

# Police and Fire Pensions in Florida: A Comparison of Conditions After 10 Years

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Joseph Vonasek<sup>ORCID</sup> and Robert Lee, Florida Gulf Coast University

## Abstract

This article is an analysis of 31 defined benefit police and fire pension plans of 20 municipalities in Florida. The authors conducted a similar assessment of these same plans ten years earlier to determine the fiscal impact of these plans due to state mandates that accompany state funding for each of these plans. The current study analyzes key measures of fiscal health over the last ten years for these same plans to ascertain whether the fiscal condition of these plans remained constant, that is, whether underfunded plans continued to be questionably managed and whether well-funded plans continued to be fiscally stable considering economic trends and the lessening of state mandates on the use of state funding for these plans. The findings show that the overwhelming majority of the plans neither significantly changed their financial condition nor their general ranking among the plans evaluated.

## Keywords

public pensions, pension funding, declining funding ratios, minimum contributions, net liability

## Introduction

Across the United States, governments have consistently underfunded their defined benefit (DB) pensions. It is estimated that pensions in the United States are underfunded in an amount somewhere between US\$934 billion and US\$3.4 trillion dollars, depending on estimates used (Anzia, 2019). Unfortunately, this is not a recent trend. Johnson (1997) determined that governments have an incentive to offer generous, poorly funded pensions because underfunding can reduce tax burdens for residents who expect to leave their community before those retirement benefits are paid. A decade earlier, Leonard (1986) expressed concerns regarding chronic underfunding of public pensions during a time when such concerns received limited attention in the literature and/or in accounting tables. During

that time, Leonard contrasted how private sector funds, unlike their public sector counterparts, needed to be fully funded to comply with the Employee Retirement Income Security Act of 1974 (ERISA); arguably, a key reason behind the subsequent elimination of so many private sector-DB plans. Private firms were further mandated with the more recent and most significant legislation since ERISA when the Pension Protection Act of 2006 was passed. The PPA 2006 required that, among other things companies who underfunded their plans had to pay higher premiums to the Pension Benefit Guaranty Corporation (Campbell and Dhallwal, 2010; Klaft, 2007).

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### Corresponding Author:

Joseph Vonasek, Auburn University, 8030 Haley Center, Auburn 36849-5230, AL, USA.  
Email: [jvgman@aol.com](mailto:jvgman@aol.com)

Again, this was not applicable to public pension plans.

Most recently, [Paul \(2019\)](#) underscored the concern about chronic underfunding by concluding that governments are their own worst enemy because there is evidence that these decisions to underfund were for political expedience and their decisions to delay properly funding these plans has caused an inevitable fiscal imbalance. However, not all public pensions are underfunded causing one to question whether the same underfunded local government DB plans have a history of financial instability and, conversely, whether the same plans that are properly funded have a history of meeting annual funding requirements and, moreover, whether factors such as market trends and state mandates have an impact on the history of a plan's fiscal condition?

According to [Munnell \(2012\)](#), economic trends, such as changes to the discount rate, are too narrow a focus for understanding the complexities of the fiscal health of pensions; rather, more attention should be given to the plan sponsors that made their annual required contributions to their plans each year and how those plans were better off than other plans that did not receive those required contribution levels. Munnell further emphasizes this position when she concludes that governments tend to cut pension funding in difficult times and reduce taxes and pension contributions in favorable economic times.

The fiscal condition of public pension plans has come under increased scrutiny since the late 1990s when the Government Accounting Standards Board (GASB) substantially increased the amount of reporting that was required ([Clair, 2013](#)). The scrutiny has been further heightened with the 2008-2009 recession and the current economic impacts from COVID mandates. These recent changes in government accounting assure that Leonard's concerns (1986), formally given only limited attention in contemporaneous accounting footnotes, is now transparent to public officials and citizens ([Ali and Frank, 2019](#)).

## Background of the Study and Research Objectives

Ten years ago, the authors examined the relative fiscal health of thirty-one Florida municipal government's DB plans for police and firefighters. Those governments were each chosen because, together, their populations represented a normal distribution of Florida municipalities, and because each had taken advantage of Florida Statutes allowing the imposition of a local tax to provide supplemental funding for those first responders' pension plans. That study ([Lee & Vonasek, 2011](#)) was motivated by limitations placed upon the use of funds for those groups' DB pensions generated through a special use tax upon property and casualty insurance policies issued in a jurisdiction's boundaries.

These special use taxes are allowed for pension plans by the State of Florida through Chapters 175 (Fire) and 185 (Police) of its Statutes. Those Statutes require municipalities employing those funding sources to establish minimum benefit levels and employ specific pension plan management criteria. Further, it subjects them to state oversight ([State of Florida DMS, 2009](#)). Those criteria provided a degree of uniformity between these selected pension plans, enhancing comparability. The study's conclusion was that, although most plans were then solvent, their history of declining funding ratios had to be curtailed.

