

**CITY OF BROOKSVILLE
PENSION WORKSHOP
COUNCIL CHAMBERS
201 HOWELL AVENUE
BROOKSVILLE, FL 34601**

AGENDA

July 14, 2014

6:30 P.M.

- A. CALL TO ORDER**
- B. PRESENTATION AND UPDATE OF INFORMATION BY GABRIEL ROEDER SMITH & COMPANY REGARDING THE FIRE PENSION.**

Presentation:	Peter Strong, Lead Actuary
Action:	Review, Discussion & Direction to Staff
Attachment:	Report #3, Report #2, Report #1 and Actuarial Report by Foster and Foster provided to Council on 4/29/14

- C. ADJOURNMENT**

Meeting agendas and supporting documentation are available from the City Clerk's office, and online at www.cityofbrooksville.us. Persons with disabilities needing assistance to participate in any proceedings should contact the City Clerk's office 48 hours in advance of the meeting at 352/540-3853.



AGENDA ITEM
MEMORANDUM

TO: HONORABLE MAYOR AND CITY COUNCILMEN

FROM: T. JENNENE NORMAN-VACHA, CITY MANAGER

SUBJECT: FIRE PENSION WORKSHOP

DATE: JULY 9, 2014

A handwritten signature in blue ink, appearing to read "T. Jennene Norman-Vacha", written over the "FROM:" line.

The following documents are being provided for your review and discussion regarding City of Brooksville Firefighters' Retirement Trust Fund:

1. Gabriel Roeder Smith & Company - City of Brooksville Firefighters' Retirement Trust Fund Letter Report #3 – Additional Alternative Scenarios with 30-Year Projections;
2. Gabriel Roeder Smith & Company - City of Brooksville Firefighters' Retirement Trust Fund Letter #2 – Additional Commentary and 30-Year Projections (*previously provided to City Council for Pension Workshop on April 29, 2014*);
3. Gabriel Roeder Smith & Company – City of Brooksville Firefighters' Retirement Trust Fund Letter Report #1 – Replication of October 1, 2012 Actuarial Valuation and Review of Actuarial Assumptions and Methods (*previously provided to City Council for Pension Workshop on April 29, 2014*); and
4. Foster & Foster – City of Brooksville Firefighters' Retirement Trust Fund Actuarial Valuation Report as of October 1, 2013 (*previously provided to City Council for Pension Workshop on April 29, 2014*).

We look forward to good discussion and direction from City Council.



July 7, 2014

Ms. T. Jennene Norman-Vacha
City Manager
City of Brooksville
201 Howell Avenue
Brooksville, Florida 34601

**Re: City of Brooksville Firefighters' Retirement Trust Fund
Letter Report #3 – Additional Alternative Scenarios with 30-Year Projections**

Dear Ms. Norman-Vacha:

Gabriel, Roeder, Smith & Company (GRS) has been engaged by the City of Brooksville (City) to provide advice concerning its pension plan for firefighters. This is the third of three letter reports in fulfillment of that engagement. Letter Report #1, dated February 25, 2014, presented replication results of the Board's retained actuary's actuarial valuation and provided a review and commentary regarding the actuarial assumptions and methods used in the actuarial valuation. Letter Report #2, dated April 28, 2014, presented 30-year projections of the cost of current pension plan and a few alternative scenarios (identified as scenarios A through D) using the recommended assumptions and methods from Letter Report #1. It also included additional commentary and discussion regarding defined benefit plans and variable defined benefit plans. This Letter Report #3 presents the following:

1. 30-year projections of the current pension plan benefits using the assumptions and methods recommended in Letter Report #1.
2. ***What if benefits are changed? Scenario E*** – Same as item 1, but the benefit multiplier is changed from 3.1% to 2.75% per year of service for future members (new entrants).
3. ***What if benefits are changed? Scenario F*** – Same as item 1, but the annual cost-of-living adjustment (COLA) from ages 55 to 65 is changed from 3.0% to 2.0% per year for future members (new entrants).
4. ***What if benefits are changed? Scenario G*** – Same as item 1, but assuming normal retirement is changed from the earlier of attainment of age 55 with 10 years of service or completion of 20 years of service regardless of age, to the earlier of attainment of age 55 with 10 years of service or attainment of age 52 with 25 years of service (the current Chapter 175 minimum normal retirement eligibility under Chapter 99-1 of the Florida Statutes) for future members (new entrants) only.
5. ***What if benefits are changed? Scenario H*** – Same as item 1, but assuming all three changes in Scenarios E, F and G are made in combination for future members (new entrants) only.
6. Discussion of variable benefit plans (repeated from Letter Report #2).
7. ***What if benefits are changed? Scenario I*** – Same as item 1, but assuming a variable defined benefit formula is implemented for future members (new entrants) only. The variable defined benefit formula is assumed to have a 3.0% multiplier and a 5.0% annual investment return hurdle rate.
8. ***What if benefits are changed? Scenario J*** – Same as item 4 (Scenario G - normal retirement date is earlier of attainment of age 55 with 10 years of service or attainment of age 52 with 25 years of service for future members), but also assuming a variable defined benefit formula is implemented for future members (new entrants) only. The variable defined benefit formula is assumed to have a 3.0% multiplier and a 5.0% annual investment return hurdle rate.
9. ***What if benefits are changed? Scenario K*** – Same as item 8 (Scenario J) except the investment return on the market value of assets in fiscal years 2034 and 2035 is assumed to be -10.0%.
10. ***What if benefits are changed? Scenario L*** – Same as item 5 (Scenario H) except the investment return on the market value of assets in fiscal years 2034 and 2035 is assumed to be -10.0%.

30-Year Projections

We have prepared several additional 30-year projections. The first projection (shown below) presents the projected costs and liabilities of the current plan using the assumptions and methods recommended in our Letter Report #1 (including an investment return assumption and actual realized net investment returns of 6.5% per year on the market value of assets, salary increases of 5.25% per year, and recommended mortality and turnover rates).

City of Brooksville Firefighters' Retirement Trust Fund Projection #1 - Current Plan with Recommended Assumptions/Methods

Valuation Date	Fiscal Year End	Covered Payroll	Actuarial Value of Assets	Actuarial Liability	Funded Ratio	City/State Required Contribution	Contribution % of Pay
10/1/13	9/30/15	651,472	5,249,323	8,150,277	64.4%	508,280	78.0%
10/1/14	9/30/16	635,685	5,467,338	8,137,391	67.2%	493,130	77.6%
10/1/15	9/30/17	622,764	5,926,251	8,367,374	70.8%	507,911	81.6%
10/1/16	9/30/18	651,685	6,349,848	8,633,215	73.6%	520,976	79.9%
10/1/17	9/30/19	684,539	6,788,893	8,926,829	76.1%	538,485	78.7%
10/1/18	9/30/20	718,821	7,273,174	9,250,529	78.6%	509,867	70.9%
10/1/19	9/30/21	806,010	7,755,054	9,599,737	80.8%	487,771	60.5%
10/1/20	9/30/22	819,695	8,228,920	9,961,339	82.6%	495,043	60.4%
10/1/21	9/30/23	821,263	8,701,887	10,316,145	84.4%	474,113	57.7%
10/1/22	9/30/24	914,566	9,174,640	10,706,465	85.7%	493,562	54.0%
10/1/23	9/30/25	954,157	9,694,289	11,151,088	86.9%	529,091	55.5%
10/1/24	9/30/26	995,848	10,279,908	11,631,393	88.4%	521,859	52.4%
10/1/25	9/30/27	971,153	10,813,035	12,034,367	89.9%	582,078	59.9%
10/1/26	9/30/28	1,014,223	11,433,504	12,496,952	91.5%	548,913	54.1%
10/1/27	9/30/29	983,891	11,962,870	12,851,069	93.1%	567,351	57.7%
10/1/28	9/30/30	1,005,634	12,502,621	13,214,534	94.6%	551,611	54.9%
10/1/29	9/30/31	1,057,392	13,053,644	13,624,315	95.8%	575,147	54.4%
10/1/30	9/30/32	1,107,441	13,654,754	14,068,946	97.1%	562,404	50.8%
10/1/31	9/30/33	1,126,460	14,233,295	14,487,094	98.2%	578,127	51.3%
10/1/32	9/30/34	1,168,664	14,850,800	14,941,947	99.4%	560,971	48.0%
10/1/33	9/30/35	1,208,578	15,457,029	15,398,059	100.4%	409,795	33.9%
10/1/34	9/30/36	1,228,338	15,890,455	15,829,050	100.4%	431,249	35.1%
10/1/35	9/30/37	1,264,072	16,337,662	16,274,010	100.4%	444,691	35.2%
10/1/36	9/30/38	1,307,157	16,797,410	16,731,515	100.4%	462,899	35.4%
10/1/37	9/30/39	1,349,673	17,285,174	17,216,607	100.4%	479,182	35.5%
10/1/38	9/30/40	1,394,742	17,801,302	17,728,803	100.4%	477,032	34.2%
10/1/39	9/30/41	1,425,581	18,301,227	18,225,666	100.4%	501,316	35.2%
10/1/40	9/30/42	1,465,136	18,821,061	18,741,908	100.4%	519,378	35.4%
10/1/41	9/30/43	1,517,751	19,359,172	19,275,483	100.4%	523,093	34.5%
10/1/42	9/30/44	1,550,336	19,880,805	19,793,794	100.4%	557,024	35.9%
10/1/43	9/30/45	1,605,411	20,444,945	20,353,690	100.4%	566,869	35.3%

The next four projections illustrate the impact of adjusting three key benefit provisions – the benefit multiplier (for future service), the cost-of-living increase (COLA), and the normal retirement eligibility provisions – one at a time, and then in combination – for future members (new entrants) only. The first of these projections (shown below) illustrates the impact of changing the benefit multiplier from 3.1% to 2.75% per year of service for future members (new entrants) only. No benefit changes would be made for current members.

City of Brooksville Firefighters' Retirement Trust Fund
What if Benefits are Changed? - Scenario E (Using Recommended Assumptions)
Benefit Multiplier Changed from 3.1% to 2.75% Per Year for Future Members

Valuation Date	Fiscal Year End	Covered Payroll	Actuarial Value of Assets	Actuarial Liability	Funded Ratio	City/State Required Contribution	Contribution % of Pay
10/1/13	9/30/15	651,472	5,249,323	8,150,277	64.4%	508,280	78.0%
10/1/14	9/30/16	635,685	5,467,338	8,137,391	67.2%	490,594	77.2%
10/1/15	9/30/17	622,764	5,923,616	8,364,979	70.8%	502,981	80.8%
10/1/16	9/30/18	651,685	6,341,950	8,625,978	73.5%	515,238	79.1%
10/1/17	9/30/19	684,539	6,774,594	8,913,622	76.0%	531,821	77.7%
10/1/18	9/30/20	718,821	7,251,123	9,230,033	78.6%	502,279	69.9%
10/1/19	9/30/21	806,010	7,723,817	9,570,539	80.7%	476,915	59.2%
10/1/20	9/30/22	819,695	8,184,561	9,919,712	82.5%	481,839	58.8%
10/1/21	9/30/23	821,263	8,641,172	10,258,956	84.2%	458,735	55.9%
10/1/22	9/30/24	914,566	9,094,314	10,630,520	85.5%	474,635	51.9%
10/1/23	9/30/25	954,157	9,589,478	11,051,666	86.8%	509,112	53.4%
10/1/24	9/30/26	995,848	10,148,009	11,505,792	88.2%	500,787	50.3%
10/1/25	9/30/27	971,153	10,651,243	11,879,665	89.7%	557,285	57.4%
10/1/26	9/30/28	1,014,223	11,236,171	12,307,623	91.3%	522,847	51.6%
10/1/27	9/30/29	983,891	11,726,569	12,623,580	92.9%	536,470	54.5%
10/1/28	9/30/30	1,005,634	12,220,147	12,941,865	94.4%	517,767	51.5%
10/1/29	9/30/31	1,057,392	12,719,294	13,300,752	95.6%	539,482	51.0%
10/1/30	9/30/32	1,107,441	13,263,657	13,689,476	96.9%	526,072	47.5%
10/1/31	9/30/33	1,126,460	13,782,715	14,048,781	98.1%	539,473	47.9%
10/1/32	9/30/34	1,168,664	14,336,309	14,440,281	99.3%	520,342	44.5%
10/1/33	9/30/35	1,208,578	14,873,660	14,828,068	100.3%	365,092	30.2%
10/1/34	9/30/36	1,228,338	15,233,324	15,188,552	100.3%	384,247	31.3%
10/1/35	9/30/37	1,264,072	15,603,741	15,560,119	100.3%	396,227	31.3%
10/1/36	9/30/38	1,307,157	15,983,960	15,941,614	100.3%	412,424	31.6%
10/1/37	9/30/39	1,349,673	16,388,347	16,347,019	100.3%	426,914	31.6%
10/1/38	9/30/40	1,394,742	16,817,118	16,775,826	100.2%	425,014	30.5%
10/1/39	9/30/41	1,425,581	17,230,637	17,190,295	100.2%	446,669	31.3%
10/1/40	9/30/42	1,465,136	17,660,890	17,621,176	100.2%	462,766	31.6%
10/1/41	9/30/43	1,517,751	18,106,396	18,066,627	100.2%	466,067	30.7%
10/1/42	9/30/44	1,550,336	18,536,075	18,497,492	100.2%	496,309	32.0%
10/1/43	9/30/45	1,605,411	19,002,377	18,964,327	100.2%	505,065	31.5%

The next projection (below) illustrates the impact of changing the cost-of-living adjustment (COLA) increase granted at ages 55 through 65 from 3.0% per year to 2.0% per year for future members (new entrants) only. Current members would continue to receive the current 3.0% per year COLA.

City of Brooksville Firefighters' Retirement Trust Fund
What if Benefits are Changed? - Scenario F (Using Recommended Assumptions)
COLA (Granted from Ages 55 to 65) Changed from 3.0% to 2.0% for Future Members

Valuation Date	Fiscal Year End	Covered Payroll	Actuarial Value of Assets	Actuarial Liability	Funded Ratio	City/State Required Contribution	Contribution % of Pay
10/1/13	9/30/15	651,472	5,249,323	8,150,277	64.4%	508,280	78.0%
10/1/14	9/30/16	635,685	5,467,338	8,137,391	67.2%	492,105	77.4%
10/1/15	9/30/17	622,764	5,925,186	8,366,407	70.8%	505,921	81.2%
10/1/16	9/30/18	651,685	6,346,659	8,630,292	73.5%	518,651	79.6%
10/1/17	9/30/19	684,539	6,783,111	8,921,489	76.0%	535,775	78.3%
10/1/18	9/30/20	718,821	7,264,242	9,242,229	78.6%	506,769	70.5%
10/1/19	9/30/21	806,010	7,742,376	9,587,889	80.8%	483,333	60.0%
10/1/20	9/30/22	819,695	8,210,884	9,944,415	82.6%	489,629	59.7%
10/1/21	9/30/23	821,263	8,677,154	10,292,853	84.3%	467,792	57.0%
10/1/22	9/30/24	914,566	9,141,860	10,675,478	85.6%	485,763	53.1%
10/1/23	9/30/25	954,157	9,651,440	11,110,449	86.9%	520,825	54.6%
10/1/24	9/30/26	995,848	10,225,883	11,579,958	88.3%	513,098	51.5%
10/1/25	9/30/27	971,153	10,746,630	11,970,887	89.8%	571,749	58.9%
10/1/26	9/30/28	1,014,223	11,352,335	12,419,095	91.4%	538,020	53.0%
10/1/27	9/30/29	983,891	11,865,440	12,757,295	93.0%	554,459	56.4%
10/1/28	9/30/30	1,005,634	12,385,861	13,101,851	94.5%	537,472	53.4%
10/1/29	9/30/31	1,057,392	12,915,073	13,490,242	95.7%	560,223	53.0%
10/1/30	9/30/32	1,107,441	13,492,223	13,911,272	97.0%	547,358	49.4%
10/1/31	9/30/33	1,126,460	14,045,204	14,304,123	98.2%	562,309	49.9%
10/1/32	9/30/34	1,168,664	14,634,915	14,731,389	99.3%	544,418	46.6%
10/1/33	9/30/35	1,208,578	15,211,170	15,157,668	100.4%	391,423	32.4%
10/1/34	9/30/36	1,228,338	15,611,280	15,556,592	100.4%	411,780	33.5%
10/1/35	9/30/37	1,264,072	16,022,452	15,966,847	100.3%	424,769	33.6%
10/1/36	9/30/38	1,307,157	16,444,023	16,387,535	100.3%	442,251	33.8%
10/1/37	9/30/39	1,349,673	16,891,267	16,833,503	100.3%	457,880	33.9%
10/1/38	9/30/40	1,394,742	17,364,647	17,304,379	100.3%	455,846	32.7%
10/1/39	9/30/41	1,425,581	17,820,432	17,758,518	100.3%	478,917	33.6%
10/1/40	9/30/42	1,465,136	18,293,535	18,229,500	100.4%	496,047	33.9%
10/1/41	9/30/43	1,517,751	18,782,537	18,715,483	100.4%	499,550	32.9%
10/1/42	9/30/44	1,550,336	19,253,403	19,184,548	100.4%	531,920	34.3%
10/1/43	9/30/45	1,605,411	19,763,699	19,692,187	100.4%	541,561	33.7%

The next projection (below) illustrates the impact of changing the normal retirement eligibility provisions from the earlier of attainment of age 55 with 10 years of service or completion of 20 years of service regardless of age, to the earlier of attainment of age 55 with 10 years of service or attainment of age 52 with 25 years of service (this is the current Chapter 175 minimum normal retirement eligibility provisions under Chapter 99-1 of the Florida Statutes).

