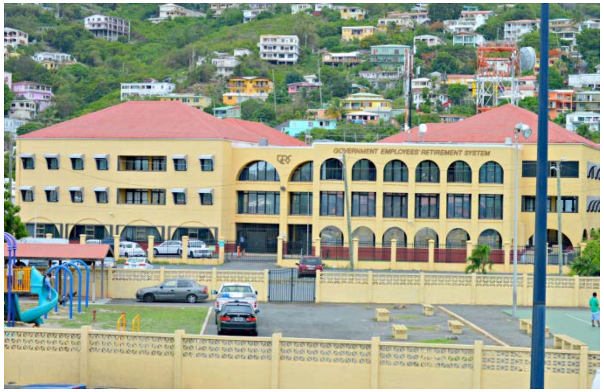


# GOVERNMENT OF THE VIRGIN ISLANDS RETIREMENT SYSTEM

## Review and Projections of the System

September 19-20, 2016

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*Vice President & Actuary*

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# Executive Summary

- It is our understanding that the legislation that covers the System provides that contributions are to be made on an actuarial reserve basis. An actuarial valuation is performed to calculate the "Actuarially Determined Employer Contributions" (ADEC) and is based on the assumptions and methods adopted by the Board for this purpose
- However, the actual amounts contributed by the government employers to the System have not been based on the ADEC amounts (as shown on the following page). The amounts contributed have been significantly less than the ADEC for many years
  - Although the employer contribution rate was increased from 17.5% to 20.5% of pay effective January 1, 2015, ADEC have increased from 35% of pay in 2006 to 67% of pay as of October 1, 2015
- The historically and continuing shortfall in the contributions to the System has resulted in increasing negative cash flow, declining assets and increasing unfunded actuarial liabilities
- Based on the results of October 1, 2015 valuation, the System is projected to run out of assets during the year ending September 30, 2023. Upon insolvency, the projected contributions are expected to cover only about half of the projected benefits and expenses.

# Contribution History: 1999-2015

| History of Employer Contributions | | | |
|---|---|---|---|
| Plan Year Ended September 30, | Actuarially Determined Contributions | Actual Contributions | Percentage Contributed |
| 1999 | $62,237,129 | $45,148,387 | 72.54% |
| 2000 | 64,992,493 | 44,078,554 | 67.82% |
| 2001 | 64,179,332 | 43,387,158 | 67.60% |
| 2002 | 95,186,021 | 50,594,531 | 53.15% |
| 2003 | 117,124,599 | 51,588,235 | 44.05% |
| 2004 | 108,358,399 | 54,084,454 | 49.91% |
| 2005 | 120,184,848 | 51,542,030 | 42.89% |
| 2006 | 131,059,471 | 65,061,430 | 49.64% |
| 2007 | 137,797,268 | 60,778,382 | 44.11% |
| 2008 | 138,488,871 | 75,871,146 | 54.79% |
| 2009 | 147,490,851 | 80,177,004 | 54.36% |
| 2010 | 157,817,709 | 77,004,630 | 48.79% |
| 2011 | 162,841,336 | 80,849,762 | 49.65% |
| 2012 | 178,644,349 | 66,677,155 | 37.32% |
| 2013 | 172,439,842 | 64,431,322 | 37.36% |
| 2014 | 189,715,251 | 68,298,617 | 36.00% |
| 2015 | 200,089,791 | 72,287,934 | 36.13% |

**The decline in funding percentage since 1999 is due in a large measure to statutory contributions being significantly less than needed for proper actuarial funding of the System.**

# Projection Parameters

## Projection Assumptions:

- The active population is assumed to remain level at 9,303 employees
- Total payroll of $368.0 million is assumed to increase 2.5% per year, but not greater than $605 million to reflect the $65,000 salary cap for Regular and Public Safety employees
  - Under the scenarios showing increases in employer contribution rates above 1% per year, payroll is assumed to remain level during the period of contribution rate increases and then increase 2.5% per year thereafter
- Administrative expenses are assumed to be $16.5 million during the fiscal year ending September 30, 2015 then increase with inflation
- Future actuarial accrued liability and expected benefit payments were determined based on an open group forecast with the number of active participants assumed to remain level and the new entrants to have similar characteristics to those hired in the past five years
- Unless otherwise stated, assets are assumed to earn a 7.0% market return each year