The present study provides an assessment and comparison of the same police and fire pension plans that were examined ten years earlier using, largely, the same data sources as the original study. The justification for their use and comparability in this present study is consistent with the reasoning provided in the previous study. Using generally accepted key measures of fiscal health of pensions ([GAO, 2008](#)), this present study examines whether the fiscal condition of these plans have remained relatively constant; specifically, whether the underfunded plans continued to be poorly managed and, conversely, whether well-funded plans continued to be fiscally stable, regardless of economic trends or legislative

mandates. There are some substantive elements of the municipalities that have changed over time; notably, population and service providers. These changes have been accounted for in the data analysis section of this article.

## Market Trends Impacting Investment Revenue for Pension Plans

Since the time of the original study, the general economic condition of the nation, as well as the debt and equity markets, experienced positive growth, especially during the period of 2016 through 2019 when the stock market experienced phenomenal growth (Macrotrends, n.d.). An important component in funding pension plans is investment returns, most notably in established plans where interest earnings are often the major revenue source for these types of plans. Within this sample, the average of the plans' investment income component represented 61.4% of total annual plan contributions (Florida Department of Management Services, n.d.).

At the end of December 30, 2015, the Dow Jones Industrials (DJI) Average was 17,462. On December 30, 2018, the DJI Average ended at 28,538, an increase of over 63% (Macrotrends, n.d.). An important factor to consider in assessing solvency of a pension plan is the plan's funding ratio. The funding ratio represents "the ratio between the value of the assets in a fund to the present value of its liabilities" (Brown, 2020). Based upon the exponential increase in the Dow Industrial Average, it would be expected that the funding ratios of the subject plans should reflect observable positive changes from those of the initial study due to these investment returns. A higher funding ratio represents a greater probability that a plan will meet the benefit obligations made to plan participants.

One notable offsetting factor involves the percentage of investment funds that were in the market during the stock market boom. Starting in 2012, the percentage of pension funds in the S&P Index dropped significantly due to moving from equities to other

investments, such as market neutral funds. Unfortunately, this moved caused pension plans to lose 15% relative to what they could have earned had they remained in equities (Brown, 2020).

In order to keep perspective on the above, it must be considered that annual contributions to any pension plan have four major components. The first is contributions by the employer, the second are contributions by the employee, the third is funding from "other" funding sources, and the fourth is the annual earnings from investments. The special use tax funding from F.S. 175 and F.S. 185 falls into the third component. This source is, in effect, a subsidization of a plan's minimum annual contribution.

## Florida Chapter 175 and 185 for Police and Fire Plans

At the time of the original study, plan funding through Chapters 175 and 185 was limited. It could only be used to meet minimum state mandated benefit standards. Any excess had to be used for "extra benefits." "Extra benefits" were considered as those benefits over and above those provided to general employees and additional to those already in existence for the plan's firefighters and police officers. That is, excess revenue after funding existing benefits could only be used to provide "extra benefits." This mandate was reinforced by opinions from the Florida Attorneys General (Attorney General, 2001). Under this interpretation, the availability of excess revenues from the Chapter 175 and 185 special use sales taxes motivated the implementation of numerous benefit changes that affected plans' funding ratios.

In its 2011 legislative session, the Florida legislature amended the described restrictive use of F.S. 175 and 185 state special use tax revenues by eliminating the "extra benefits" requirement for these funds. As described above, this ability to utilize F.S. 175 and 185 revenues to contribute to existing obligations should be expected to be reflected by improved funding ratios of the subject pension

plans and decrease in the frequency of plan benefit changes.

## Description of the Study Samples

The current study uses the same array of municipalities as the original study and, largely, the same data sources. The substantive elements of the municipalities that have changed over the intervening time are described and discussed below, allowing the readers to grasp the validity of this comparative study.

### Data Sources

The data for this revisiting of the fiscal soundness of local Chapter 175 and Chapter 185 pension plans are from a combination of two reports. First is the State of Florida's Department of Management Services (DMS), which annually gathers information on such plans through an actuarial report. This requirement comprises an oversight review required by Chapter 112.63 of the Florida Statutes (Florida Statutes, 2019). Whereas the original study's data had to be manually gathered from the files of DMS, the Local Retirement Section of the Department's Workforce Operations has since summarized the contents of the key actuarial measures of the annual reports and posted them to the DMS' website (State of Florida DMS, 2019) as "fact sheets."

The second source of information involves the actuarial reports for each municipality. These are available for each municipality through a link posted on each "fact sheet" by the DMS' Local Retirement Section (State of Florida DMS, 2019). The actuarial reports are compiled consistent with the requirements of the Governmental Accounting Standards Board Summary Statements 25, 67, and 68 (GASB 25, GASB 67, and GASB 68) (GASB, 2020).

### Population Change

The municipalities were chosen in the original study to provide a representative array of

populations among Florida cities. In order to provide comparability, the same array of municipalities is retained. Since the time of the original study, the populations of the municipalities have increased. The 2018 population ranges reflect a low of 25,085 (Key West) and a high of 878,907 (Jacksonville) (US Census Bureau, 2019). The amount of direct population change has varied, dependent upon the individual municipality. Calculation of the standard deviation (*SD*) for the 2018 sample indicates that, statistically, the sample's populations are still normally distributed.