City of Brooksville Firefighters' Retirement Trust Fund
What if Benefits are Changed? - Scenario G (Using Recommended Assumptions)
Normal Retirement Eligibility Changed from (Age 55 with 10 Years or Any Age with 20 Years)
to (Age 55 with 10 Years or Age 52 with 25 Years of Service) for Future Members

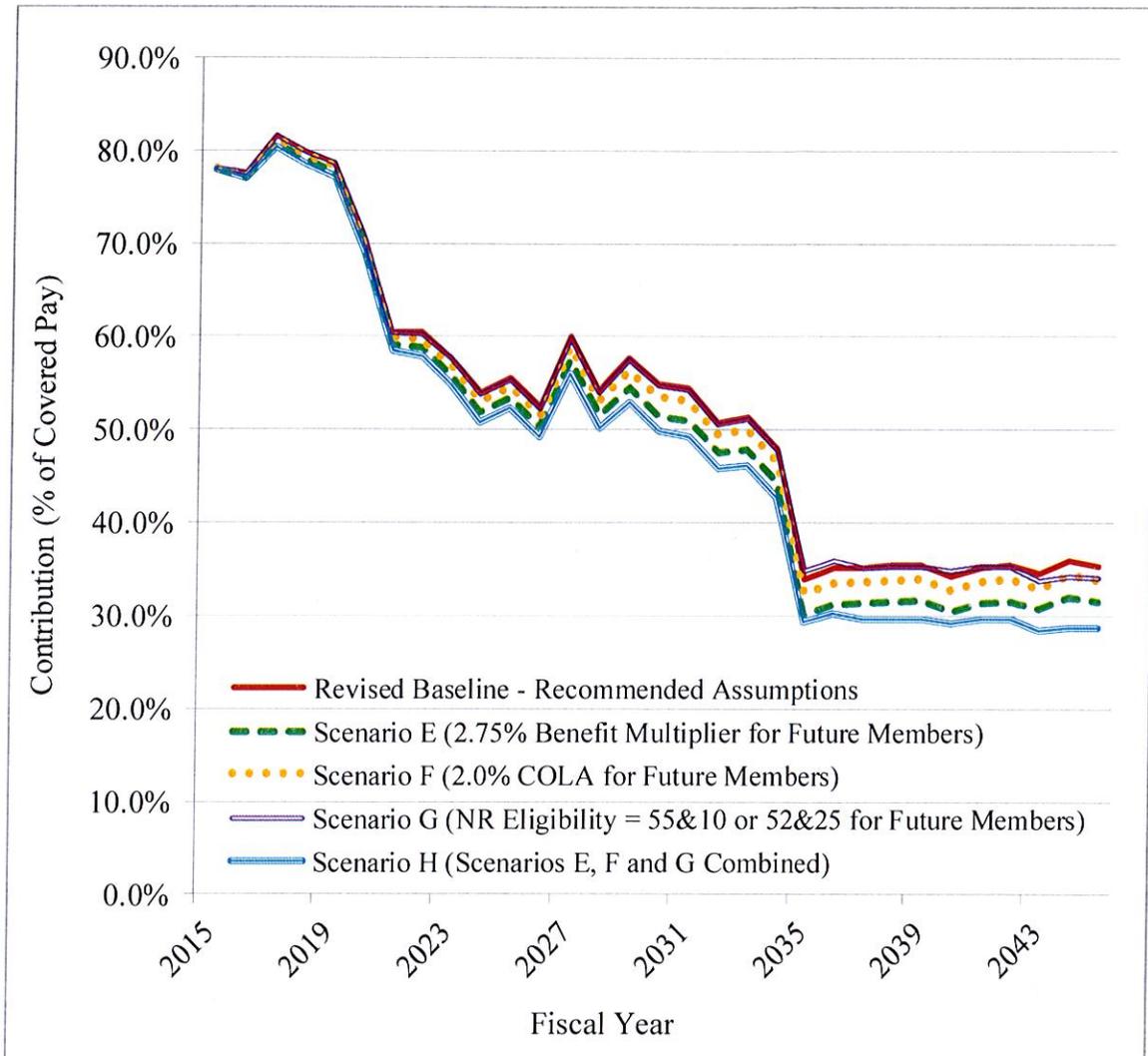
Valuation Date	Fiscal Year End	Covered Payroll	Actuarial Value of Assets	Actuarial Liability	Funded Ratio	City/State Required Contribution	Contribution % of Pay
10/1/13	9/30/15	651,472	5,249,323	8,150,277	64.4%	508,280	78.0%
10/1/14	9/30/16	635,685	5,467,338	8,137,391	67.2%	492,965	77.5%
10/1/15	9/30/17	622,764	5,926,080	8,367,220	70.8%	507,598	81.5%
10/1/16	9/30/18	651,685	6,349,343	8,632,752	73.5%	520,614	79.9%
10/1/17	9/30/19	684,539	6,787,984	8,925,989	76.0%	538,072	78.6%
10/1/18	9/30/20	718,821	7,271,783	9,249,236	78.6%	509,404	70.9%
10/1/19	9/30/21	806,010	7,753,099	9,597,911	80.8%	487,129	60.4%
10/1/20	9/30/22	819,695	8,226,183	9,958,771	82.6%	494,277	60.3%
10/1/21	9/30/23	821,263	8,698,191	10,312,663	84.3%	473,242	57.6%
10/1/22	9/30/24	914,566	9,169,817	10,701,900	85.7%	492,514	53.9%
10/1/23	9/30/25	954,157	9,688,087	11,145,195	86.9%	528,000	55.3%
10/1/24	9/30/26	995,848	10,272,197	11,624,037	88.4%	520,730	52.3%
10/1/25	9/30/27	971,153	10,803,682	12,025,404	89.8%	580,782	59.8%
10/1/26	9/30/28	1,014,223	11,422,235	12,486,114	91.5%	547,569	54.0%
10/1/27	9/30/29	983,891	11,949,517	12,838,180	93.1%	565,795	57.5%
10/1/28	9/30/30	1,005,634	12,486,836	13,199,255	94.6%	549,929	54.7%
10/1/29	9/30/31	1,057,392	13,035,146	13,606,362	95.8%	573,397	54.2%
10/1/30	9/30/32	1,107,441	13,633,305	14,048,073	97.0%	560,591	50.6%
10/1/31	9/30/33	1,126,460	14,208,647	14,463,040	98.2%	576,173	51.1%
10/1/32	9/30/34	1,168,664	14,822,608	14,914,371	99.4%	558,918	47.8%
10/1/33	9/30/35	1,208,578	15,424,971	15,367,743	100.4%	421,158	34.8%
10/1/34	9/30/36	1,247,094	15,890,694	15,831,889	100.4%	448,655	36.0%
10/1/35	9/30/37	1,304,438	16,404,285	16,343,152	100.4%	459,074	35.2%
10/1/36	9/30/38	1,358,715	16,943,741	16,880,366	100.4%	479,186	35.3%
10/1/37	9/30/39	1,411,968	17,528,845	17,462,838	100.4%	497,839	35.3%
10/1/38	9/30/40	1,468,129	18,161,276	18,092,290	100.4%	510,858	34.8%
10/1/39	9/30/41	1,527,811	18,831,155	18,759,429	100.4%	539,206	35.3%
10/1/40	9/30/42	1,592,492	19,559,850	19,484,886	100.4%	561,880	35.3%
10/1/41	9/30/43	1,668,246	20,344,284	20,265,863	100.4%	563,355	33.8%
10/1/42	9/30/44	1,710,292	21,122,337	21,041,079	100.4%	585,103	34.2%
10/1/43	9/30/45	1,756,100	21,919,348	21,835,176	100.4%	599,156	34.1%

The next projection (below) illustrates the combined impact of making all three changes from Scenarios E, F and G. This includes changing the benefit multiplier from 3.1% to 2.75% per year, changing the COLA from 3.0% to 2.0%, and changing the normal retirement eligibility provisions from the earlier of age 55 with 10 years of service or any age with 20 years of service to the current Chapter 175 minimum normal retirement eligibility provisions under Chapter 99-1 of the Florida Statutes (the earlier of age 55 with 10 years of service or age 52 with 25 years of service) for future members (new entrants) only.

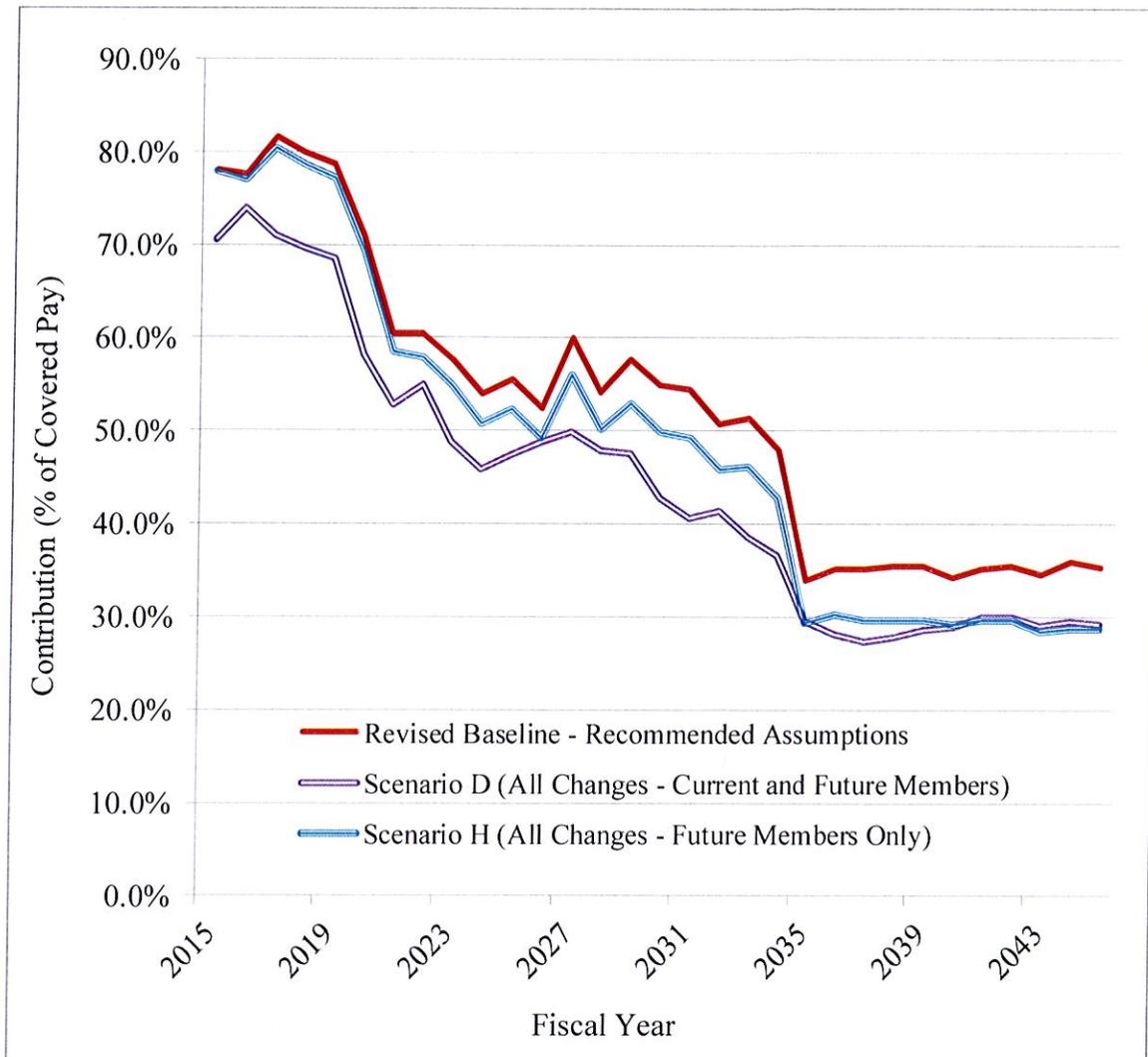
City of Brooksville Firefighters' Retirement Trust Fund
What if Benefits are Changed? - Scenario H (Using Recommended Assumptions)
All Three Changes (Scenarios E, F and G Combined) for Future Members

Valuation Date	Fiscal Year End	Covered Payroll	Actuarial Value of Assets	Actuarial Liability	Funded Ratio	City/State Required Contribution	Contribution % of Pay
10/1/13	9/30/15	651,472	5,249,323	8,150,277	64.4%	508,280	78.0%
10/1/14	9/30/16	635,685	5,467,338	8,137,391	67.2%	489,311	77.0%
10/1/15	9/30/17	622,764	5,922,283	8,363,768	70.8%	500,491	80.4%
10/1/16	9/30/18	651,685	6,337,959	8,622,321	73.5%	512,341	78.6%
10/1/17	9/30/19	684,539	6,767,371	8,906,951	76.0%	528,458	77.2%
10/1/18	9/30/20	718,821	7,239,987	9,219,683	78.5%	498,452	69.3%
10/1/19	9/30/21	806,010	7,708,047	9,555,799	80.7%	471,448	58.5%
10/1/20	9/30/22	819,695	8,162,180	9,898,710	82.5%	475,198	58.0%
10/1/21	9/30/23	821,263	8,610,561	10,230,121	84.2%	451,008	54.9%
10/1/22	9/30/24	914,566	9,053,842	10,592,251	85.5%	465,135	50.9%
10/1/23	9/30/25	954,157	9,536,707	11,001,600	86.7%	499,081	52.3%
10/1/24	9/30/26	995,848	10,081,628	11,442,574	88.1%	490,209	49.2%
10/1/25	9/30/27	971,153	10,569,843	11,801,825	89.6%	544,856	56.1%
10/1/26	9/30/28	1,014,223	11,136,913	12,212,379	91.2%	509,781	50.3%
10/1/27	9/30/29	983,891	11,607,688	12,509,116	92.8%	521,020	53.0%
10/1/28	9/30/30	1,005,634	12,077,969	12,804,597	94.3%	500,855	49.8%
10/1/29	9/30/31	1,057,392	12,550,870	13,137,722	95.5%	521,664	49.3%
10/1/30	9/30/32	1,107,441	13,066,435	13,498,061	96.8%	507,954	45.9%
10/1/31	9/30/33	1,126,460	13,554,611	13,826,787	98.0%	520,238	46.2%
10/1/32	9/30/34	1,168,664	14,074,386	14,184,728	99.2%	500,153	42.8%
10/1/33	9/30/35	1,208,578	14,575,105	14,537,052	100.3%	354,316	29.3%
10/1/34	9/30/36	1,247,094	14,925,941	14,890,873	100.2%	377,415	30.3%
10/1/35	9/30/37	1,304,438	15,314,486	15,282,002	100.2%	386,181	29.6%
10/1/36	9/30/38	1,358,715	15,722,165	15,692,495	100.2%	403,074	29.7%
10/1/37	9/30/39	1,411,968	16,166,682	16,139,659	100.2%	418,751	29.7%
10/1/38	9/30/40	1,468,129	16,649,496	16,624,995	100.1%	429,745	29.3%
10/1/39	9/30/41	1,527,811	17,162,092	17,140,489	100.1%	453,508	29.7%
10/1/40	9/30/42	1,592,492	17,722,558	17,703,630	100.1%	472,493	29.7%
10/1/41	9/30/43	1,668,246	18,328,284	18,312,048	100.1%	473,640	28.4%
10/1/42	9/30/44	1,710,292	18,924,885	18,912,067	100.1%	491,888	28.8%
10/1/43	9/30/45	1,756,100	19,533,789	19,524,524	100.0%	503,835	28.7%

Below is a graph which compares the projected City/State required contributions as a percentage of covered payroll for Projection 1 (the revised baseline projection using the recommended assumptions) versus the *What if Benefits are Changed? Scenarios E, F, G and H.*



On the following page is a graph comparing the revised baseline (current plan) projection to the projections for Scenario D from Letter Report #2 (which included all of these changes – the 2.75% benefit multiplier, the 2.0% COLA and the change in normal retirement eligibility – for future years of service only for current members and for all service for future members) and Scenario H above (which includes all of these changes for future members only).