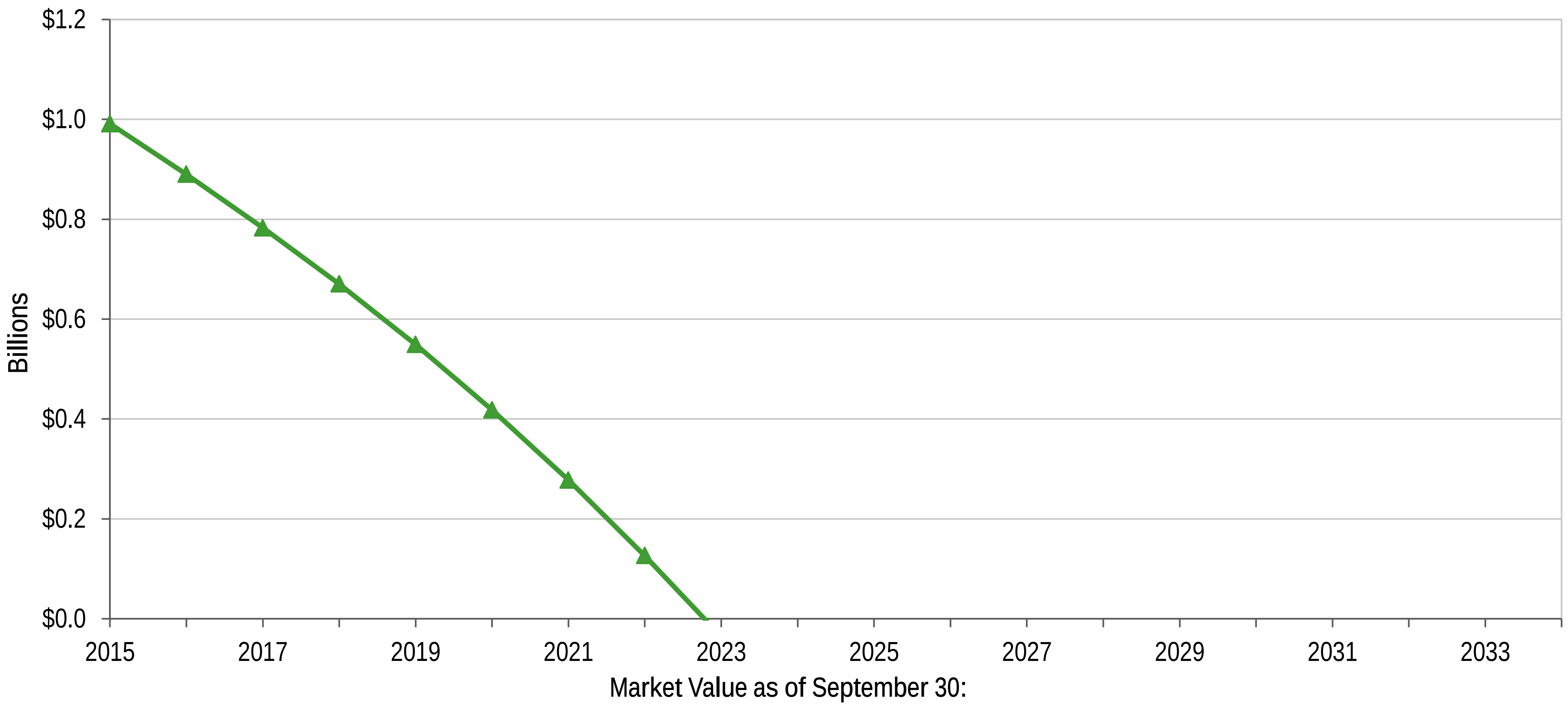
# Projection Parameters *continued*

## Caveats:

- The closer the plan gets to insolvency, asset illiquidity may become an issue and earning the assumed return may become more difficult.
- Projections, by their nature, are not a guarantee of future results. The modeled projections are intended to serve as estimates of future financial outcomes that are based on the information available to us at the time the modeling is undertaken and completed, and the agreed-upon assumptions and methodologies described herein. Emerging results may different significantly if the actual experience proves to be different from these assumptions or if alternative methodologies are used. Actual experience may differ due to such variables as demographic experience, the economy, stock market performance and the regulatory environment.
- Periodic review and updates of projections should be performed to measure how well the proposed plan modifications are working out in actual practice.