### Provision of Service

The provision of municipal police and fire services has predominantly been provided by cities themselves. However, there are options for the provision of such services. A county sheriff typically has constitutional authority for law enforcement throughout the boundaries of their county. In some cases, a sheriff, through interlocal agreements for services, will provide day-to-day enforcement of municipal ordinances. While the cooperating municipality typically pays for the services, either through general property tax revenues or some type of special taxing district revenues, the law enforcement officers carrying out the services are employees of the county sheriff; therefore, the fiscal framework of a pension plan for municipal police officers is affected.

Since the original study, the law enforcement agency of one of the original municipalities has chosen to engage in an interlocal agreement for law enforcement services. The City of Deerfield Beach (2018 population 79,854) has entered into an agreement with the Sheriff of Broward County for the provision of day-to-day law enforcement services within its incorporated limits (Broward County, 2018).

As above, a similar arrangement can be provided for fire services. Since the original study, the City of Sarasota (population 56,102) entered into an interlocal agreement with the Sarasota County Board of County Commissioners for those services (Sarasota County, 2018). As with law enforcement, the personnel carrying out the services are employees of that

County. The fiscal framework of a pension plan for fire (and fire/rescue) personnel is also affected.

The inclusion of these two municipalities' data without consideration of their service provision changes may disproportionately affect some subsequent computations and thus conclusions. In order to not irrationally skew supporting computations made here, these changes in service provision are considered wherever appropriate.

## Statistical Measures

The level to which local governments have met their funding obligations for pensions and *other post-employment benefits* (OPEB) is generally evaluated by a combination of 3 factors (GAO, 2008):

1. The *funded ratio*; the extent of actuarially accrued benefit liabilities of their trust funds, compared to the actuarial value of each trust fund.
2. The amount of the *unfunded accrued liability* for each trust fund; the extent to which trust fund obligations meet or exceed a fund's assets.
3. The status of *annual required contributions* made to their pension and OPEB trust funds; the extent to which the local government has met an actuarially determined plan for its pension and OPEB requirements.

Providing additional depth to the above structural framework are a plan's market value of assets (the plan's actuarial value of the trust fund), and a review of any additional benefits added during the 2018 plan year. Combined, these measures present a fairly comprehensive picture of the sample plan's fiscal health.

In the process of outlining the issues of interest in this analytical exercise, the basis of evaluating certain factors was questioned. The product of this internal discussion was that it became necessary to decide whether some evaluative measures would be more accurately posed in "per plan participant" context than in terms of their gross values. Specifically, the

statement of market value of plan assets (MVA) and unfunded liabilities were questioned. While these factors have been analyzed in both of the contexts being discussed, the analytical value of the per plan participant measurements are dependent upon their usefulness in assessing a plan's fiscal soundness.

Stating the value of a plan's unfunded liability on a per plan participant basis can potentially be seen as representation of the burden on each participant's ability to receive the entirety of the plan benefits promised them in the future. However, the functional benefit from stating MVA in a per participant context appears to have limited worth. From an analytical point of view, interpretation of the value of MVA, stated in a per participant context, is limited without some uniformity in the variable of plan benefits. MVA's use in the process appears largely limited to the determination of fund growth and the subsequent development of the required minimum annual contribution. The minimum annual contribution is an actuarially determined value that inherently considers the number of participants of each type (e.g., active, retired, beneficiaries, and disabled), the present values of future cash inflows to a plan, and a number of demographic factors of a plan's participants (e.g., average age, average service, average compensation, etc.) (State of Florida DMS, 2019).

## MVAs

One of the underlying factors presented earlier in this study is that the positive growth seen in the investment markets during the periods between 2008 and 2018 should be reflected by corresponding increases in the values of the individual funds. To determine whether this has, in fact, occurred the change in MVA between 2008 and 2018 may be compared. The MVA represents the fair market value of the assets of an individual plan if they were liquidated (IRS, 2020). After a fund's annual distributions, the remainder is the fund's balance. This is equivalent to the MVA. It represents growth or loss in a fund from the combined values of employee contributions, distributions to the fund from F.S. 175 and 185

fee revenues, minimum annual contributions of the employer, and changes the value of investments. The sum total reflects a fund's ability to pay benefits in the future. This, functionally, allows a plan's fund balance at the end of the actuarial year to be measured after that year's distribution of benefits. The 2018 MVA for each plan was taken from the DMS' fact sheets (State of Florida DMS, 2019). Then, a comparison was made with plan fund balance (MVA) at the end of 2008 (State of Florida DMS, 2009). The change in MVA over time is expressed as a percentage change over the time period for each plan and

an average change may be expressed for the sample as a whole (Table 1).