Variable Defined Benefit Plans (repeated from Letter Report #2)

While they are somewhat more complex to administer than traditional defined benefit plans, variable defined benefit (DB) plans have the potential to handle the two competing objectives of providing adequate retirement income while minimizing investment risk (and associated City contribution rate volatility).

Variable DB plans are pension plans in which accrued benefits (expressed as annual amounts payable at retirement) adjust based on the investment performance of plan assets. Accrued benefits are earned each year based on a percentage of pensionable earnings (similar to the current benefit multiplier). Then the previous year's accrued benefit is adjusted based on the investment return on plan assets during the year, by multiplying by the ratio of (1 + the actual investment return) divided by (1 + a conservative "hurdle" or target rate). The hurdle rate is usually lower than the long-term expected return on assets assumption so that the annual investment performance adjustment is expected to be positive – which allows for expected cost-of-living adjustments whenever investment returns meet expectations.

Consider the following example to see how this works:

Suppose a firefighter is hired at age 30 earning \$40,000 per year. Assuming the annual benefit multiplier is 3.0% per year, his accrued benefit after his first year of service would be $3\% \times \$40,000 = \$1,200$ per year (\$100 per month).

Assume the “hurdle rate” is set at 5%. During year 2, assume the firefighter’s salary is \$42,000 and the investment return is 7.5%. His prior year’s accrued benefit would increase by the ratio of (1 + the actual return), to (1 + the hurdle rate), which is $(1.075 / 1.05) = 1.0238$, so his prior year’s annual benefit would increase to $\$1,200 \times 1.0238 = \$1,228.57$ per year.

He would also earn another year’s benefit accrual equal to 3% of his salary during year 2, which would be $\$42,000 \times 3\% = \$1,260$ per year, so his total accrued benefit at the end of year 2 would be $\$1,228.57 + \$1,260 = \$2,488.57$.

Below is a table showing the growth of his accrued benefit through age 50:

Age (BOY)	Service (BOY)	Current Salary	Annual Benefit (Beg of Year)	Investment Return	Hurdle Rate	Benefit Adj'mt	Adjusted Prior Annual Benefit	Current Accrual	Annual Benefit (End of Year)
30	0	\$40,000	\$0.00	6.50%	5.0%	1.01429	\$0.00	\$1,200	\$1,200.00
31	1	\$42,000	\$1,200.00	7.50%	5.0%	1.02381	\$1,228.57	\$1,260	\$2,488.57
32	2	\$44,000	\$2,488.57	4.00%	5.0%	0.99048	\$2,464.87	\$1,320	\$3,784.87
33	3	\$46,000	\$3,784.87	9.50%	5.0%	1.04286	\$3,947.08	\$1,380	\$5,327.08
34	4	\$48,000	\$5,327.08	-5.00%	5.0%	0.90476	\$4,819.74	\$1,440	\$6,259.74
35	5	\$50,000	\$6,259.74	8.00%	5.0%	1.02857	\$6,438.59	\$1,500	\$7,938.59
36	6	\$52,000	\$7,938.59	13.00%	5.0%	1.07619	\$8,543.43	\$1,560	\$10,103.43
37	7	\$54,000	\$10,103.43	11.00%	5.0%	1.05714	\$10,680.77	\$1,620	\$12,300.77
38	8	\$56,000	\$12,300.77	-7.00%	5.0%	0.88571	\$10,894.97	\$1,680	\$12,574.97
39	9	\$58,000	\$12,574.97	9.00%	5.0%	1.03810	\$13,054.02	\$1,740	\$14,794.02
40	10	\$60,000	\$14,794.02	11.00%	5.0%	1.05714	\$15,639.39	\$1,800	\$17,439.39
41	11	\$62,000	\$17,439.39	6.00%	5.0%	1.00952	\$17,605.48	\$1,860	\$19,465.48
42	12	\$64,000	\$19,465.48	16.00%	5.0%	1.10476	\$21,504.72	\$1,920	\$23,424.72
43	13	\$66,000	\$23,424.72	8.50%	5.0%	1.03333	\$24,205.54	\$1,980	\$26,185.54
44	14	\$68,000	\$26,185.54	-3.00%	5.0%	0.92381	\$24,190.45	\$2,040	\$26,230.45
45	15	\$70,000	\$26,230.45	0.50%	5.0%	0.95714	\$25,106.29	\$2,100	\$27,206.29
46	16	\$72,000	\$27,206.29	10.00%	5.0%	1.04762	\$28,501.83	\$2,160	\$30,661.83
47	17	\$74,000	\$30,661.83	14.00%	5.0%	1.08571	\$33,289.99	\$2,220	\$35,509.99
48	18	\$76,000	\$35,509.99	2.50%	5.0%	0.97619	\$34,664.51	\$2,280	\$36,944.51
49	19	\$78,000	\$36,944.51	5.50%	5.0%	1.00476	\$37,120.44	\$2,340	\$39,460.44
50	20	\$80,000	\$39,460.44	12.50%	5.0%	1.07143	\$42,279.04	\$2,400	\$44,679.04

If a variable defined benefit plan is implemented for all members, then investment risk and contribution rate volatility would be significantly reduced. If this type of benefit is implemented for future members (new entrants) only, then the level of investment risk would not be reduced initially, but it would come down over time incrementally as current members retire and future members make up a larger and larger portion of the overall group.

The next projection (below) illustrates the impact of implementing a variable defined benefit formula with a 3.0% multiplier and a 5.0% hurdle rate (as in the above example) for future members (new entrants) only. Annual investment returns are assumed to be 6.5% per year.

City of Brooksville Firefighters' Retirement Trust Fund
What if Benefits are Changed? - Scenario I (Using Recommended Assumptions)
Variable Benefit Formula with 3.0% Multiplier and 5.0% Hurdle Rate for Future Members

Valuation Date	Fiscal Year End	Covered Payroll	Actuarial Value of Assets	Actuarial Liability	Funded Ratio	City/State Required Contribution	Contribution % of Pay
10/1/13	9/30/15	651,472	5,249,323	8,150,277	64.4%	508,280	78.0%
10/1/14	9/30/16	635,685	5,467,338	8,137,391	67.2%	489,049	76.9%
10/1/15	9/30/17	622,764	5,922,558	8,363,520	70.8%	499,914	80.3%
10/1/16	9/30/18	651,685	6,338,250	8,621,573	73.5%	511,595	78.5%
10/1/17	9/30/19	684,539	6,767,547	8,905,577	76.0%	527,519	77.1%
10/1/18	9/30/20	718,821	7,239,885	9,217,528	78.5%	497,304	69.2%
10/1/19	9/30/21	806,010	7,707,481	9,552,691	80.7%	469,835	58.3%
10/1/20	9/30/22	819,695	8,160,687	9,894,228	82.5%	473,197	57.7%
10/1/21	9/30/23	821,263	8,607,727	10,223,899	84.2%	448,621	54.6%
10/1/22	9/30/24	914,566	9,049,230	10,583,901	85.5%	462,198	50.5%
10/1/23	9/30/25	954,157	9,529,684	10,990,556	86.7%	495,841	52.0%
10/1/24	9/30/26	995,848	10,071,781	11,428,474	88.1%	486,640	48.9%
10/1/25	9/30/27	971,153	10,556,707	11,784,264	89.6%	540,739	55.7%
10/1/26	9/30/28	1,014,223	11,119,769	12,190,685	91.2%	505,392	49.8%
10/1/27	9/30/29	983,891	11,586,057	12,482,843	92.8%	515,981	52.4%
10/1/28	9/30/30	1,005,634	12,050,965	12,772,901	94.3%	495,373	49.3%
10/1/29	9/30/31	1,057,392	12,517,777	13,099,905	95.6%	515,861	48.8%
10/1/30	9/30/32	1,107,441	13,026,623	13,453,493	96.8%	502,295	45.4%
10/1/31	9/30/33	1,126,460	13,508,654	13,776,001	98.1%	514,582	45.7%
10/1/32	9/30/34	1,168,664	14,022,910	14,128,302	99.3%	494,350	42.3%
10/1/33	9/30/35	1,208,578	14,518,268	14,474,251	100.3%	337,769	27.9%
10/1/34	9/30/36	1,228,338	14,835,470	14,792,696	100.3%	355,304	28.9%
10/1/35	9/30/37	1,264,072	15,162,775	15,121,553	100.3%	366,692	29.0%
10/1/36	9/30/38	1,307,157	15,499,289	15,459,648	100.3%	381,890	29.2%
10/1/37	9/30/39	1,349,673	15,858,788	15,820,427	100.2%	395,485	29.3%
10/1/38	9/30/40	1,394,742	16,241,557	16,203,526	100.2%	393,817	28.2%
10/1/39	9/30/41	1,425,581	16,611,881	16,574,962	100.2%	413,713	29.0%
10/1/40	9/30/42	1,465,136	16,998,793	16,962,672	100.2%	428,434	29.2%
10/1/41	9/30/43	1,517,751	17,400,639	17,364,696	100.2%	431,484	28.4%
10/1/42	9/30/44	1,550,336	17,789,286	17,754,556	100.2%	459,475	29.6%
10/1/43	9/30/45	1,605,411	18,211,973	18,177,828	100.2%	468,066	29.2%

The next projection (below) illustrates the impact of implementing the same variable defined benefit formula as above (3.0% multiplier; 5.0% hurdle rate) and also changing normal retirement eligibility from the earlier of attainment of age 55 with 10 years of service or completion of 20 years of service regardless of age, to the earlier of attainment of age 55 with 10 years of service or attainment of age 52 with 25 years of service for future members (new entrants) only. Annual investment returns are assumed to be 6.5% per year.

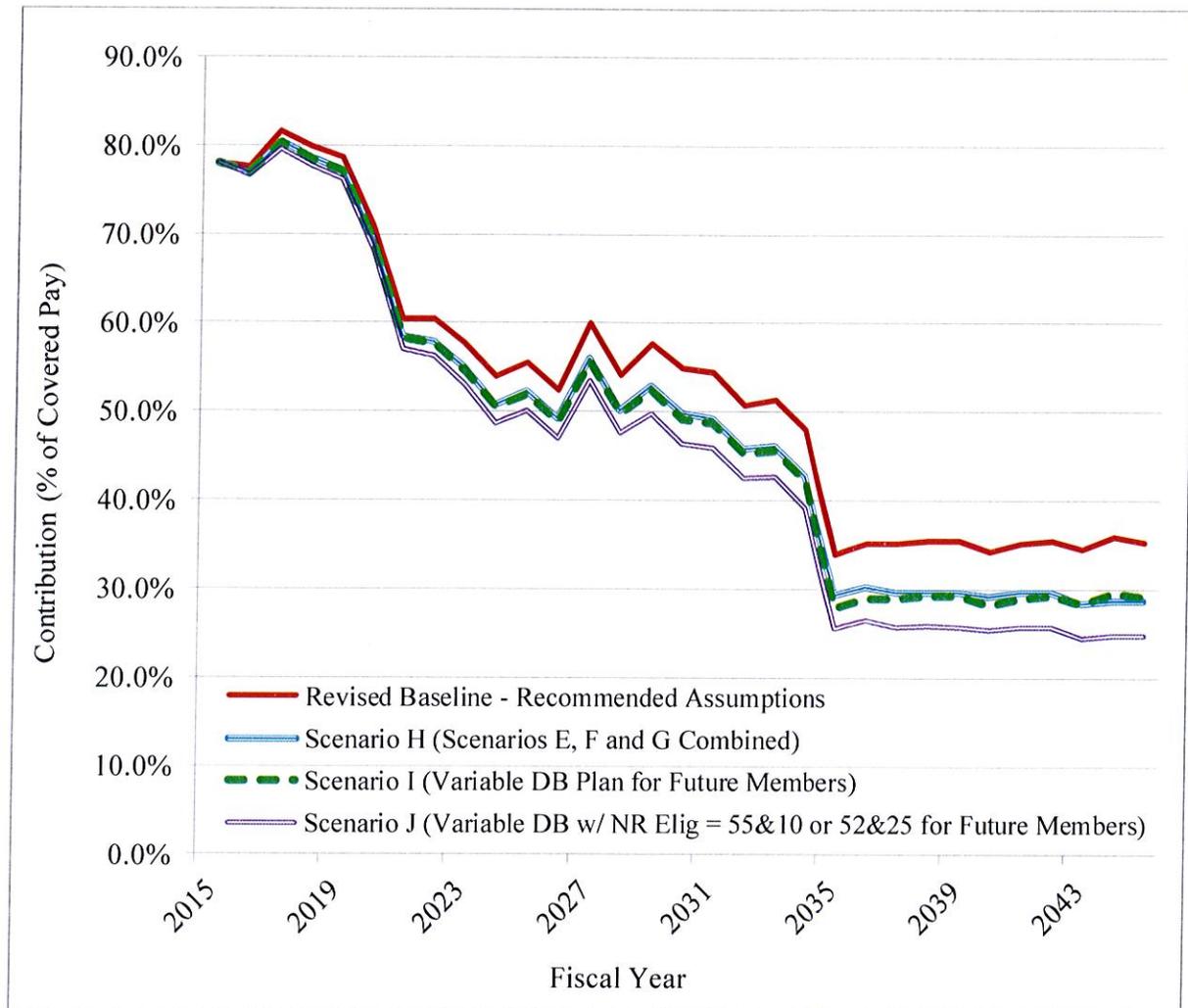
City of Brooksville Firefighters' Retirement Trust Fund
What if Benefits are Changed? - Scenario J (Using Recommended Assumptions)
Variable Benefit Formula (3.0% Multiplier, 5.0% Hurdle Rate) and Normal Retirement
Eligibility is (Age 55 with 10 Years or Age 52 with 25 Years of Service) for Future Members

Valuation Date	Fiscal Year End	Covered Payroll	Actuarial Value of Assets	Actuarial Liability	Funded Ratio	City/State Required Contribution	Contribution % of Pay
10/1/13	9/30/15	651,472	5,249,323	8,150,277	64.4%	508,280	78.0%
10/1/14	9/30/16	635,685	5,467,338	8,137,391	67.2%	486,867	76.6%
10/1/15	9/30/17	622,764	5,920,290	8,361,459	70.8%	495,673	79.6%
10/1/16	9/30/18	651,685	6,332,046	8,615,348	73.5%	506,615	77.7%
10/1/17	9/30/19	684,539	6,756,461	8,894,241	76.0%	521,715	76.2%
10/1/18	9/30/20	718,821	7,222,808	9,199,999	78.5%	490,686	68.3%
10/1/19	9/30/21	806,010	7,683,247	9,527,824	80.6%	460,407	57.1%
10/1/20	9/30/22	819,695	8,125,999	9,858,918	82.4%	461,755	56.3%
10/1/21	9/30/23	821,263	8,559,903	10,175,568	84.1%	435,341	53.0%
10/1/22	9/30/24	914,566	8,985,601	10,519,962	85.4%	445,936	48.8%
10/1/23	9/30/25	954,157	9,446,239	10,907,164	86.6%	478,749	50.2%
10/1/24	9/30/26	995,848	9,966,480	11,323,540	88.0%	468,705	47.1%
10/1/25	9/30/27	971,153	10,427,370	11,655,566	89.5%	519,755	53.5%
10/1/26	9/30/28	1,014,223	10,961,808	12,033,796	91.1%	483,482	47.7%
10/1/27	9/30/29	983,891	11,396,784	12,294,980	92.7%	490,097	49.8%
10/1/28	9/30/30	1,005,634	11,824,381	12,548,217	94.2%	467,077	46.4%
10/1/29	9/30/31	1,057,392	12,249,118	12,833,627	95.4%	486,166	46.0%
10/1/30	9/30/32	1,107,441	12,711,873	13,141,488	96.7%	471,280	42.6%
10/1/31	9/30/33	1,126,460	13,143,631	13,413,964	98.0%	480,716	42.7%
10/1/32	9/30/34	1,168,664	13,601,593	13,710,221	99.2%	458,416	39.2%
10/1/33	9/30/35	1,208,578	14,035,068	13,995,335	100.3%	309,939	25.6%
10/1/34	9/30/36	1,247,094	14,312,449	14,275,328	100.3%	329,905	26.5%
10/1/35	9/30/37	1,304,438	14,620,469	14,585,558	100.2%	336,716	25.8%
10/1/36	9/30/38	1,358,715	14,942,089	14,909,451	100.2%	350,815	25.8%
10/1/37	9/30/39	1,411,968	15,293,757	15,263,128	100.2%	363,895	25.8%
10/1/38	9/30/40	1,468,129	15,676,745	15,647,865	100.2%	372,516	25.4%
10/1/39	9/30/41	1,527,811	16,082,888	16,055,947	100.2%	392,806	25.7%
10/1/40	9/30/42	1,592,492	16,528,724	16,503,494	100.2%	408,915	25.7%
10/1/41	9/30/43	1,668,246	17,012,040	16,988,486	100.1%	409,468	24.5%
10/1/42	9/30/44	1,710,292	17,488,003	17,466,468	100.1%	425,679	24.9%
10/1/43	9/30/45	1,756,100	17,976,252	17,956,546	100.1%	435,243	24.8%

The table below shows a projection of the annual benefit payable under the variable defined benefit plan modeled in Scenario J at age 52 with 25 years of service to a member hired at age 27 with an initial salary of \$40,000, assuming annual salary increases are 5.25% per year. Investment returns are assumed to be 6.5% per year throughout the projection.