# Projected Market Value of Assets

*Based on the October 1, 2015 Actuarial Valuation*



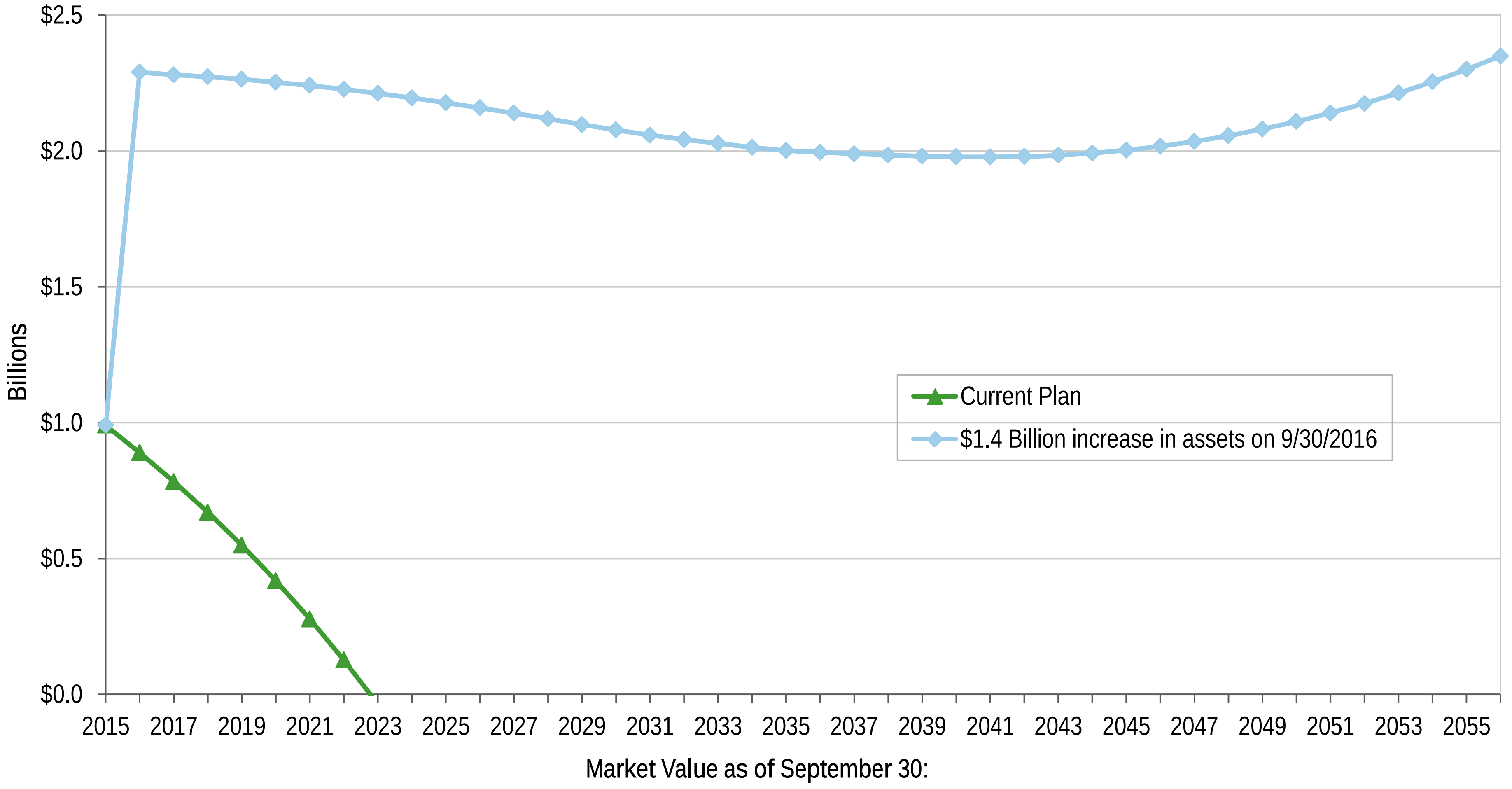

**Without additional financial resources (contributions or other commitments) and/or adjustments to the benefit levels, the System's continued viability is in jeopardy**

# Projections with Increased Resources

- The following two projections assume no changes in the benefits paid by the System except that the suspension of the COLA that was instituted as of January 1, 2013 will continue.
- The following projections model the following increases in System resources:
  - A one-time infusion of $1.4 billion as of September 30, 2016. This is expected to prevent insolvency and over time improve the funding position of the System.
  - If future investment returns were 6% (instead of the current 7% assumed) then the one-time infusion needed would be $1.7 billion.