The average change in value over the ten-year period was 86.1%, an annual average growth in excess of 8%. In addition to an increase in the mean (dollar) value for the individual plans (52.4%), their median (dollar) value also increased (75.1%). The sample used for this analysis was adjusted to remove three cities which had either changed the basis of their provision of service (Sarasota and Deerfield Beach) or whose plan was reported on a different basis (Pompano Beach only reported their fire service plan in 2008).

**Table 1.** F.S. 175 and F.S. 185. Market Value of Plan. Assets 2008–2018.

City	Fund	2018	2008	Change
Boca Raton	Police & fire	392,280,877	189,723,247	106.8%
Coral Gables	Police & fire	402,426,005	236,890,990	69.9%
Daytona Beach	Police & fire	184,817,431	109,405,015	68.9%
Deerfield BCH	Fire	119,214,394	71,843,826	65.9%
Deerfield BCH	Police	43,182,442	37,425,720	15.4%
Ft Myers	Fire	100,813,840	40,485,349	149.0%
Ft Myers	Police	135,039,894	50,786,145	165.9%
Gainesville	Police & fire	253,221,825	162,669,660	55.7%
Hollywood	Police	225,564,214	155,375,776	45.2%
Hollywood	Fire	250,486,988	95,185,988	163.2%
Jacksonville	Police & fire	2,007,821,892	780,619,952	157.2%
Key West	Police & fire	108,032,111	49,551,072	118.0%
Miami <sup>a</sup>	Police & fire	1,294,949,970	1,479,752,795	-12.5%
Orlando	Fire	422,713,116	215,120,608	96.5%
Orlando	Police	594,783,157	322,501,165	84.4%
Ormond BCH	Police	35,115,699	18,470,622	90.1%
Ormond BCH	Fire	31,434,016	14,370,069	118.7%
Panama City	Police	34,632,074	21,965,943	57.7%
Panama City	Fire	36,109,425	25,298,763	42.7%
Pensacola	Fire	125,485,032	78,834,833	59.2%
Pensacola	Police	101,955,040	51,700,850	97.2%
Pompano BCH <sup>a</sup>	Police & fire	246,351,626	165,002,263	49.3%
Sarasota	Police	246,484,418	134,441,894	83.3%
Sarasota	Fire	156,297,297	91,253,654	71.3%
St Petersburg	Police	430,119,356	261,851,791	64.3%
St Petersburg	Fire	295,333,766	155,013,630	90.5%
Tallahassee	Police	335,728,000	182,624,065	83.8%
Tallahassee	Fire	215,884,000	136,335,317	58.3%
Tampa	Police & fire	1,242,495,627	1,402,387,404	-11.4%
W Palm Beach	Police	384,460,632	162,450,781	136.7%
W Palm Beach	Fire	227,717,241	110,540,394	106.0%

<sup>a</sup>Plan not listed in 2008.

### Funding Ratios of Plans

A key indicator of the effect of plan management over the 10 years is the results of investments on the plans' coverage ratios. The 2008 ([State of Florida DMS, 2009](#)) and 2018 ([State of Florida DMS, 2019](#)) Funding Ratios, as reported by DMS are presented in [Table 2](#).

Of the 31 plans contained in this study, two are unable to have their change presented because either their 2018 plan's presentation materially changed from their 2008 plan (Pompano Beach) or their 2008 plan coverage ratio was not reported (Miami). Twelve plans reflected an increased

funding ratio over the study period. The remaining seventeen plans' funding ratios decreased from their 2008 levels. Overall, the effect of the favorable investment market should be reflected in its effect on the average coverage ratio. Over the term of the study, a nominal decrease in the average coverage ratio from 80.8% to 80.3% was experienced.

### Net Liability of Plans

Another significant statistic is the change incurred on a plan's net liability. That is, have there been changes in the difference between

**Table 2.** F.S 175 and F.S. 185 Plan Funding Ratios 2008–2018.

City	Fund	2008 percent funded	2018 percent funded	Change
Pompano BCH <sup>a</sup>	Police & fire	36.2%	70.0%	33.8%
St Petersburg	Fire	84.6%	109.2%	24.6%
Ft Myers	Fire	57.3%	76.5%	19.2%
Ft Myers	Police	55.2%	70.7%	15.5%
Hollywood	Fire	51.0%	63.9%	12.9%
Pensacola	Fire	82.6%	95.5%	12.9%
W Palm Beach	Police	91.0%	100.2%	9.2%
Ormond BCH	Fire	71.1%	78.5%	7.4%
Coral Gables	Police & fire	61.2%	67.2%	6.0%
Sarasota	Fire	77.9%	83.4%	5.5%
Key West	Police & fire	86.8%	92.1%	5.3%
Daytona Beach	Police & fire	72.5%	74.0%	1.5%
St Petersburg	Police	92.9%	93.2%	.3%
W Palm Beach	Fire	76.3%	75.7%	-.6%
Hollywood	Police	64.1%	63.4%	-.7%
Pensacola	Police	80.6%	77.6%	-3.0%
Tampa	Police & fire	99.7%	96.4%	-3.3%
Panama City	Police	82.9%	79.5%	-3.4%
Sarasota	Police	92.8%	89.2%	-3.6%
Boca Raton	Police & fire	81.7%	76.9%	-4.8%
Ormond BCH	Police	83.7%	77.2%	-6.5%
Jacksonville	Police & fire	79.1%	48.5%	-8.6%
Deerfield BCH	Police	79.1%	70.0%	-9.1%
Panama City	Fire	80.2%	70.7%	-9.5%
Orlando	Police	92.0%	81.7%	-10.3%
Gainesville	Police & fire	99.1%	88.6%	-10.6%
Orlando	Fire	92.2%	81.0%	-11.2%
Tallahassee	Police	104.8%	89.3%	-15.5%
Deerfield BCH	Fire	94.0%	77.0%	-17.0%
Tallahassee	Fire	99.0%	80.8%	-18.2%
Miami <sup>a</sup>	Police & fire	N/L	73.9%	
	Cities' avg	79.32%	79.73%	