Age (BOY)	Service (BOY)	Current Salary	Annual Benefit (Beg of Year)	Investment Return	Hurdle Rate	Benefit Adj'mt	Adjusted Prior Annual Benefit	Current Accrual	Annual Benefit (End of Year)
27	0	\$40,000	\$0.00	6.50%	5.0%	1.01429	\$0.00	\$1,200	\$1,200.00
28	1	\$42,100	\$1,200.00	6.50%	5.0%	1.01429	\$1,217.14	\$1,263	\$2,480.14
29	2	\$44,310	\$2,480.14	6.50%	5.0%	1.01429	\$2,515.57	\$1,329	\$3,844.87
30	3	\$46,636	\$3,844.87	6.50%	5.0%	1.01429	\$3,899.80	\$1,399	\$5,298.88
31	4	\$49,084	\$5,298.88	6.50%	5.0%	1.01429	\$5,374.58	\$1,473	\$6,847.10
32	5	\$51,661	\$6,847.10	6.50%	5.0%	1.01429	\$6,944.92	\$1,550	\$8,494.75
33	6	\$54,373	\$8,494.75	6.50%	5.0%	1.01429	\$8,616.10	\$1,631	\$10,247.29
34	7	\$57,228	\$10,247.29	6.50%	5.0%	1.01429	\$10,393.68	\$1,717	\$12,110.52
35	8	\$60,232	\$12,110.52	6.50%	5.0%	1.01429	\$12,283.53	\$1,807	\$14,090.49
36	9	\$63,394	\$14,090.49	6.50%	5.0%	1.01429	\$14,291.78	\$1,902	\$16,193.60
37	10	\$66,722	\$16,193.60	6.50%	5.0%	1.01429	\$16,424.94	\$2,002	\$18,426.60
38	11	\$70,225	\$18,426.60	6.50%	5.0%	1.01429	\$18,689.84	\$2,107	\$20,796.59
39	12	\$73,912	\$20,796.59	6.50%	5.0%	1.01429	\$21,093.68	\$2,217	\$23,311.04
40	13	\$77,792	\$23,311.04	6.50%	5.0%	1.01429	\$23,644.05	\$2,334	\$25,977.81
41	14	\$81,876	\$25,977.81	6.50%	5.0%	1.01429	\$26,348.92	\$2,456	\$28,805.20
42	15	\$86,174	\$28,805.20	6.50%	5.0%	1.01429	\$29,216.70	\$2,585	\$31,801.92
43	16	\$90,698	\$31,801.92	6.50%	5.0%	1.01429	\$32,256.23	\$2,721	\$34,977.17
44	17	\$95,460	\$34,977.17	6.50%	5.0%	1.01429	\$35,476.84	\$2,864	\$38,340.64
45	18	\$100,472	\$38,340.64	6.50%	5.0%	1.01429	\$38,888.36	\$3,014	\$41,902.52
46	19	\$105,747	\$41,902.52	6.50%	5.0%	1.01429	\$42,501.13	\$3,172	\$45,673.54
47	20	\$111,299	\$45,673.54	6.50%	5.0%	1.01429	\$46,326.02	\$3,339	\$49,664.99
48	21	\$117,142	\$49,664.99	6.50%	5.0%	1.01429	\$50,374.49	\$3,514	\$53,888.75
49	22	\$123,292	\$53,888.75	6.50%	5.0%	1.01429	\$54,658.59	\$3,699	\$58,357.35
50	23	\$129,765	\$58,357.35	6.50%	5.0%	1.01429	\$59,191.03	\$3,893	\$63,083.98
51	24	\$136,578	\$63,083.98	6.50%	5.0%	1.01429	\$63,985.18	\$4,097	\$68,082.52

Here is a graph comparing the revised baseline projection to the projections under Scenarios H, I and J:



The next projection (shown on the following page) is intended to illustrate the sensitivity of the required contribution in a variable defined benefit plan to investment losses. Everything is the same as Scenario J, except that the return on the market value of assets is assumed to be -10.0% in fiscal years 2034 and 2035. The Plan would still incur losses and contributions would still increase after this occurs because the variable benefit design is only assumed to apply to members hired in the future, and only while they are active members, but the magnitude of the increase would not be as great as it would be with a non-variable defined benefit design.

City of Brooksville Firefighters' Retirement Trust Fund
What if Benefits are Changed? - Scenario K (Using Recommended Assumptions)
Same as Scenario J, but with -10% Investment Returns in Fiscal Years 2034 and 2035

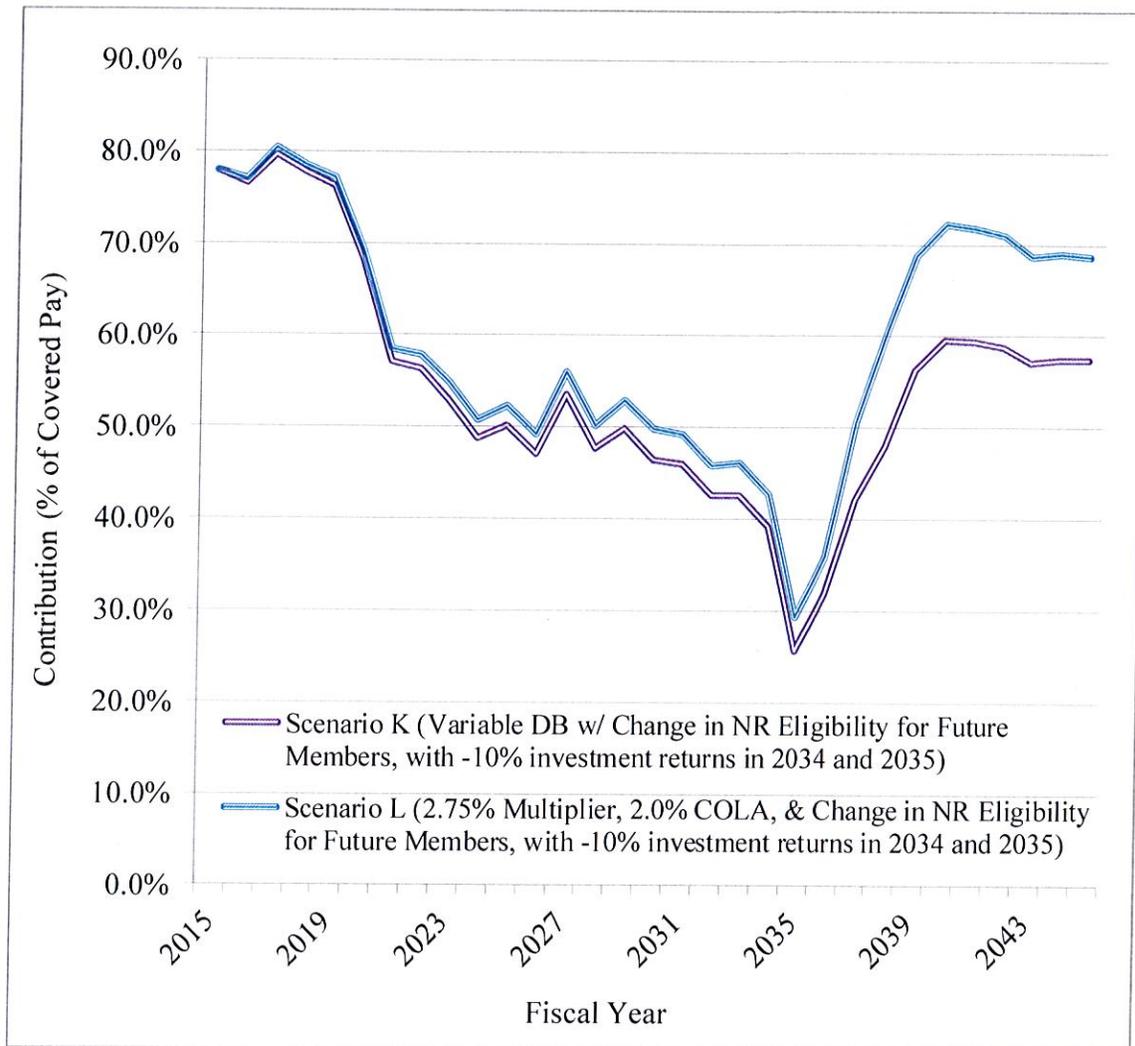
Valuation Date	Fiscal Year End	Covered Payroll	Actuarial Value of Assets	Actuarial Liability	Funded Ratio	City/State Required Contribution	Contribution % of Pay
10/1/13	9/30/15	651,472	5,249,323	8,150,277	64.4%	508,280	78.0%
10/1/14	9/30/16	635,685	5,467,338	8,137,391	67.2%	486,867	76.6%
10/1/15	9/30/17	622,764	5,920,290	8,361,459	70.8%	495,673	79.6%
10/1/16	9/30/18	651,685	6,332,046	8,615,348	73.5%	506,615	77.7%
10/1/17	9/30/19	684,539	6,756,461	8,894,241	76.0%	521,715	76.2%
10/1/18	9/30/20	718,821	7,222,808	9,199,999	78.5%	490,686	68.3%
10/1/19	9/30/21	806,010	7,683,247	9,527,824	80.6%	460,407	57.1%
10/1/20	9/30/22	819,695	8,125,999	9,858,918	82.4%	461,756	56.3%
10/1/21	9/30/23	821,263	8,559,904	10,175,569	84.1%	435,342	53.0%
10/1/22	9/30/24	914,566	8,985,603	10,519,964	85.4%	445,936	48.8%
10/1/23	9/30/25	954,157	9,446,241	10,907,167	86.6%	478,750	50.2%
10/1/24	9/30/26	995,848	9,966,483	11,323,543	88.0%	468,705	47.1%
10/1/25	9/30/27	971,153	10,427,373	11,655,571	89.5%	519,756	53.5%
10/1/26	9/30/28	1,014,223	10,961,812	12,033,804	91.1%	483,484	47.7%
10/1/27	9/30/29	983,891	11,396,791	12,294,990	92.7%	490,099	49.8%
10/1/28	9/30/30	1,005,634	11,824,391	12,548,233	94.2%	467,079	46.4%
10/1/29	9/30/31	1,057,392	12,249,130	12,833,648	95.4%	486,169	46.0%
10/1/30	9/30/32	1,107,441	12,711,889	13,141,515	96.7%	471,282	42.6%
10/1/31	9/30/33	1,126,460	13,143,649	13,413,999	98.0%	480,720	42.7%
10/1/32	9/30/34	1,168,664	13,601,615	13,710,264	99.2%	458,422	39.2%
10/1/33	9/30/35	1,208,578	14,035,097	13,995,386	100.3%	309,941	25.6%
10/1/34	9/30/36	1,247,094	13,719,905	14,275,392	96.1%	398,245	31.9%
10/1/35	9/30/37	1,304,438	12,486,788	14,305,256	87.3%	550,612	42.2%
10/1/36	9/30/38	1,358,715	11,857,882	14,334,519	82.7%	651,835	48.0%
10/1/37	9/30/39	1,411,968	11,341,665	14,628,245	77.5%	795,322	56.3%
10/1/38	9/30/40	1,468,129	11,444,495	14,952,999	76.5%	875,646	59.6%
10/1/39	9/30/41	1,527,811	12,116,689	15,302,661	79.2%	907,906	59.4%
10/1/40	9/30/42	1,592,492	12,859,574	15,690,447	82.0%	936,188	58.8%
10/1/41	9/30/43	1,668,246	13,673,139	16,114,279	84.9%	952,162	57.1%
10/1/42	9/30/44	1,710,292	14,523,592	16,538,160	87.8%	983,170	57.5%
10/1/43	9/30/45	1,756,100	15,431,597	16,979,467	90.9%	1,007,971	57.4%

Compare the sensitivity of the contribution rate to market value losses in the projection above (in which some of the benefits are variable and respond to market value losses) to the sensitivity of the contribution rate if the same market value losses were to occur in Scenario H (in which no benefits are variable), as shown below.

City of Brooksville Firefighters' Retirement Trust Fund
What if Benefits are Changed? - Scenario L (Using Recommended Assumptions)
Same as Scenario H, but with -10% Investment Returns in Fiscal Years 2034 and 2035

Valuation Date	Fiscal Year End	Covered Payroll	Actuarial Value of Assets	Actuarial Liability	Funded Ratio	City/State Required Contribution	Contribution % of Pay
10/1/13	9/30/15	651,472	5,249,323	8,150,277	64.4%	508,280	78.0%
10/1/14	9/30/16	635,685	5,467,338	8,137,391	67.2%	489,311	77.0%
10/1/15	9/30/17	622,764	5,922,283	8,363,768	70.8%	500,491	80.4%
10/1/16	9/30/18	651,685	6,337,959	8,622,321	73.5%	512,341	78.6%
10/1/17	9/30/19	684,539	6,767,371	8,906,951	76.0%	528,458	77.2%
10/1/18	9/30/20	718,821	7,239,987	9,219,683	78.5%	498,452	69.3%
10/1/19	9/30/21	806,010	7,708,047	9,555,799	80.7%	471,448	58.5%
10/1/20	9/30/22	819,695	8,162,180	9,898,710	82.5%	475,198	58.0%
10/1/21	9/30/23	821,263	8,610,561	10,230,121	84.2%	451,008	54.9%
10/1/22	9/30/24	914,566	9,053,842	10,592,251	85.5%	465,135	50.9%
10/1/23	9/30/25	954,157	9,536,707	11,001,600	86.7%	499,081	52.3%
10/1/24	9/30/26	995,848	10,081,628	11,442,574	88.1%	490,209	49.2%
10/1/25	9/30/27	971,153	10,569,843	11,801,825	89.6%	544,856	56.1%
10/1/26	9/30/28	1,014,223	11,136,913	12,212,379	91.2%	509,781	50.3%
10/1/27	9/30/29	983,891	11,607,688	12,509,116	92.8%	521,020	53.0%
10/1/28	9/30/30	1,005,634	12,077,969	12,804,597	94.3%	500,855	49.8%
10/1/29	9/30/31	1,057,392	12,550,870	13,137,722	95.5%	521,664	49.3%
10/1/30	9/30/32	1,107,441	13,066,435	13,498,061	96.8%	507,954	45.9%
10/1/31	9/30/33	1,126,460	13,554,611	13,826,787	98.0%	520,238	46.2%
10/1/32	9/30/34	1,168,664	14,074,386	14,184,728	99.2%	500,153	42.8%
10/1/33	9/30/35	1,208,578	14,575,105	14,537,052	100.3%	354,316	29.3%
10/1/34	9/30/36	1,247,094	14,309,232	14,890,873	96.1%	448,970	36.0%
10/1/35	9/30/37	1,304,438	13,102,798	15,282,002	85.7%	660,329	50.6%
10/1/36	9/30/38	1,358,715	12,560,658	15,692,495	80.0%	818,029	60.2%
10/1/37	9/30/39	1,411,968	12,180,925	16,139,659	75.5%	972,506	68.9%
10/1/38	9/30/40	1,468,129	12,460,954	16,624,995	75.0%	1,059,996	72.2%
10/1/39	9/30/41	1,527,811	13,362,659	17,140,489	78.0%	1,097,294	71.8%
10/1/40	9/30/42	1,592,492	14,350,340	17,703,630	81.1%	1,130,212	71.0%
10/1/41	9/30/43	1,668,246	15,424,163	18,312,048	84.2%	1,145,747	68.7%
10/1/42	9/30/44	1,710,292	16,532,751	18,912,067	87.4%	1,178,946	68.9%
10/1/43	9/30/45	1,756,100	17,700,837	19,524,524	90.7%	1,206,360	68.7%

Here is a graph comparing the projections under Scenarios K and L. It can be seen that the magnitude of the contribution rate increase after two consecutive years of (10%) market value losses would be significantly lower with a variable defined benefit plan than with a non-variable defined benefit plan:



Disclosures and Qualifications

For all of the projections, new members are assumed to be hired each year at a rate sufficient to maintain a constant active headcount, or stationary population. New employees are assumed to have the same average demographic characteristics (age, gender, salary – adjusted each year for inflation) at their dates of employment as those of current members. Projections are deterministic, meaning that throughout the projection period, Plan experience is expected to exactly match the specific set of projection assumptions specified.