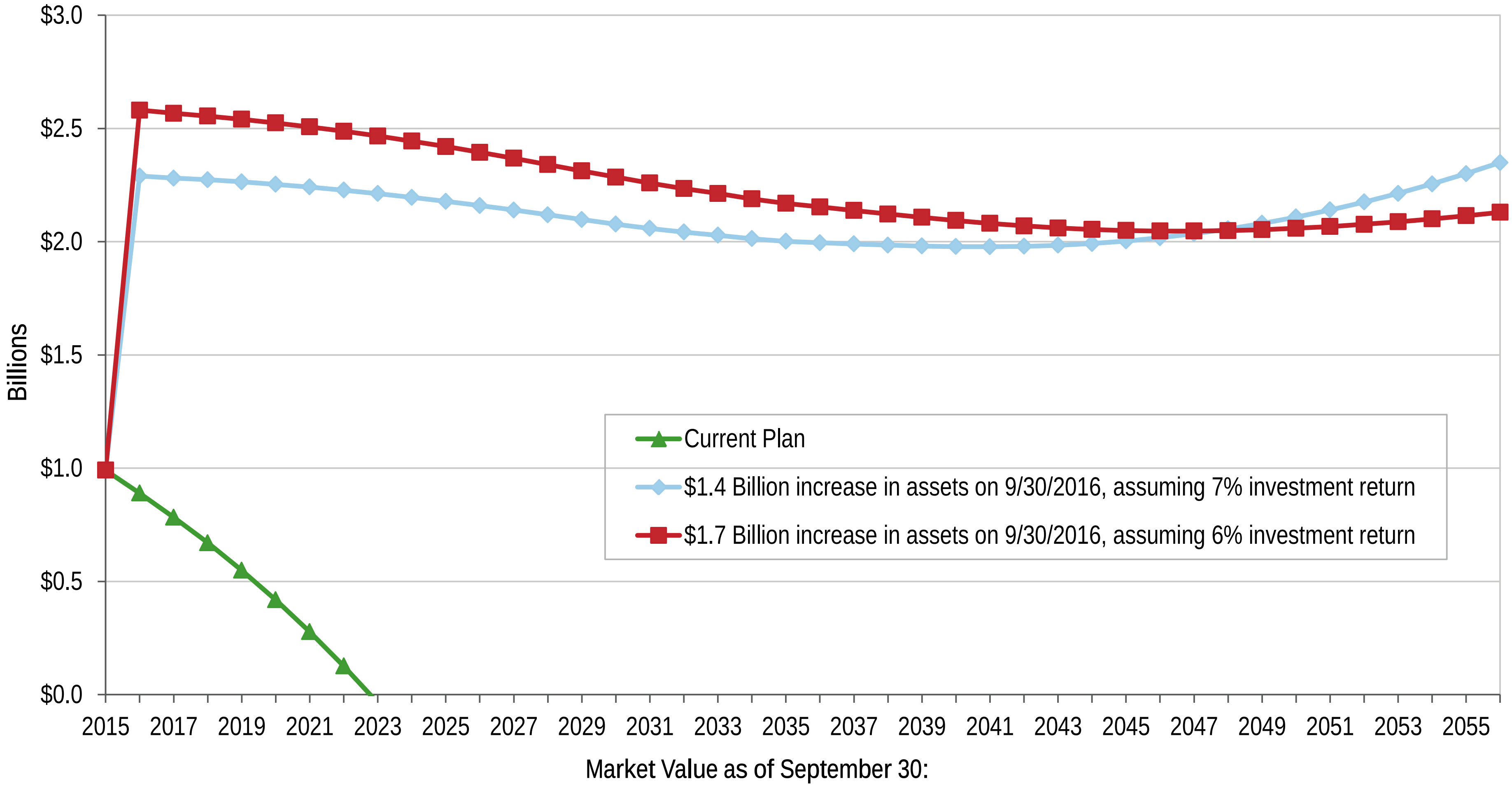
# Projected Market Value of Assets

*One-time Infusion of Assets*



# Projected Market Value of Assets

*One-time Infusion of Assets – Sensitivity to Investment Returns*



# Section 718 V.I.C.

Please note that Segal does not practice law and the discussion below and on the following pages is from the viewpoint of the System actuary attempting to determine the parameters of System and employer funding responsibility. We defer to the System's counsel for legal specificity and interpretation.

Section 718 includes details regarding the funding of the System.

- (a) all future benefit improvements (after 10/1/2005) must be funded on a sound actuarial basis.
- (f) the employer will make contributions (which together with members' contributions and plan earnings) will be sufficient to provide an adequate actuarial reserve for benefit payments.
- (j) the employer, in addition to any other contributions, will contribute such amount as is necessary to pay the costs of any early retirement program.
- (k) the employer shall pay, in advance, the cost of early retirement programs. If the employer is in default, the System may not pay the early benefit until payment has been received.
- (l) "the System shall not pay any benefits to an employee unless his and the employer's contributions adequately finance benefits and related costs under this chapter."

**Current contributions are not sufficient to fund System benefits in an adequate actuarial manner. Furthermore, the funding is sufficiently deficient such that the System is projected to become insolvent in less than 10 years**

# Comparison of Accrual Rates and Contribution Rates by Tier

| | Tier 1 | Tier 2 | Ratio of Tier 2 to Tier 1 Benefit |
|---|---|---|---|
| • Regular | 2.50% | 1.75% | 70% |
| • Public Safety | 3.00% | 2.10% | 70% |

**Tier 2 employees have a 30% lower benefit accrual rate but contribute at a higher contribution rate**

# Impact of Reducing the Tier 1 Benefit Level

| | Current Average Annual Benefit | Reduced Average Annual Benefit |
|---|---|---|
| | | |
| • Regular | $27,525 | $19,268 |
| • Public Safety | $37,608 | $26,325 |

**A 30% reduction in Tier 1 benefits would reduce the amount of benefit payments going into the economy by approximately $75 million**