<sup>a</sup>Plan not listed in 2008

a plan's total liability for future payments and the plan's MVA? While the data for this comparison were not available for the entire 10-year period, the DMS' 2018 Fact Sheets summarize this for each plan (State of Florida DMS, 2019). Of the 31 plans, 29 are utilized in an examination of net liabilities. To alleviate possible skewing of the distribution, the two plans with the highest liability and the two plans with the least liability were dropped from a calculation of *SD*. The two municipalities with the largest levels of net liability were both substantially in excess of 3 times the calculated *SD*; thus, these values were outliers in the distribution and their inclusion would skew any conclusions that could be drawn. To avoid skewing the low side of statistical

measures, the corresponding two lowest levels of net liability were also excluded. Having made these adjustments, the distribution of the 25 plans utilized can be considered normal (Table 3).

The nearly US\$2 billion net liability of Jacksonville is over 3.6 times the next highest plan net liability (Miami). Both represent the combined net liability of police and fire pension funds. The St Petersburg Fire and West Palm Beach Police plans both have negative liability (surplus) values. The existence of a plan surplus might allow a municipality to temporarily reduce its annual contribution to a plan, if needed, to address short-term fiscal stress. Conversely, a large plan net liability under the same circumstances may accentuate conditions that

**Table 3.** F.S. 175 and F.S. 185 Net Pension Liabilities 2018.

City	Fund	2008 net pension liability
St Petersburg	Fire	(22,896,163)
W Palm Beach	Police	(927,725)
Pensacola	Fire	5,905,959
Ormond BCH	Fire	8,596,500
Panama City	Police	8,935,883
Key West	Police & fire	9,213,643
Ormond BCH	Police	10,394,443
Panama City	Fire	14,971,898
Pensacola	Police	29,454,166
Sarasota	Police	29,880,689
Ft Myers	Fire	30,978,639
St Petersburg	Police	31,365,019
Gainesville	Police & Fire	32,757,861
Deerfield BCH	Fire	35,678,785
Tallahassee	Police	40,057,000
Tallahassee	Fire	51,412,000
Ft Myers	Police	56,101,187
Daytona Beach	Police & Fire	64,835,851
W Palm Beach	Fire	73,168,477
Tampa	Police & fire	81,291,268
Orlando	Fire	96,218,531
Pompano BCH	Police & fire	104,598,541
Boca Raton	Police & fire	117,745,858
Orlando	Police	133,279,557
Hollywood	Fire	141,360,733
Hollywood	Police	176,714,224
Coral Gables	Police & fire	195,521,162
Miami	Police & fire	554,242,209
Jacksonville	Police & fire	1,999,069,758



**Table 4.** F.S. 175 and F.S. 185 Required Minimum Annual Contribution 2018 (Negative).

City	Contribution							Coverage Ratio
	Fund	Employer	State	Member	Total	Minimum	Difference	
Hollywood	Police	19,492,251	—	1,762,768	21,255,019	29,545,880	(8,290,861)	49.31%
Jacksonville	Police & fire	135,690,989	—	16,636,624	152,327,613	158,150,554	(5,822,941)	47.42%
Boca Raton	Police & fire	10,186,562	3,313,018	3,956,634	17,456,214	23,192,668	(5,736,454)	75.93%
Hollywood	Fire	16,373,064	—	1,458,572	17,831,636	21,138,997	(3,307,361)	62.48%
Tampa	Police & fire	15,868,243	6,760,704	11,855,429	34,484,376	36,375,145	(1,890,769)	94.23%
Tallahassee	Fire	5,004,000	—	2,862,000	7,866,000	9,616,000	(1,750,000)	78.04%
Daytona Beach	Police & fire	7,794,395	937,925	1,677,177	10,409,497	11,242,888	(833,391)	73.07%
Deerfield BCH	Fire	5,307,928	628,008	901,704	6,837,640	7,530,396	(692,756)	76.96%
Gainesville	Police & fire	4,507,892	1,366,304	1,963,471	7,837,667	8,509,968	(672,301)	87.93%
W Palm Beach	Police	3,556,968	1,455,967	2,679,979	7,692,914	8,232,695	(539,781)	98.48%
Panama City	Police	924,910	343,438	346,586	1,614,934	1,996,959	(382,025)	79.34%
Panama city	Fire	1,912,733	313,843	252,579	2,479,155	2,723,963	(244,808)	70.75%
Tallahassee	Police	8,330,000	—	3,451,000	11,781,000	12,002,000	(221,000)	87.88%
Ft Myers	Fire	5,656,026	639,810	585,696	6,881,532	7,071,121	(189,589)	75.78%
Ormond BCH	Fire	1,091,401	294,761	203,207	1,589,369	1,724,775	(135,406)	79.39%
W Palm Beach	Fire	8,057,319	1,341,395	3,325,997	12,724,711	12,784,163	(59,452)	74.73%