The calculations are based upon assumptions regarding future events, which may or may not materialize. Future actuarial measurements may differ significantly from the current measurements presented in this letter report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases

expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. If you have reason to believe that the assumptions used are unreasonable, that the plan provisions are incorrectly described, that important relevant plan provisions are not described, or that conditions have changed since the calculations were made, you should contact the author of the report prior to relying on information in the report.

The calculations in this report are based upon information furnished by the current retained actuary (Foster and Foster) for the October 1, 2013 Actuarial Valuation concerning Retirement System benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We reviewed this information for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the information provided to us.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the Plan as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes.

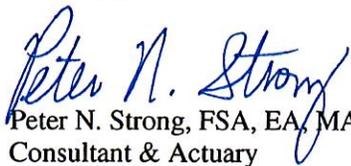
The undersigned are members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. The undersigned are independent of the City of Brooksville.

We welcome your questions and comments.

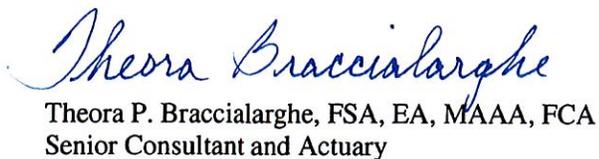
Circular 230 Notice: Pursuant to regulations issued by the IRS, to the extent this communication (or any attachment) concerns tax matters, it is not intended or written to be used, and cannot be used, for the purpose of (i) avoiding tax-related penalties under the Internal Revenue Code or (ii) marketing or recommending to another party any tax-related matter addressed within. Each taxpayer should seek advice based on the individual's circumstances from an independent tax advisor.

This communication shall not be construed to provide tax advice, legal advice or investment advice.

Sincerely,



Peter N. Strong, FSA, EA, MAAA, FCA
Consultant & Actuary



Theora P. Braccialarghe, FSA, EA, MAAA, FCA
Senior Consultant and Actuary

REPORT NO. 2

Provided to Council at the Pension Workshop of 4/29/14.



April 28, 2014

Ms. T. Jennene Norman-Vacha
City Manager
City of Brooksville
201 Howell Avenue
Brooksville, Florida 34601

**Re: City of Brooksville Firefighters' Retirement Trust Fund
Letter Report #2 – Additional Commentary and 30-Year Projections**

Dear Ms. Norman-Vacha:

Gabriel, Roeder, Smith & Company (GRS) has been engaged by the City of Brooksville (City) to provide advice concerning its pension plan for firefighters. This is the second of three letter reports in fulfillment of that engagement. Letter Report #1, dated February 25, 2014, presented replication results of the Board's retained actuary's actuarial valuation and provided a review and commentary regarding the actuarial assumptions and methods used in the actuarial valuation. This Letter Report #2 presents the following:

1. Commentary regarding defined benefit plans in general and the objectives of the City and the member firefighters.
2. 30-year projections using the pension plan's current assumptions, methods and benefit provisions.
3. 30-year projections using the pension plan's current assumptions, methods and benefit provisions for future valuations, but assuming actual experience throughout the projection period matches the assumptions recommended in our Letter Report #1 (including 6.5% annual investment returns on the market value of assets, salary increases of 5.25% per year, and the recommended mortality and turnover rates).
4. Same as item 3, except that an economic recession or bear market is assumed to occur three years in the future, and the assumed investment return on the market value of assets during the fiscal year ending 9/30/2017 is assumed to be -15.0% (assumed market returns in all other years are 6.5%).
5. 30-year projections using the assumptions recommended in our Letter Report #1 for all purposes (including 6.5% annual investment returns on the market value of assets, salary increases of 5.25% per year, and the recommended mortality and turnover rates).
6. ***What if benefits are changed? Scenario A*** – Same as item 5, but assuming the benefit multiplier for future service is changed from 3.1% to 2.75% per year of service.
7. ***What if benefits are changed? Scenario B*** – Same as item 5, but assuming the annual cost-of-living adjustment (COLA) from ages 55 to 65 is changed from 3.0% to 2.0% per year for ***future*** retirees.
8. ***What if benefits are changed? Scenario C*** – Same as item 5, but assuming normal retirement is changed from the earlier of attainment of age 55 with 10 years of service or completion of 20 years of service regardless of age, to the earlier of attainment of age 55 with 10 years of service or attainment of age 52 with 25 years of service (the current Chapter 175 minimum normal retirement eligibility under Chapter 99-1 of the Florida Statutes).
9. ***What if benefits are changed? Scenario D*** – Same as item 5, but assuming all three changes in Scenarios A, B and C are made in combination.
10. Discussion of variable defined benefit plans.

Defined Benefit Plans – Efficiency and Risk

Generally speaking, defined benefit pensions are the most efficient means of providing lifetime incomes to groups of employees and retirees. Defined benefit plans pool longevity risk so that individuals do not have to “guess” how long they are going to live and manage their own money. It is typically at least 25% less expensive (collectively speaking) to provide retirement income through a defined benefit plan than it is for individuals to provide the same level of income for themselves through retirement savings vehicles. With individual retirement savings vehicles, those who live for a shorter period than expected have money left over when they pass away, and those who live for a longer period than expected may outlive their retirement assets. Also, professional asset managers tend to significantly outperform individual investors – both before and after retirement.

While defined benefit plans are a more efficient means of providing retirement income to groups of people than individual retirement accounts, there are risks associated with them for defined benefit plan sponsors. Investment risk is the largest and most important risk. The long-term cost of a defined benefit pension plan is equal to the sum of all benefit payments and expenses minus investment earnings. For every dollar by which investment earnings are less than expected, the long-term cost (sum of contributions) increases by a dollar, so plan sponsors are very exposed to the risk of adverse performance of plan investments.

Other sources of risk in defined benefit pension plans include inflation - particularly wage inflation, and demographic risks. Significant salary increases during the final few years prior to an employee’s date of retirement can significantly increase the cost of a pension plan because benefits are based on salaries during the highest 5 years. Demographic risk includes the risk of continued improvement in longevity of the overall population. If average life expectancies continue to improve, the cost of pension plans will rise.

Objectives of the City and Members

The primary goal for the City is to have an affordable and sustainable retirement plan that provides adequate and competitive retirement benefits to member firefighters. One component of being affordable and sustainable is management of the risks and volatility that are inherent in defined benefit pension plans. Reducing the volatility of assets and liabilities and creating a sustainable and affordable pension plan can be quite challenging, but it begins with the use of realistic actuarial assumptions and methods, and sometimes also requires making adjustments to benefit levels.

The primary goal of members is to continue earning retirement benefits that are adequate and competitive. Members also want to know that their retirement benefits are secure – that the true costs are being properly funded and plan assets will be sufficient to pay benefits when they retire.

30-Year Projections

We have prepared several 30-year projections to help the City understand the current and long-term costs of the firefighters’ pension plan, as well as the associated economic and demographic risks. The first projection (shown on the next page) presents the projected costs and liabilities of the plan assuming all current assumptions, methods and benefits remain in place for the next 30 years. This projection ALSO assumes that actual experience matches the current actuarial valuation assumptions (including 7.75% net annual investment returns on the market value of plan assets, 6.5% annual salary increases, the RP-2000 combined healthy mortality table without projections for future mortality improvement, and all other current assumptions).

City of Brooksville Firefighters' Retirement Trust Fund
Projection #1 - Baseline Projection - Using Current Actuarial Valuation Assumptions

Valuation Date	Fiscal Year End	Covered Payroll	Actuarial Value of Assets	Actuarial Liability	Funded Ratio	City/State Required Contribution	Contribution % of Pay
10/1/13	9/30/15	651,472	5,249,323	6,844,294	76.7%	355,248	54.5%
10/1/14	9/30/16	646,160	5,326,312	6,760,002	78.8%	345,162	53.4%
10/1/15	9/30/17	634,718	5,727,313	6,919,751	82.8%	347,466	54.7%
10/1/16	9/30/18	665,536	6,060,047	7,107,660	85.3%	354,419	53.3%
10/1/17	9/30/19	699,952	6,384,862	7,318,541	87.2%	367,423	52.5%
10/1/18	9/30/20	736,031	6,747,904	7,554,575	89.3%	333,655	45.3%
10/1/19	9/30/21	823,849	7,100,364	7,811,396	90.9%	300,769	36.5%
10/1/20	9/30/22	835,606	7,430,183	8,068,962	92.1%	308,928	37.0%
10/1/21	9/30/23	842,171	7,761,485	8,327,238	93.2%	276,743	32.9%
10/1/22	9/30/24	931,351	8,076,804	8,611,525	93.8%	280,957	30.2%
10/1/23	9/30/25	973,912	8,417,788	8,934,905	94.2%	312,283	32.1%
10/1/24	9/30/26	1,018,795	8,815,227	9,287,252	94.9%	313,774	30.8%
10/1/25	9/30/27	1,001,787	9,177,240	9,591,225	95.7%	362,351	36.2%
10/1/26	9/30/28	1,048,792	9,609,541	9,938,699	96.7%	351,094	33.5%
10/1/27	9/30/29	1,025,457	9,982,613	10,211,285	97.8%	354,998	34.6%
10/1/28	9/30/30	1,053,951	10,354,062	10,489,654	98.7%	321,397	30.5%
10/1/29	9/30/31	1,110,473	10,713,482	10,803,289	99.2%	337,149	30.4%
10/1/30	9/30/32	1,166,219	11,104,381	11,141,747	99.7%	326,853	28.0%
10/1/31	9/30/33	1,189,928	11,472,823	11,463,452	100.1%	290,186	24.4%
10/1/32	9/30/34	1,233,587	11,817,088	11,808,532	100.1%	288,675	23.4%
10/1/33	9/30/35	1,264,439	12,142,868	12,134,091	100.1%	293,484	23.2%
10/1/34	9/30/36	1,283,069	12,445,380	12,436,625	100.1%	308,449	24.0%
10/1/35	9/30/37	1,323,325	12,753,199	12,744,863	100.1%	313,406	23.7%
10/1/36	9/30/38	1,362,905	13,057,796	13,050,074	100.1%	324,729	23.8%
10/1/37	9/30/39	1,403,279	13,378,042	13,370,795	100.1%	335,296	23.9%
10/1/38	9/30/40	1,447,781	13,714,480	13,706,443	100.1%	336,122	23.2%
10/1/39	9/30/41	1,477,072	14,037,672	14,029,574	100.1%	352,985	23.9%
10/1/40	9/30/42	1,520,836	14,372,775	14,364,423	100.1%	365,297	24.0%
10/1/41	9/30/43	1,575,014	14,719,384	14,709,786	100.1%	370,538	23.5%
10/1/42	9/30/44	1,610,620	15,055,717	15,045,937	100.1%	390,303	24.2%
10/1/43	9/30/45	1,668,424	15,417,125	15,406,643	100.1%	396,301	23.8%

The above projection is optimistic in that it assumes actual experience will match all current assumptions throughout the projection period, including annual investment returns of 7.75% net of expenses every year.

The next projection (shown below) uses the same assumptions as the first projection for each future annual valuation, but assumes actual experience from year to year matches the recommended assumptions from our Letter Report #1 (including actual net investment returns of 6.5% per year on the market value of assets, salary increases of 5.25% per year, and recommended mortality and turnover rates).

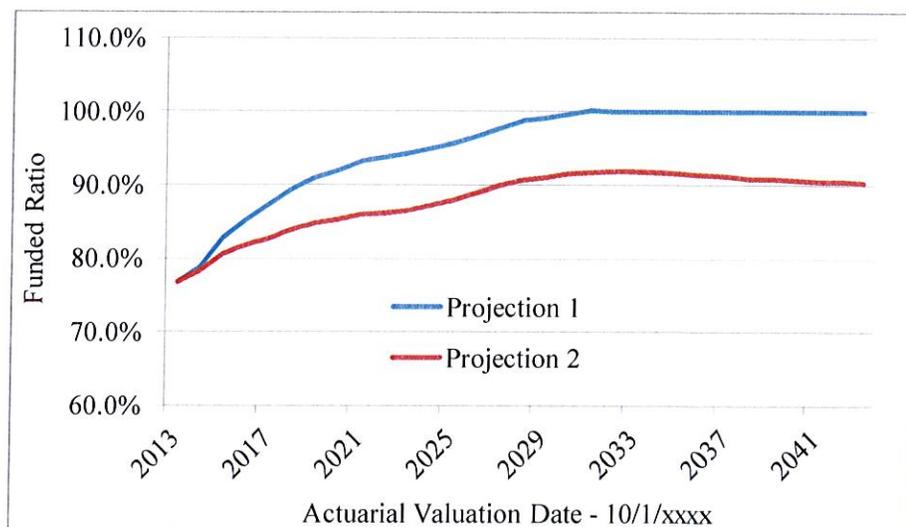
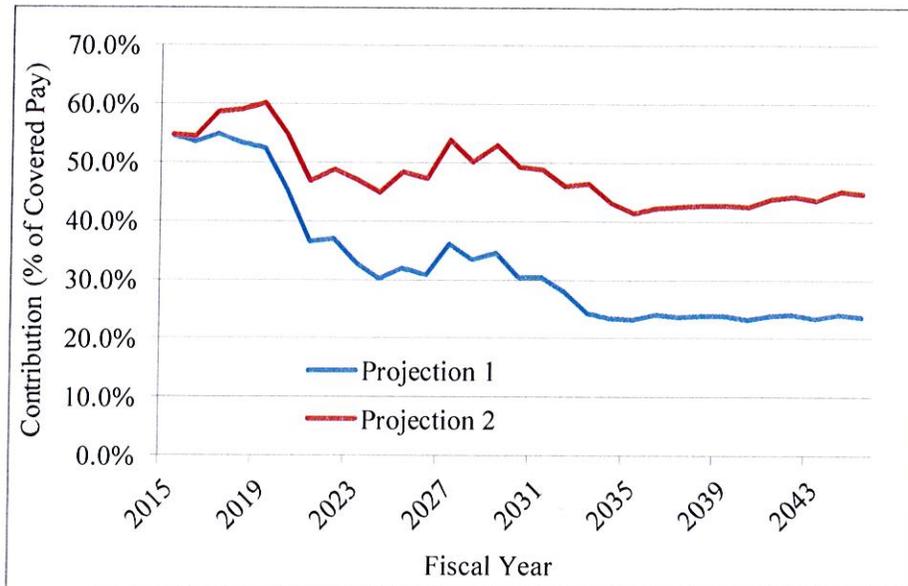
City of Brooksville Firefighters' Retirement Trust Fund
Projection #2 - Using Current Assumptions for Future Annual Valuations, but
Using Recommended Assumptions for Actual Year-to-Year Experience