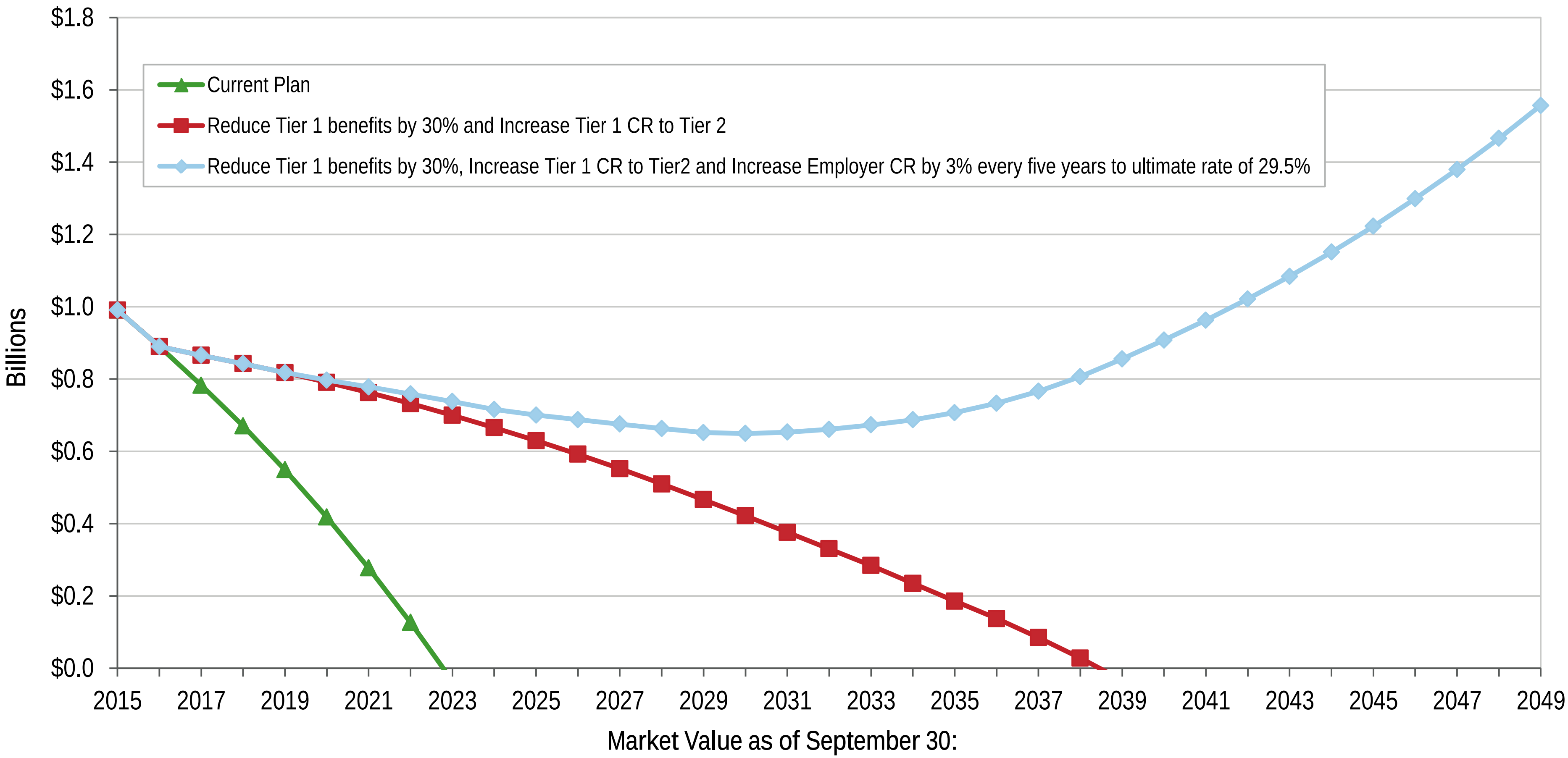
**If no action is taken, beginning about 2023, the System will have available cash income to pay only 42% of annual expected benefits.**

# Projections with Reduced Tier 1 Benefits and Contribution Increases

- The following projections include the following modifications as indicated on each graph.
  - A 30% reduction in all Tier 1 benefit payouts. (eligibility rules are not changed)
  - Increase employer contributions as follows:
    - January 1, 2020 – 23.5%
    - January 1, 2025 – 26.5%
    - January 1, 2030 – 29.5%
  - Also shown is the impact of a 6% investment return

# Comparison of Projected Market Value of Assets

*Reduce Tier 1 Benefits by 30% and Increase Tier 1 Contribution Rate to Tier 2*



# Comparison of Projected Market Value of Assets

*Reduce Tier 1 Benefits by 30% - Sensitivity to Investment Returns*