**Table 5. F.S. 175 and F.S. 185 Required Minimum Annual Contribution 2018 (Positive).**

City	Contribution						Coverage 2018 Ratio	
	Fund	Employer	State	Member	Total	Minimum		Difference
Key West	Police & fire	3,765,235	645,479	872,519	5,283,233	5,241,992	41,241	83.07%
Ft Myers	Police	9,167,169	880,267	1,320,733	11,368,169	11,223,692	144,477	70.03%
Ormond BCH	Police	1,527,329	379,636	318,195	2,225,160	2,066,796	158,364	77.34%
Pensacola	Fire	1,462,151	546,911	480,066	2,489,128	2,257,965	231,163	95.38%
Pensacola	Police	4,528,544	572,693	209,565	5,310,802	5,034,324	276,478	76.74%
Sarasota	Fire	9,502,656	416,820	20,122	9,939,598	9,505,695	433,903	83.43%
Orlando	Police	31,628,775	(4,283,843)	4,645,418	31,990,350	31,285,153	705,197	81.70%
Sarasota	Police	7,533,010	655,750	1,059,114	9,247,874	8,110,037	1,137,837	89.82%
Coral Gables	Police & fire	26,437,994	145,830	5,000,505	31,584,329	29,223,380	2,360,949	66.88%
St petersburg	Fire	1,886,213	1,369,948	1,685,634	4,941,795	2,462,294	2,479,501	103.97%
St petersburg	Police	7,315,889	2,569,417	2,141,303	12,026,609	8,777,409	3,249,200	87.74%
Orlando	Fire	18,541,649	3,396,063	2,159,559	24,097,271	20,301,358	3,795,913	80.58%
Pompano BCH	Police & fire	10,775,021	2,501,946	1,708,166	14,985,133	10,710,081	4,275,052	69.47%
Deerfield BCH	Police	2,149,466	674,500	3,950,827	6,774,793	2,365,782	4,409,011	68.41%
Miami	Police & fire	50,591,605	—	14,258,763	64,850,368	58,611,079	6,239,289	66.38%

**Table 6.** F.S. 175 and F.S. 185 Plan Benefit Changes 2018.

City	Fund	Net liab <sup>a</sup> amount change
Boca Raton	Police & Fire	1,270,260
Coral Gables	Police & Fire	15,359,754
Hollywood	Police	54,812,570
Hollywood	Fire	2,830,293
Tallahassee	Fire	(1,850,000)
Tallahassee	Police	(5,904,000)
Tampa	Police & fire	2,549,451
W Palm Beach	Police	2,595,355

<sup>a</sup>From plan actuarial reports.

require extreme actions for recovery, up to and including bankruptcy.

The evaluation of unfunded liability in a context of *liability per plan participant* was undertaken in order to examine whether the two municipalities excluded from the calculations because of their status as an outlier were inappropriate due to the size of their fund, or number of participants. The result of this analysis provided an interesting result. While Jacksonville remained an outlier in the context of a per participant analysis, the City of Miami did not. However, the City of Hollywood Fire fund was found to be an outlier in this context. The per participant liability of the Hollywood Fire fund was approximately 3.4 times the sample *SD*. Thus, it is observed that unfunded liability, viewed in the context of per plan participant, may have some valid effect on evaluating plans' fiscal health.

### Minimum Plan Contributions

Another comparison must be made which reflects upon the adequacy of a city's dedication to meeting the required minimum total annual funding of the plan. Under the terms of F.S. 112.664(1) (d), plan managers are required to annually calculate and report the total amount that is required to be contributed to meet future needs ([Florida Statutes, 2019](#)), in addition to any change in MVA (net investment revenues). Expected revenues from member contributions and from F.S. 175/F.S. 185 (i.e., state revenues) are applied to the total estimated amount; the cities are obligated to

contribute the remaining difference. The following describes the 2018 additional contribution of each of the cities from each source, as stated in a city's Plan Annual Report ([State of Florida DMS Local Retirement Plans, 2019](#)).

Of the 31 cities examined here, 16, shown in [Table 4](#), contributed less than their recommended minimum required annual contribution.