Valuation Date	Fiscal Year End	Covered Payroll	Actuarial Value of Assets	Actuarial Liability	Funded Ratio	City/State Required Contribution	Contribution % of Pay
10/1/13	9/30/15	651,472	5,249,323	6,844,294	76.7%	355,207	54.5%
10/1/14	9/30/16	642,474	5,308,208	6,785,331	78.2%	349,606	54.4%
10/1/15	9/30/17	628,672	5,605,194	6,966,240	80.5%	367,338	58.4%
10/1/16	9/30/18	657,680	5,869,702	7,182,437	81.7%	387,989	59.0%
10/1/17	9/30/19	690,631	6,142,010	7,427,217	82.7%	414,823	60.1%
10/1/18	9/30/20	725,026	6,458,806	7,700,643	83.9%	395,915	54.6%
10/1/19	9/30/21	812,254	6,772,782	7,999,646	84.7%	379,168	46.7%
10/1/20	9/30/22	825,371	7,073,630	8,301,052	85.2%	401,973	48.7%
10/1/21	9/30/23	826,275	7,378,377	8,591,549	85.9%	387,808	46.9%
10/1/22	9/30/24	919,590	7,679,348	8,914,501	86.1%	411,398	44.7%
10/1/23	9/30/25	959,289	8,020,792	9,284,350	86.4%	462,271	48.2%
10/1/24	9/30/26	1,001,101	8,432,923	9,685,642	87.1%	471,688	47.1%
10/1/25	9/30/27	974,967	8,798,054	10,012,638	87.9%	524,640	53.8%
10/1/26	9/30/28	1,018,127	9,232,520	10,387,511	88.9%	509,928	50.1%
10/1/27	9/30/29	985,945	9,582,259	10,667,027	89.8%	521,984	52.9%
10/1/28	9/30/30	1,007,012	9,924,168	10,944,906	90.7%	495,615	49.2%
10/1/29	9/30/31	1,058,797	10,254,062	11,263,316	91.0%	516,648	48.8%
10/1/30	9/30/32	1,108,875	10,617,671	11,614,098	91.4%	510,123	46.0%
10/1/31	9/30/33	1,127,314	10,949,978	11,941,754	91.7%	521,315	46.2%
10/1/32	9/30/34	1,169,533	11,301,254	12,299,677	91.9%	502,565	43.0%
10/1/33	9/30/35	1,209,033	11,622,774	12,657,888	91.8%	498,651	41.2%
10/1/34	9/30/36	1,228,338	11,905,145	12,990,148	91.6%	517,521	42.1%
10/1/35	9/30/37	1,264,072	12,189,135	13,329,187	91.4%	536,034	42.4%
10/1/36	9/30/38	1,307,157	12,480,668	13,679,102	91.2%	558,216	42.7%
10/1/37	9/30/39	1,349,673	12,793,838	14,051,534	91.0%	576,698	42.7%
10/1/38	9/30/40	1,394,742	13,126,757	14,447,136	90.9%	591,955	42.4%
10/1/39	9/30/41	1,425,581	13,449,983	14,827,648	90.7%	624,328	43.8%
10/1/40	9/30/42	1,465,136	13,790,424	15,220,985	90.6%	647,835	44.2%
10/1/41	9/30/43	1,517,751	14,143,545	15,626,737	90.5%	660,624	43.5%
10/1/42	9/30/44	1,550,336	14,477,970	16,016,655	90.4%	699,111	45.1%
10/1/43	9/30/45	1,605,411	14,847,904	16,439,877	90.3%	715,304	44.6%

The funded ratio in this projection never reaches 100% (and it actually begins to decline after peaking at 91.9% in 2032). In the first projection, emerging experience was expected to match the assumptions, so no

new experience gains/losses emerged and all unfunded liability amortization bases were assumed to be paid down to zero after 20 years. After the unfunded liability was paid off, the annual contribution was approximately equal to the normal cost (the cost of the annual benefits earned each year). In the second projection, however, experience losses continue to accumulate over time, keeping the contribution rate from ever declining to the normal cost (i.e., the plan is perpetually paying down an unfunded liability).

Below are two graphs. The first compares the projected City/State required contributions as a percentage of covered payroll for Projection 1 versus Projection 2. The second compares the projected funded ratio.



The next projection illustrates the investment risk inherent in the plan by assuming that a “black swan event” takes place at some point during the next 5 to 10 years. In the scenario below, we have assumed this will occur (by random draw) in the fiscal year ending September 30, 2017, and that the net effect will be a 15% loss in the market value of pension plan assets during that year. This projection is just like the second projection, except for a 15% loss in the market value of assets in 2017. Market value returns are assumed to be 6.5% per year in all other years throughout the projection period.

City of Brooksville Firefighters' Retirement Trust Fund
Projection #3 - Current Assumptions for Future Annual Valuations; Recommended
Assumptions for Actual Year-to-Year Experience; -15% Investment Return in 2017

Valuation Date	Fiscal Year End	Covered Payroll	Actuarial Value of Assets	Actuarial Liability	Funded Ratio	City/State Required Contribution	Contribution % of Pay
10/1/13	9/30/15	651,472	5,249,323	6,844,294	76.7%	355,207	54.5%
10/1/14	9/30/16	642,474	5,307,700	6,785,331	78.2%	349,671	54.4%
10/1/15	9/30/17	628,672	5,604,713	6,966,240	80.5%	367,406	58.4%
10/1/16	9/30/18	657,680	5,859,271	7,182,437	81.6%	389,356	59.2%
10/1/17	9/30/19	690,631	5,798,091	7,427,217	78.1%	459,602	66.5%
10/1/18	9/30/20	725,026	5,806,973	7,700,643	75.4%	484,266	66.8%
10/1/19	9/30/21	812,254	5,837,682	7,999,646	73.0%	511,658	63.0%
10/1/20	9/30/22	825,371	5,881,034	8,301,052	70.8%	579,357	70.2%
10/1/21	9/30/23	826,275	6,294,443	8,591,549	73.3%	567,016	68.6%
10/1/22	9/30/24	919,590	6,712,703	8,914,501	75.3%	592,696	64.5%
10/1/23	9/30/25	959,289	7,180,872	9,284,350	77.3%	645,943	67.3%
10/1/24	9/30/26	1,001,101	7,730,043	9,685,642	79.8%	657,962	65.7%
10/1/25	9/30/27	974,967	8,243,405	10,012,638	82.3%	713,932	73.2%
10/1/26	9/30/28	1,018,127	8,838,416	10,387,511	85.1%	700,983	68.9%
10/1/27	9/30/29	985,945	9,360,486	10,667,027	87.8%	662,435	67.2%
10/1/28	9/30/30	1,007,012	9,833,301	10,944,906	89.8%	585,645	58.2%
10/1/29	9/30/31	1,058,797	10,250,291	11,263,316	91.0%	555,861	52.5%
10/1/30	9/30/32	1,108,875	10,654,059	11,614,098	91.7%	497,796	44.9%
10/1/31	9/30/33	1,127,314	10,975,928	11,941,754	91.9%	511,547	45.4%
10/1/32	9/30/34	1,169,533	11,318,753	12,299,677	92.0%	495,120	42.3%
10/1/33	9/30/35	1,209,033	11,633,691	12,657,888	91.9%	493,273	40.8%
10/1/34	9/30/36	1,228,338	11,911,200	12,990,148	91.7%	513,918	41.8%
10/1/35	9/30/37	1,264,072	12,191,855	13,329,187	91.5%	533,900	42.2%
10/1/36	9/30/38	1,307,157	12,481,359	13,679,102	91.2%	557,199	42.6%
10/1/37	9/30/39	1,349,673	12,793,524	14,051,534	91.0%	576,418	42.7%
10/1/38	9/30/40	1,394,742	13,126,135	14,447,136	90.9%	592,054	42.4%
10/1/39	9/30/41	1,425,581	13,449,424	14,827,648	90.7%	624,548	43.8%
10/1/40	9/30/42	1,465,136	13,790,057	15,220,985	90.6%	648,025	44.2%
10/1/41	9/30/43	1,517,751	14,143,351	15,626,737	90.5%	660,738	43.5%
10/1/42	9/30/44	1,550,336	14,477,881	16,016,655	90.4%	699,176	45.1%
10/1/43	9/30/45	1,605,411	14,847,876	16,439,877	90.3%	715,334	44.6%

The 2017 investment loss would be phased in over a four-year period in the actuarial (smoothed) value of assets, and the loss would have to be made up by City contributions, causing an increase in the City/State contribution rate over the next several years, over which time it would climb as high as 70% of covered pay.

The next projection assumes the recommended assumptions are used for all purposes (future annual valuations and actual year to year experience). This projection will then be the baseline projection for all subsequent projections (which illustrate the impact of changing certain key benefit provisions).

City of Brooksville Firefighters' Retirement Trust Fund
Projection #4 - Using Recommended Assumptions for Annual Valuations and Experience

Valuation Date	Fiscal Year End	Covered Payroll	Actuarial Value of Assets	Actuarial Liability	Funded Ratio	City/State Required Contribution	Contribution % of Pay
10/1/13	9/30/15	651,472	5,249,323	8,150,277	64.4%	508,280	78.0%
10/1/14	9/30/16	635,685	5,467,338	8,137,391	67.2%	493,130	77.6%
10/1/15	9/30/17	622,764	5,926,251	8,367,374	70.8%	507,911	81.6%
10/1/16	9/30/18	651,685	6,349,848	8,633,215	73.6%	520,976	79.9%
10/1/17	9/30/19	684,539	6,788,893	8,926,829	76.1%	538,485	78.7%
10/1/18	9/30/20	718,821	7,273,174	9,250,529	78.6%	509,867	70.9%
10/1/19	9/30/21	806,010	7,755,054	9,599,737	80.8%	487,771	60.5%
10/1/20	9/30/22	819,695	8,228,920	9,961,339	82.6%	495,043	60.4%
10/1/21	9/30/23	821,263	8,701,887	10,316,145	84.4%	474,113	57.7%
10/1/22	9/30/24	914,566	9,174,640	10,706,465	85.7%	493,562	54.0%
10/1/23	9/30/25	954,157	9,694,289	11,151,088	86.9%	529,091	55.5%
10/1/24	9/30/26	995,848	10,279,908	11,631,393	88.4%	521,859	52.4%
10/1/25	9/30/27	971,153	10,813,035	12,034,367	89.9%	582,078	59.9%
10/1/26	9/30/28	1,014,223	11,433,504	12,496,952	91.5%	548,913	54.1%
10/1/27	9/30/29	983,891	11,962,870	12,851,069	93.1%	567,351	57.7%
10/1/28	9/30/30	1,005,634	12,502,621	13,214,534	94.6%	551,611	54.9%
10/1/29	9/30/31	1,057,392	13,053,644	13,624,315	95.8%	575,147	54.4%
10/1/30	9/30/32	1,107,441	13,654,754	14,068,946	97.1%	562,404	50.8%
10/1/31	9/30/33	1,126,460	14,233,295	14,487,094	98.2%	578,127	51.3%
10/1/32	9/30/34	1,168,664	14,850,800	14,941,947	99.4%	560,971	48.0%
10/1/33	9/30/35	1,208,578	15,457,029	15,398,059	100.4%	409,795	33.9%
10/1/34	9/30/36	1,228,338	15,890,455	15,829,050	100.4%	431,249	35.1%
10/1/35	9/30/37	1,264,072	16,337,662	16,274,010	100.4%	444,691	35.2%
10/1/36	9/30/38	1,307,157	16,797,410	16,731,515	100.4%	462,899	35.4%
10/1/37	9/30/39	1,349,673	17,285,174	17,216,607	100.4%	479,182	35.5%
10/1/38	9/30/40	1,394,742	17,801,302	17,728,803	100.4%	477,032	34.2%
10/1/39	9/30/41	1,425,581	18,301,227	18,225,666	100.4%	501,316	35.2%
10/1/40	9/30/42	1,465,136	18,821,061	18,741,908	100.4%	519,378	35.4%
10/1/41	9/30/43	1,517,751	19,359,172	19,275,483	100.4%	523,093	34.5%
10/1/42	9/30/44	1,550,336	19,880,805	19,793,794	100.4%	557,024	35.9%
10/1/43	9/30/45	1,605,411	20,444,945	20,353,690	100.4%	566,869	35.3%

In Projection #4, the City/State contribution rate start out higher, reflecting the use of the revised assumptions, but it declines to the normal cost rate after 20 years once the unfunded liability is paid off and the funded ratio becomes 100%.

The next four projections illustrate the impact of adjusting three key benefit provisions – the benefit multiplier (for future service), the cost-of-living increase (COLA), and the normal retirement eligibility provisions – one at a time, and then in combination. The first of these projections (shown below) illustrates the impact of changing the benefit multiplier for future service from 3.1% to 2.75% per year of service.

City of Brooksville Firefighters' Retirement Trust Fund
What if Benefits are Changed? - Scenario A (Using Recommended Assumptions)
Benefit Multiplier Changed from 3.1% to 2.75% Per Year for Future Service

Valuation Date	Fiscal Year End	Covered Payroll	Actuarial Value of Assets	Actuarial Liability	Funded Ratio	City/State Required Contribution	Contribution % of Pay
10/1/13	9/30/15	651,472	5,249,323	8,087,006	64.9%	491,563	75.5%
10/1/14	9/30/16	635,685	5,449,961	8,058,625	67.6%	474,317	74.6%
10/1/15	9/30/17	622,764	5,887,919	8,270,093	71.2%	487,000	78.2%
10/1/16	9/30/18	651,685	6,287,394	8,514,136	73.8%	499,107	76.6%
10/1/17	9/30/19	684,539	6,700,039	8,783,564	76.3%	515,493	75.3%
10/1/18	9/30/20	718,821	7,155,131	9,080,398	78.8%	485,847	67.6%
10/1/19	9/30/21	806,010	7,605,070	9,400,088	80.9%	461,499	57.3%
10/1/20	9/30/22	819,695	8,043,605	9,729,089	82.7%	466,814	56.9%
10/1/21	9/30/23	821,263	8,478,312	10,048,437	84.4%	443,550	54.0%
10/1/22	9/30/24	914,566	8,908,256	10,398,909	85.7%	459,208	50.2%
10/1/23	9/30/25	954,157	9,378,636	10,797,545	86.9%	493,417	51.7%
10/1/24	9/30/26	995,848	9,910,705	11,227,842	88.3%	486,910	48.9%
10/1/25	9/30/27	971,153	10,391,914	11,582,482	89.7%	542,930	55.9%
10/1/26	9/30/28	1,014,223	10,953,165	11,989,752	91.4%	512,087	50.5%
10/1/27	9/30/29	983,891	11,428,508	12,293,914	93.0%	526,810	53.5%
10/1/28	9/30/30	1,005,634	11,909,897	12,603,495	94.5%	507,739	50.5%
10/1/29	9/30/31	1,057,392	12,395,902	12,953,182	95.7%	529,066	50.0%
10/1/30	9/30/32	1,107,441	12,926,140	13,332,361	97.0%	516,761	46.7%
10/1/31	9/30/33	1,126,460	13,434,222	13,685,698	98.2%	529,814	47.0%
10/1/32	9/30/34	1,168,664	13,975,962	14,070,921	99.3%	511,751	43.8%
10/1/33	9/30/35	1,208,578	14,504,227	14,455,789	100.3%	365,092	30.2%
10/1/34	9/30/36	1,228,338	14,865,712	14,816,988	100.3%	384,247	31.3%
10/1/35	9/30/37	1,264,072	15,238,681	15,189,892	100.3%	396,227	31.3%
10/1/36	9/30/38	1,307,157	15,622,170	15,573,374	100.3%	412,424	31.6%
10/1/37	9/30/39	1,349,673	16,030,190	15,981,058	100.3%	426,914	31.6%
10/1/38	9/30/40	1,394,742	16,463,047	16,412,522	100.3%	425,014	30.5%
10/1/39	9/30/41	1,425,581	16,881,157	16,830,074	100.3%	446,669	31.3%
10/1/40	9/30/42	1,465,136	17,316,570	17,264,523	100.3%	462,766	31.6%
10/1/41	9/30/43	1,517,751	17,767,935	17,714,154	100.3%	466,067	30.7%
10/1/42	9/30/44	1,550,336	18,204,328	18,149,966	100.3%	496,309	32.0%
10/1/43	9/30/45	1,605,411	18,678,146	18,622,457	100.3%	505,065	31.5%

The next projection (below) illustrates the impact of changing the cost-of-living adjustment (COLA) increase that will be provided to all future retirees at ages 55 through 65 from 3.0% per year to 2.0% per year. Current retirees would continue to receive the 3.0% per year COLA.