Comparing the funding ratios of the cities to the status of their annual contributions is telling. An actuarially substantiated coverage ratio of 80%, or more, is commonly considered the benchmark for evaluating adequacy of fund coverage ([State of Florida DMS Local Retirement Plans, 2019](#); [State of Florida Reporting Standards, 2019](#)). Of the 16 plans making less than the required minimum annual contribution, there were 12 with coverage ratios of less than 80%. Conversely, 8 of the 15 plans making annual contributions in excess of the required minimum had coverage ratios of 80% or greater ([GAO, 2008](#)) ([Table 5](#)).

### Additional Plan Benefits

The individual plan's 2018 Actuarial Reports all indicate whether there have been benefit changes to the plan being reported. As well, they reported the impact of those changes on the plan's net liability, in either a positive value (increasing plan net liability) or negative value (decreasing plan net liability; [Table 6](#)).

The 2018 Actuarial Plans indicate that eight of the thirty-one plans implemented benefit changes during their 2018 actuarial years ([State of Florida DMS Local Retirement Plans, 2019](#)).

**Table 7.** Change in Rank of Funding Ratios 2008–2018.

City	Fund	2008 % funded rank	2018 % funded rank
St petersburg	Fire	12	1
W Palm Beach	Police	10	2
Tampa	Police & fire	2	3
Pensacola	Fire	15	4
St petersburg	Police	6	5
Key West	Police & fire	11	6
Tallahassee	Police	1	7
Sarasota	Police	7	8
Gainesville	Police & fire	3	9
Sarasota	Fire	20	10
Orlando	Police	9	11
Orlando	Fire	8	12
Tallahassee	Fire	4	13
Panama City	Police	14	14
Ormond BCH	Fire	23	15
Pensacola	Police	17	16
Ormond BCH	Police	13	17
Deerfield BCH	Fire	5	18
Boca Raton	Police & fire	16	19
Ft Myers	Fire	26	20
W Palm Beach	Fire	21	21
Daytona Beach	Police & fire	22	22
Miami	Police & fire	31	23
Panama City	Fire	18	24
Ft Myers	Police	28	25
Deerfield BCH	Police	19	26
Pompano BCH	Police & fire	30	27
Coral gables	Police & fire	25	28
Hollywood	Fire	29	29
Hollywood	Police	24	30
Jacksonville	Police & fire	27	31

Six of these plans' benefit changes had the effect of increasing the net liability of the plan, two decreased plan net liability. Adding plan benefits increases future obligations. This can only be offset by increased contributions from one of the four primary revenue sources discussed above. The failure to do so will have the effect of decreasing a plan's coverage ratio.

### Summary of Changes and Conclusions

The expectation that the increased opportunity for profitable investment of pension plan assets in the market, combined with the ability to

utilize revenues from F.S. 175 and F.S. 185 special use tax revenues for all plan benefits appears to have been generally met. The plan funding ratios of over 40% of the sample plans have increased over the 10-year study period. However, the range of changes in coverage over the study period varied from 93.4% to 18.4%. In short, almost 59% of the sample plans incurred decreased coverage ratios. In that the MVA of all but two of the sample plans experienced positive growth in value (averaging approximately 8% per year for ten years) it may be assumed that, despite market growth and the ability of plans' trustees to utilize special use tax revenues more

effectively in addressing plans' liabilities, the plans' trustees have either continued to increase the level of plan benefits beyond the ability of plan assets to cover benefit costs, failed to make adequate contributions, or both.

An aspect of additional interest concerning the changes in plan funding ratios is whether the individual plans have improved their position in the ranking among sample coverage ratios over the study's term. Using the sample municipalities funding ratio rankings for 2018 as a base, the upward mobility of each fund from the lower half of the sample to the upper half was examined. The central point of the 31 funds within the sample would include the 15th and 16th ranked funds of the sample. [Table 7](#) compares the funds' 2018 and 2008 funding ratio rankings. Only a single fund moved from the lower half of the 2008 ranking to the upper half of the 2018 ranking; the Sarasota Fire fund moved upward from the 20th highest 2008 ratio to the 10th highest 2018 funding ratio. Similarly, a single fund moved downward; the Deerfield Beach Fire fund moved from the 5th highest 2008 ratio to the 18th highest 2018 ratio. While the City of Sarasota's Fire fund movement is probably attributable to the transition of its provision of fire service from the City to Sarasota County, the change in the Deerfield Beach Fire ranking is not as simplistic. The Deerfield Beach Fire fund's coverage ratio has decreased substantially over the study period; decreasing from a 2008 ratio of 94.0% to a 2018 ratio of 77.0%. This decrease is likely due to inadequate annual contributions. The fund's 2018 contribution was almost US\$700,000 below a required ~US\$7.5 million minimum.

What appears critical to this analysis is, in fact, the discrepancies in minimum annual contribution. The status of plans of the sample municipalities contributing less than their 2018 recommended minimum finds 12 of the 16 (75%) have funding ratios of less than 80%. In comparison to the status of the cities contributing more than their 2018 recommended minimum, 7 of the 15 municipalities have funding ratios of less than 80% (47%). While there may be reasons justifying a lower than required contribution by a city with a funding ratio over 80%,

a less than minimum contribution with a deficient coverage means that the path to financial stability only grows increasingly more difficult.