City of Brooksville Firefighters' Retirement Trust Fund
What if Benefits are Changed? - Scenario B (Using Recommended Assumptions)
COLA (Applicable from Ages 55 to 65) Changed from 3.0% to 2.0% for Future Retirees

Valuation Date	Fiscal Year End	Covered Payroll	Actuarial Value of Assets	Actuarial Liability	Funded Ratio	City/State Required Contribution	Contribution % of Pay
10/1/13	9/30/15	651,472	5,249,323	8,054,147	65.2%	491,977	75.5%
10/1/14	9/30/16	635,685	5,450,392	8,026,345	67.9%	477,283	75.1%
10/1/15	9/30/17	622,764	5,891,684	8,241,144	71.5%	491,138	78.9%
10/1/16	9/30/18	651,685	6,296,119	8,490,133	74.2%	503,642	77.3%
10/1/17	9/30/19	684,539	6,714,649	8,765,558	76.6%	520,503	76.0%
10/1/18	9/30/20	718,821	7,176,722	9,069,599	79.1%	491,478	68.4%
10/1/19	9/30/21	806,010	7,634,856	9,397,827	81.2%	469,316	58.2%
10/1/20	9/30/22	819,695	8,084,172	9,737,867	83.0%	475,845	58.1%
10/1/21	9/30/23	821,263	8,531,236	10,070,035	84.7%	453,889	55.3%
10/1/22	9/30/24	914,566	8,976,402	10,436,338	86.0%	471,589	51.6%
10/1/23	9/30/25	954,157	9,465,997	10,854,874	87.2%	506,354	53.1%
10/1/24	9/30/26	995,848	10,019,833	11,307,699	88.6%	499,650	50.2%
10/1/25	9/30/27	971,153	10,520,437	11,682,891	90.0%	557,833	57.4%
10/1/26	9/30/28	1,014,223	11,105,044	12,114,974	91.7%	526,133	51.9%
10/1/27	9/30/29	983,891	11,598,635	12,439,123	93.2%	542,961	55.2%
10/1/28	9/30/30	1,005,634	12,099,831	12,770,459	94.7%	525,592	52.3%
10/1/29	9/30/31	1,057,392	12,609,351	13,145,844	95.9%	547,947	51.8%
10/1/30	9/30/32	1,107,441	13,166,249	13,554,075	97.1%	535,265	48.3%
10/1/31	9/30/33	1,126,460	13,698,407	13,934,328	98.3%	549,835	48.8%
10/1/32	9/30/34	1,168,664	14,265,855	14,348,390	99.4%	532,451	45.6%
10/1/33	9/30/35	1,208,578	14,819,673	14,762,148	100.4%	391,423	32.4%
10/1/34	9/30/36	1,228,338	15,209,193	15,149,170	100.4%	411,780	33.5%
10/1/35	9/30/37	1,264,072	15,610,045	15,547,661	100.4%	424,769	33.6%
10/1/36	9/30/38	1,307,157	16,021,984	15,957,155	100.4%	442,251	33.8%
10/1/37	9/30/39	1,349,673	16,460,591	16,392,801	100.4%	457,880	33.9%
10/1/38	9/30/40	1,394,742	16,926,521	16,854,417	100.4%	455,846	32.7%
10/1/39	9/30/41	1,425,581	17,376,058	17,300,366	100.4%	478,917	33.6%
10/1/40	9/30/42	1,465,136	17,844,530	17,764,641	100.4%	496,047	33.9%
10/1/41	9/30/43	1,517,751	18,331,226	18,246,105	100.5%	499,550	32.9%
10/1/42	9/30/44	1,550,336	18,802,549	18,713,279	100.5%	531,920	34.3%
10/1/43	9/30/45	1,605,411	19,316,242	19,221,827	100.5%	541,561	33.7%

The next projection (below) illustrates the impact of changing the normal retirement eligibility provisions from the earlier of attainment of age 55 with 10 years of service or completion of 20 years of service regardless of age, to the earlier of attainment of age 55 with 10 years of service or attainment of age 52 with 25 years of service (this is the current Chapter 175 minimum normal retirement eligibility provisions under Chapter 99-1 of the Florida Statutes).

City of Brooksville Firefighters' Retirement Trust Fund
What if Benefits are Changed? - Scenario C (Using Recommended Assumptions)
Normal Retirement Eligibility Changed from (Age 55 with 10 Years or Any Age with 20 Years)
to (Age 55 with 10 Years or Age 52 with 25 Years of Service), the Chapter Minimum

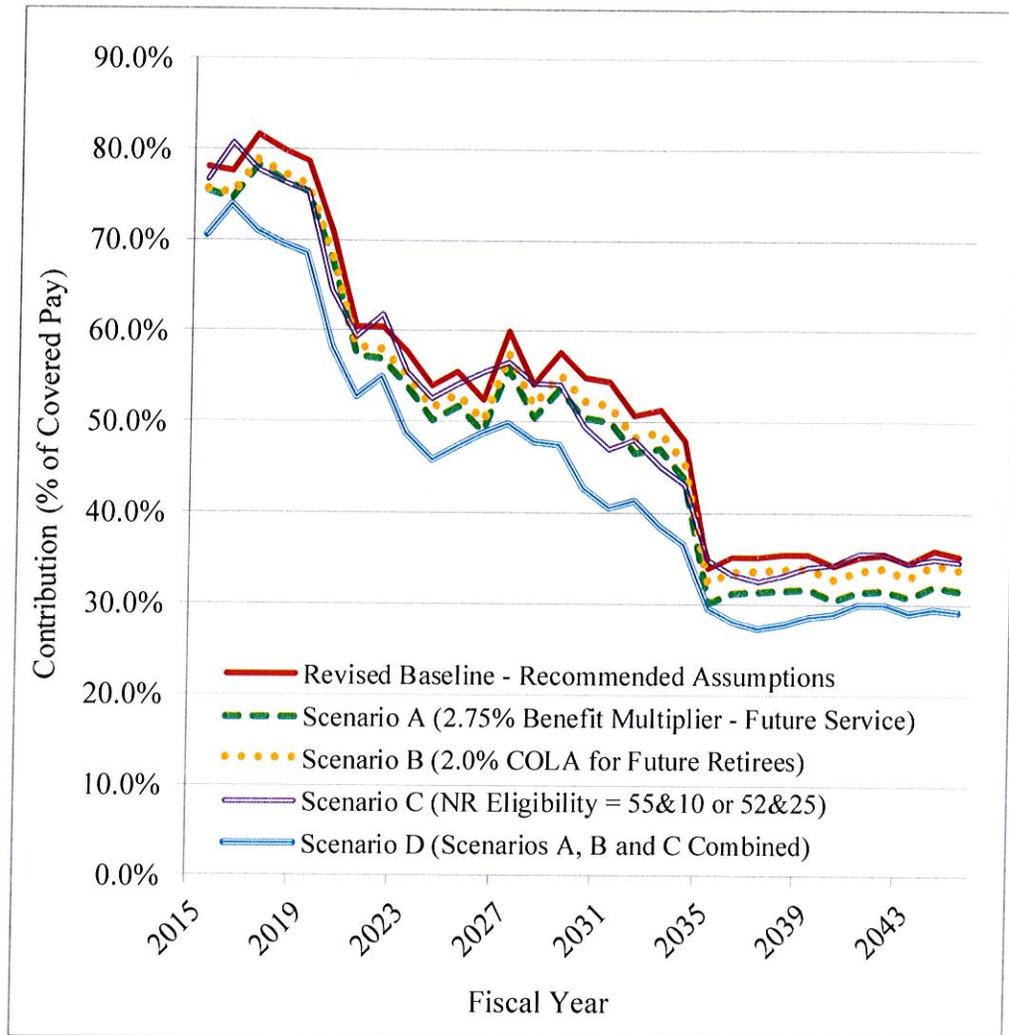
Valuation Date	Fiscal Year End	Covered Payroll	Actuarial Value of Assets	Actuarial Liability	Funded Ratio	City/State Required Contribution	Contribution % of Pay
10/1/13	9/30/15	651,472	5,249,323	8,085,609	64.9%	498,852	76.6%
10/1/14	9/30/16	635,685	5,457,681	8,064,274	67.7%	512,406	80.6%
10/1/15	9/30/17	661,762	5,975,737	8,352,766	71.5%	514,474	77.7%
10/1/16	9/30/18	690,600	6,448,331	8,667,521	74.4%	527,152	76.3%
10/1/17	9/30/19	723,345	6,936,429	9,010,800	77.0%	544,284	75.2%
10/1/18	9/30/20	757,487	7,470,011	9,384,805	79.6%	488,368	64.5%
10/1/19	9/30/21	803,858	7,928,876	9,713,787	81.6%	477,208	59.4%
10/1/20	9/30/22	817,528	8,387,747	10,066,252	83.3%	505,299	61.8%
10/1/21	9/30/23	854,864	8,902,292	10,464,760	85.1%	474,900	55.6%
10/1/22	9/30/24	918,427	9,413,935	10,896,497	86.4%	483,031	52.6%
10/1/23	9/30/25	958,125	9,961,802	11,373,887	87.6%	518,494	54.1%
10/1/24	9/30/26	999,994	10,577,312	11,892,436	88.9%	554,888	55.5%
10/1/25	9/30/27	1,045,401	11,257,716	12,446,712	90.4%	591,796	56.6%
10/1/26	9/30/28	1,092,720	12,013,339	13,047,650	92.1%	593,330	54.3%
10/1/27	9/30/29	1,148,756	12,777,637	13,639,397	93.7%	622,553	54.2%
10/1/28	9/30/30	1,203,763	13,610,366	14,297,252	95.2%	595,866	49.5%
10/1/29	9/30/31	1,259,146	14,461,681	15,008,676	96.4%	591,589	47.0%
10/1/30	9/30/32	1,266,641	15,288,986	15,684,753	97.5%	609,443	48.1%
10/1/31	9/30/33	1,312,252	16,157,034	16,398,330	98.5%	593,160	45.2%
10/1/32	9/30/34	1,308,504	16,973,678	17,059,852	99.5%	564,692	43.2%
10/1/33	9/30/35	1,321,192	17,726,185	17,673,409	100.3%	460,453	34.9%
10/1/34	9/30/36	1,380,002	18,398,025	18,347,326	100.3%	459,124	33.3%
10/1/35	9/30/37	1,399,250	19,036,858	18,988,873	100.3%	454,397	32.5%
10/1/36	9/30/38	1,401,865	19,615,245	19,571,573	100.2%	463,736	33.1%
10/1/37	9/30/39	1,407,481	20,158,044	20,119,762	100.2%	478,699	34.0%
10/1/38	9/30/40	1,434,829	20,695,879	20,663,922	100.2%	493,093	34.4%
10/1/39	9/30/41	1,472,679	21,242,034	21,217,374	100.1%	524,183	35.6%
10/1/40	9/30/42	1,535,770	21,842,194	21,824,834	100.1%	546,098	35.6%
10/1/41	9/30/43	1,607,968	22,488,379	22,478,481	100.0%	556,407	34.6%
10/1/42	9/30/44	1,654,321	23,137,922	23,135,889	100.0%	579,986	35.1%
10/1/43	9/30/45	1,711,061	23,816,452	23,822,464	100.0%	594,207	34.7%

The final projection (below) illustrates the combined impact of making all three changes from Scenarios A, B and C. This includes changing the benefit multiplier from 3.1% to 2.75% per year for future service, changing the COLA from 3.0% to 2.0% for future retirees, and changing the normal retirement eligibility provisions from the earlier of age 55 with 10 years of service or any age with 20 years of service to the current Chapter 175 minimum normal retirement eligibility provisions under Chapter 99-1 of the Florida Statutes (the earlier of age 55 with 10 years of service or age 52 with 25 years of service).

City of Brooksville Firefighters' Retirement Trust Fund
What if Benefits are Changed? - Scenario D (Using Recommended Assumptions)
All Three Changes (Scenarios A, B and C Combined)

Valuation Date	Fiscal Year End	Covered Payroll	Actuarial Value of Assets	Actuarial Liability	Funded Ratio	City/State Required Contribution	Contribution % of Pay
10/1/13	9/30/15	651,472	5,249,323	7,881,684	66.6%	459,207	70.5%
10/1/14	9/30/16	635,685	5,416,472	7,823,888	69.2%	469,585	73.9%
10/1/15	9/30/17	661,762	5,887,459	8,070,777	72.9%	470,213	71.1%
10/1/16	9/30/18	690,600	6,311,335	8,340,098	75.7%	480,989	69.6%
10/1/17	9/30/19	723,345	6,744,726	8,633,748	78.1%	496,158	68.6%
10/1/18	9/30/20	757,487	7,218,518	8,953,488	80.6%	440,599	58.2%
10/1/19	9/30/21	803,858	7,615,562	9,226,526	82.5%	425,116	52.9%
10/1/20	9/30/22	817,528	8,006,166	9,517,271	84.1%	449,027	54.9%
10/1/21	9/30/23	854,864	8,445,072	9,847,365	85.8%	416,578	48.7%
10/1/22	9/30/24	918,427	8,875,613	10,205,792	87.0%	420,770	45.8%
10/1/23	9/30/25	958,125	9,334,649	10,602,886	88.0%	453,884	47.4%
10/1/24	9/30/26	999,994	9,854,664	11,035,122	89.3%	487,413	48.7%
10/1/25	9/30/27	1,045,401	10,431,847	11,496,479	90.7%	521,189	49.9%
10/1/26	9/30/28	1,092,720	11,075,857	11,997,288	92.3%	523,193	47.9%
10/1/27	9/30/29	1,148,756	11,725,793	12,486,881	93.9%	545,649	47.5%
10/1/28	9/30/30	1,203,763	12,432,020	13,031,886	95.4%	515,373	42.8%
10/1/29	9/30/31	1,259,146	13,146,969	13,622,001	96.5%	510,628	40.6%
10/1/30	9/30/32	1,266,641	13,834,872	14,174,958	97.6%	524,578	41.4%
10/1/31	9/30/33	1,312,252	14,553,735	14,757,005	98.6%	507,447	38.7%
10/1/32	9/30/34	1,308,504	15,217,831	15,285,202	99.6%	478,719	36.6%
10/1/33	9/30/35	1,321,192	15,816,804	15,765,952	100.3%	390,016	29.5%
10/1/34	9/30/36	1,380,002	16,345,012	16,295,549	100.3%	387,980	28.1%
10/1/35	9/30/37	1,399,250	16,838,774	16,791,081	100.3%	383,272	27.4%
10/1/36	9/30/38	1,401,865	17,274,438	17,229,706	100.3%	390,476	27.9%
10/1/37	9/30/39	1,407,481	17,674,446	17,633,412	100.2%	402,830	28.6%
10/1/38	9/30/40	1,434,829	18,067,572	18,030,816	100.2%	414,995	28.9%
10/1/39	9/30/41	1,472,679	18,466,776	18,434,863	100.2%	441,153	30.0%
10/1/40	9/30/42	1,535,770	18,912,727	18,885,379	100.1%	459,492	29.9%
10/1/41	9/30/43	1,607,968	19,399,903	19,376,960	100.1%	467,935	29.1%
10/1/42	9/30/44	1,654,321	19,891,459	19,872,957	100.1%	487,713	29.5%
10/1/43	9/30/45	1,711,061	20,409,777	20,395,535	100.1%	499,083	29.2%

Below is a graph which compares the projected City/State required contributions as a percentage of covered payroll for Projection 4 (the revised baseline projection using the recommended assumptions) versus the *What if Benefits are Changed? Scenarios A, B, C and D.*



Variable Defined Benefit Plans

As a follow-up to the discussion on page 2 regarding the efficiencies and risks of defined benefit pension plans, what if the positive attributes of defined benefit plans (such as their efficiency as the best means of providing retirement income to a group of people) could be retained, while the investment risks and associated volatility in the contribution rate could be mitigated or significantly reduced? While they are somewhat complex to administer, variable defined benefit (DB) plans have the potential to handle these two competing objectives.

Variable DB plans are pension plans in which accrued benefits (expressed as annual amounts payable at retirement) adjust based on the investment performance of plan assets. Accrued benefits are earned each year based on a percentage of pensionable earnings (similar to the current benefit multiplier). Then the

previous year's accrued benefit is adjusted based on the investment return on plan assets during the year, by multiplying by the ratio of (1 + the actual investment return) divided by (1 + a conservative "hurdle" or target rate). The hurdle rate is usually lower than the long-term expected return on assets assumption so that the annual investment performance adjustment is expected to be positive – which allows for expected cost-of-living adjustments whenever investment returns meet expectations.

Consider the following example to see how this works:

Suppose a firefighter is hired at age 30 earning \$40,000 per year. Assuming the annual benefit multiplier is 3.0% per year, his accrued benefit after his first year of service would be $3\% \times \$40,000 = \$1,200$ per year (\$100 per month).