To some degree, the contention that plan benefits have been increased is supported by the actuarial reports for 2018, indicating six of the eight changes in plan benefits increased their net liability. Stunningly, historic under-contribution to plan assets by some municipalities is supported by the finding that the 8 cities (27.6% of the sample) with net liabilities over US\$100 million represent 83% of the total net liability of sample plans. These two study findings, unfortunately, reflect a failure in either trustees' or municipalities' long-term decision-making or failure by both.

In summary of the above, it may be stated that while the average of plan MVA increased substantially over the 10-year interval between the two studies, the plan's funding ratios did not change commensurately. It is most likely that the cause of that discrepancy is not due to inadequate net investment income. While plan trustees may have some responsibility for agreeing with municipal elected officials' decision to grant extra pension benefits, the most significant impact appears to have been annual under-contributions to plan assets.

As noted earlier with the analysis of net liability, MVA was also reviewed in the context of a *per plan participant* format to examine whether the use of gross asset value was misleading. In this case, it is necessary to examine the logic of whether MVA per participant has any functional meaning. Growth in gross MVA allows a judgment to be made concerning long-term efficacy of investment decisions. It is, however, in a final analysis, always offset by liabilities. Plans that may have substantial MVA per participant may also have plan benefits that are exceptionally high. This is likely to produce unfunded liabilities per participant that more than offset the MVA measure. In sum, until a scale that considers some long-term comparative uses of a measure based upon MVA per participant is available, it seems to provide no better evaluation of plans' fiscal condition than that of a gross MVA and may serve to only confuse the [GAO \(2008\)](#) evaluative measures.

A fundamental issue that should be addressed by the underfunded pension plans studied here is how they can restore their fiscal condition and alleviate the risk imposed upon their plan of participants' retirement security. The individual participants face a future, in the more poorly funded plans, of reduced payments and benefits. For long-term employees, such an outcome would become known at a point too late in their careers for them to recover their loss by starting over. It would be a basic failure in trust by the employer and by their pension board. Certainly, the basic approach to restoration of a plan's funding ratio is to not only annually make their full required Minimum Annual Contribution but to contribute additional amounts that would restore an acceptable funding ratio in some reasonable period of time (e.g., 10 years). However, in some of the worst cases, even a 10-year correction period may be fiscally impossible. Additionally, since it appears that much of the problematic underfunding comes from an employer failing to make adequate Annual Contributions, it must be considered whether employers are likely to faithfully begin and continue the practice.

There are some who suggest adoption of a plan's modification from a Defined Benefit (DB) to a Defined Contribution (DC) structure. Endres (2019) contends that a solution might be found by allowing current employees with DB Pensions to continue in their DB Plan. New hires would, however, have pension benefits through a DC Plan. The model Endres presents is one that the Jacksonville/Duval County Sheriff's Office (JSO) (a plan that is studied here) has implemented. New hires at the JSO receive a 401(a) DC plan and an optional 457(b) deferred compensation plan. An employee makes contributions to the DC plans withheld from their paycheck that are matched by set contribution ratios (up to set maximums for employee contributions) by their employer. The positive aspect of these alternatives benefit the employees in the DB plan by not increasing the funding level required for the plan's minimum annual contribution. The new hires on the DC plan annually receive benefits equal to those in the DB plan and have retirement accounts that, once they are vested in the plan, they can take

with them, in their entirety, if they leave before full retirement. In contrast, an employee vested in the DB plan who leaves prior to full retirement is only entitled to receive substantially reduced amounts. This is similar to a program initiated by the Florida Retirement System (FRS). The FRS offers two "retirement plan options." Employees may choose the "FRS Pension Plan," which, essentially, is a DB plan, or the "FRS Investment Plan," which an employee can take with them if they leave, after vesting and retain control over. The FRS Investment Plan allows an employee to choose from a number of different payment options, lump sum and periodic payments (FRS, n.d.). Both of these options require employee contributions.

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### ORCID iD

Joseph Vonasek  <https://orcid.org/0000-0002-1365-2505>

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## Author Biographies

**Joseph Vonasek** with a BS and MBA in Business Management, and a Ph.D. in Public Administration, Vonasek has served as a local government executive, senior staff member and consultant to state and local governments. Until his retirement, Vonasek

was a part of the Core Faculty in the MPA Program (Political Science) at Auburn University, focusing on public finance and budgeting.

**Robert E. Lee**, is an ICMA-City Manager (since 1984), Faculty Advisor for the ICMA Student Chapter, and MPA Program Coordinator at Florida Gulf Coast University. He previously served as the Senior Executive in Residence at the Askew School

of Public Administration and Policy, Florida State University. In 2002, he was inducted into Florida City County Management Association's "Hall of Fame" for his service.

In 2017, Vonasek and Lee received the Michael C. Robinson Prize for Historical Analysis by the National Council on Public History for their work on Police and Fire Pensions in Florida.