Assume the "hurdle rate" is set at 5%. During year 2, assume the firefighter's salary is \$42,000 and the investment return is 7.5%. His prior year's accrued benefit would increase by the ratio of (1 + the actual return), to (1 + the hurdle rate), which is $(1.075 / 1.05) = 1.0238$, so his prior year's annual benefit would increase to $\$1,200 \times 1.0238 = \$1,228.57$ per year.

He would also earn another year's benefit accrual equal to 3% of his salary during year 2, which would be $\$42,000 \times 3\% = \$1,260$ per year, so his total accrued benefit at the end of year 2 would be $\$1,228.57 + \$1,260 = \$2,488.57$.

Below is a table showing the growth of his accrued benefit through age 50:

Age (BOY)	Service (BOY)	Current Salary	Annual Benefit (Beg of Year)	Investment Return	Hurdle Rate	Benefit Adj'mt	Adjusted Prior Annual Benefit	Current Accrual	Annual Benefit (End of Year)
31	1	\$42,000	\$1,200.00	7.50%	5.0%	1.02381	\$1,228.57	\$1,260	\$2,488.57
32	2	\$44,000	\$2,488.57	4.00%	5.0%	0.99048	\$2,464.87	\$1,320	\$3,784.87
33	3	\$46,000	\$3,784.87	9.50%	5.0%	1.04286	\$3,947.08	\$1,380	\$5,327.08
34	4	\$48,000	\$5,327.08	-5.00%	5.0%	0.90476	\$4,819.74	\$1,440	\$6,259.74
35	5	\$50,000	\$6,259.74	8.00%	5.0%	1.02857	\$6,438.59	\$1,500	\$7,938.59
36	6	\$52,000	\$7,938.59	13.00%	5.0%	1.07619	\$8,543.43	\$1,560	\$10,103.43
37	7	\$54,000	\$10,103.43	11.00%	5.0%	1.05714	\$10,680.77	\$1,620	\$12,300.77
38	8	\$56,000	\$12,300.77	-7.00%	5.0%	0.88571	\$10,894.97	\$1,680	\$12,574.97
39	9	\$58,000	\$12,574.97	9.00%	5.0%	1.03810	\$13,054.02	\$1,740	\$14,794.02
40	10	\$60,000	\$14,794.02	11.00%	5.0%	1.05714	\$15,639.39	\$1,800	\$17,439.39
41	11	\$62,000	\$17,439.39	6.00%	5.0%	1.00952	\$17,605.48	\$1,860	\$19,465.48
42	12	\$64,000	\$19,465.48	16.00%	5.0%	1.10476	\$21,504.72	\$1,920	\$23,424.72
43	13	\$66,000	\$23,424.72	8.50%	5.0%	1.03333	\$24,205.54	\$1,980	\$26,185.54
44	14	\$68,000	\$26,185.54	-3.00%	5.0%	0.92381	\$24,190.45	\$2,040	\$26,230.45
45	15	\$70,000	\$26,230.45	0.50%	5.0%	0.95714	\$25,106.29	\$2,100	\$27,206.29
46	16	\$72,000	\$27,206.29	10.00%	5.0%	1.04762	\$28,501.83	\$2,160	\$30,661.83
47	17	\$74,000	\$30,661.83	14.00%	5.0%	1.08571	\$33,289.99	\$2,220	\$35,509.99
48	18	\$76,000	\$35,509.99	2.50%	5.0%	0.97619	\$34,664.51	\$2,280	\$36,944.51
49	19	\$78,000	\$36,944.51	5.50%	5.0%	1.00476	\$37,120.44	\$2,340	\$39,460.44
50	20	\$80,000	\$39,460.44	12.50%	5.0%	1.07143	\$42,279.04	\$2,400	\$44,679.04

Disclosures and Qualifications

For all of the projections, new members are assumed to be hired each year at a rate sufficient to maintain a constant active headcount, or stationary population. New employees are assumed to have the same average demographic characteristics (age, gender, salary – adjusted each year for inflation) at their dates of

employment as those of current members. Projections are deterministic, meaning that throughout the projection period, Plan experience is expected to exactly match the specific set of projection assumptions specified.

The calculations are based upon assumptions regarding future events, which may or may not materialize. Future actuarial measurements may differ significantly from the current measurements presented in this letter report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. If you have reason to believe that the assumptions used are unreasonable, that the plan provisions are incorrectly described, that important relevant plan provisions are not described, or that conditions have changed since the calculations were made, you should contact the author of the report prior to relying on information in the report.

The calculations in this report are based upon information furnished by the current retained actuary (Foster and Foster) for the October 1, 2013 Actuarial Valuation concerning Retirement System benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We reviewed this information for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the information provided to us.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the Plan as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes.

The undersigned are members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. The undersigned are independent of the City of Brooksville.

We welcome your questions and comments.

Circular 230 Notice: Pursuant to regulations issued by the IRS, to the extent this communication (or any attachment) concerns tax matters, it is not intended or written to be used, and cannot be used, for the purpose of (i) avoiding tax-related penalties under the Internal Revenue Code or (ii) marketing or recommending to another party any tax-related matter addressed within. Each taxpayer should seek advice based on the individual's circumstances from an independent tax advisor.

This communication shall not be construed to provide tax advice, legal advice or investment advice.

Sincerely,



Peter N. Strong, FSA, EA, MAAA, FCA
Consultant & Actuary



Theora P. Braccialarghe, FSA, EA, MAAA, FCA
Senior Consultant and Actuary

REPORT NO. 1

Provided to Council at the Pension Workshop of 4/29/14.



February 25, 2014

Ms. T. Jennene Norman-Vacha
City Manager
City of Brooksville
201 Howell Avenue
Brooksville, Florida 34601

**Re: City of Brooksville Firefighters' Retirement Trust Fund
Letter Report #1 – Replication of October 1, 2012 Actuarial Valuation
and Review of Actuarial Assumptions and Methods**

Dear Ms. Norman-Vacha:

Gabriel, Roeder, Smith & Company (GRS) has been engaged by the City of Brooksville (City) to provide advice concerning its pension plan for firefighters. This is the first of three letter reports in fulfillment of that engagement. This Letter Report #1 presents the following:

1. Replication results of the Board-retained actuary's (Foster & Foster) regular annual actuarial valuation prepared as of October 1, 2012. Replication of the retained actuary's results is, essentially, an actuarial audit of the work to ensure you are receiving valuation results that are mathematically correct and that recognize all plan benefit provisions.
2. Review and commentary on the actuarial assumptions and methods used in the actuarial valuation, including a review of the most recent experience study prepared by the Board-retained actuary and an assessment of the appropriateness of the current investment return assumption. This also includes recommendations for revisions to the assumptions before moving to the next steps.
3. Other commentary on the Plan and its actuarial valuation.

After reviewing this Letter Report #1, a decision will need to be made regarding the assumptions to be used in the next step, which is the preparation of 30-year projections. The City will also need to decide which alternative scenarios it wants to evaluate. Letter Report #2 will present the projected future costs and liabilities over the next 30 years under the current plan provisions and will include a few different scenarios of future investment returns to demonstrate the volatility and risk of the Plan. Then discussions and decisions concerning alternative plan designs can be made based on a sound underlying foundation, and Letter Report #3 will present 30-year projections of the costs and liabilities under each alternative.

Replication Results (Baseline 0)

Generally speaking, regular annual actuarial valuation reports are prepared by actuaries for pension boards to report on the current financial and actuarial status of the plan (a) to provide the board and city with the required contribution amount to be deposited in the pension fund during the upcoming fiscal year, (b) to assess the current financial condition and funded status, (c) to provide the actuarial numbers required for inclusion in the comprehensive annual financial reports of the city and the plan, and (d) to comply with state regulatory requirements. Actuarial reports often include additional useful information concerning the financial and actuarial condition of the plan.

We obtained census data for the October 1, 2012 actuarial valuation from the retained actuary. We did not audit the data against the City's records, as that would fall under the responsibility of the auditor, not the actuary.

In general, our own valuation results came very close to the numbers presented in the retained actuary's October 1, 2012 actuarial valuation report. Our work was based on (a) the census data provided by the retained actuary, (b) the summary of plan provisions as disclosed in the retained actuary's actuarial valuation report prepared as of October 1, 2012, supplemented by definitions and descriptions for the City of Brooksville Firefighters' Retirement Trust Fund in the City's Code of Ordinances, and (c) the actuarial assumptions and methods used by the retained actuary as disclosed in the actuarial valuation report prepared as of October 1, 2012.

The following tables present several of the essential actuarial numbers and statistics of their work and ours. The Adjustment Factors shown below will be applied in our 30-year projections in order to approximate what the retained actuary's projected results may be.

**City of Brooksville Firefighters' Retirement Trust Fund
 Replication Valuation as of October 1, 2012**

	Retained Actuary	GRS Before Adjustment	Adjustment Factor	GRS After Adjustment
Number of Active Members	19	19	N/A	
Covered Annual Payroll (Excluding DROP)	651,086	651,086	N/A	
Members and Beneficiaries in Pay Status (Including DROP)	16	16	N/A	
Total Annualized Benefit Rate	399,409	399,409	N/A	
Disabled Members	-	-	N/A	
Total Annualized Benefit Rate	-	-	N/A	
Deferred Vested Members	9	9	N/A	
Total Annualized Benefit Rate	19,710	19,710	N/A	
Market Value of Assets	4,937,188	4,937,188	N/A	
Actuarial Value of Assets	4,810,525	4,810,525	N/A	
Present Value of Future Benefits - Active Members	2,571,312	2,536,607	101.37%	2,571,312
Present Value of Future Benefits - Inactive Members	4,937,476	5,023,584	98.29%	4,937,476
Total Present Value of Future Benefits	7,508,788	7,560,191	99.32%	7,508,788
Actuarial Accrued Liability	6,488,945	6,498,345	99.86%	6,488,945
Unfunded Actuarial Accrued Liability	1,678,420	1,687,820	N/A	1,678,420

	Development of City/State Contribution			
Normal Cost (Beginning of the Year)	153,828	159,014	96.74%	153,828
Amortization of UAAL	192,448	193,596	N/A	192,448
Expected Administrative Expenses	24,032	24,032	N/A	24,032
Interest	14,349	14,595	N/A	14,349
Expected Member Contributions	(21,421)	(21,421)	N/A	(21,421)
Expected City and State Contribution	363,236	369,816		363,236

Actuarial Assumptions

It is necessary to make reasonable assumptions about future events in order to accurately measure the current actuarial liabilities of the pension plan and to determine the most appropriate annual funding into the pension fund. The use of reasonable assumptions also promotes contribution stability (contributions that remain generally level as a percentage of pay) and benefit security for members.

No one has a crystal ball. But honest best estimates of the future must be made to calculate honest best estimates of the actuarial liabilities and to increase the likelihood of contribution requirements remaining stable. These actuarial assumptions affect the *measurement* of the Plan's liabilities and the current and projected City contributions.

In a report dated March 28, 2012, the retained actuary submitted an actuarial experience study which reviewed historical economic experience over the past 21 years and historical turnover experience over the past 13 years. The following recommendations for assumption changes were made in the study and adopted by the Board:

- The long-term expected rate of return (LTeROR) was lowered from 8.00% to 7.75%.
- The assumed employment termination rates were doubled for all ages.

Actuarial Assumptions – Investment Return Assumption

The Board adopted a 7.75% long-term expected rate of return (LTeROR) assumption for the October 1, 2012 and future actuarial valuations, down from the 8.0% assumption in the October 1, 2011 and earlier actuarial valuations. We commend the Board for taking this action, but further reductions are probably warranted. Also, as an additional step, the Board should be able to produce a reasoned process for how it arrived at its selection of 7.75% as a long-term expected rate of return.

The new accounting standards (GASB Statements No. 67 and 68) require note disclosures that highlight the methodology and reasonableness of the investment return assumption. In addition, Actuarial Standard of Practice (ASOP) No. 27 "*Selection of Economic Assumptions for Measuring Pension Obligations*" provides the actuary guidance for how to select and recommend a LTeROR and provides guidance to the actuary for assessing the reasonableness of a particular LTeROR selected by another party such as the Board or City. ASOP No. 27 was recently revised in September 2013 and now requires the use of a best estimate investment return assumption.

Recommendations to the Board concerning the return assumption associated with the current investment policy should come from the investment consultant with input from the retained actuary. The degree of expected risk (i.e., volatility) in the investment policy should determine the degree of expected reward and, therefore, guide the selection of the LTeROR in that manner.

As of October 1, 2012, the Plan held approximately 58% of its assets in equities (stocks), including both domestic and international. According to the Plan's investment policy statement, the plan's target asset allocation is 60% equities (45% domestic equity, 15% international equity) and 40% fixed income.

Over the past few years, we have been involved in deliberative and analytical processes for many pension funds in Florida and nationally, utilizing *forecasts* from numerous investment consultants and investment economists. The current levels of mid-term and long-term *expected* price inflation and the current levels of mid-term *expected* real rates of return for various asset classes typically found in pension funds from these

major national investment consultants and economists lead us to believe that many pension boards should be lowering their actuarial assumption as to *future* investment returns.

GRS maintains a library of the capital market assumptions of the following 8 independent investment consultants, as shown below in alphabetic order:

1. BNY Mellon
2. Hewitt Ennis Knupp
3. J. P. Morgan
4. Mercer
5. NEPC
6. Pension Consulting Alliance
7. R.V. Kuhns & Associates
8. Towers Watson

These are national firms that serve as investment consultants to many large public sector pension funds. Each firm provides GRS with the expected returns, standard deviations and correlation coefficients for their own list of asset classes. We have not received the 2014 capital market assumptions from these firms yet, so we have employed their 2013 published assumptions. The change from year to year tends to be gradual.

We have mapped the Pension Board's asset allocation as described above to these firms' asset classes and determined the expected net returns (arithmetic and geometric) that each firm would produce. **Please note that these firms are not listed below in the same alphabetic order as the list identifying them above, as we are not permitted to disclose the firms' identities in these rankings.**

Investment Consultant	Investment Consultant Expected Nominal Return	Investment Consultant Inflation Assumption	Expected Real Return (2)-(3)	Actuary Inflation Assumption	Expected Nominal Return (4)+(5)	Investment Expenses	Recognized Value for Active Management	Expected Nominal Return Net of Expenses (6)-(7)+(8)	Standard Deviation of Expected Return (1-Year)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	6.23%	3.00%	3.23%	3.00%	6.23%	0.85%	0.50%	5.88%	11.50%
2	6.24%	3.00%	3.24%	3.00%	6.24%	0.85%	0.50%	5.89%	11.50%
3	6.34%	2.50%	3.84%	3.00%	6.84%	0.85%	0.50%	6.49%	11.70%
4	6.39%	2.50%	3.89%	3.00%	6.89%	0.85%	0.50%	6.54%	12.30%
5	6.98%	2.51%	4.47%	3.00%	7.47%	0.85%	0.50%	7.12%	11.60%
6	6.88%	2.40%	4.48%	3.00%	7.48%	0.85%	0.50%	7.13%	10.30%
7	6.80%	2.30%	4.50%	3.00%	7.50%	0.85%	0.50%	7.15%	13.40%
8	7.39%	2.50%	4.89%	3.00%	7.89%	0.85%	0.50%	7.54%	12.80%
Average	6.65%	2.59%	4.07%	3.00%	7.07%	0.85%	0.50%	6.72%	11.89%

The investment consultants' embedded price inflation assumptions vary from 2.3% to 3.0%. For the purpose of this study, we adjusted each firm's price inflation assumption to be a single uniform rate, 3.0%, as indicated in column (5), to be consistent with the actuary's inflation assumption.

Note that in column (6), the average gross expected nominal return is 7.07%. Column (7) reflects the offsetting of 0.85% investment-related expenses that needs to come out of the gross returns, and then column (8) adds back in 0.50% of these fees to approximate the impact of active investment management, as it is generally anticipated that active investment management will return some value by enhancing the average

investment returns. The firms' expected nominal returns net of expenses are shown in column (9). Net of expenses, the average expected nominal return is 6.72%.

The final adjustment necessary is to obtain the 50th percentile of the net expected nominal returns, utilizing the 8 firms' capital market assumptions and accepted mathematical finance methods.

Investment Consultant	Distribution of 20-Year Average Geometric Net Nominal Return			Probability of exceeding 7.75%*	Probability of exceeding 7.00%	Probability of exceeding 6.75%	Probability of exceeding 6.50%
	25th	50th	75th	(5)	(5)	(5)	(5)
(1)	(2)	(3)	(4)	(5)	(5)	(5)	(5)
1	3.54%	5.24%	6.97%	16.5%	24.7%	27.8%	31.2%
2	3.56%	5.26%	6.98%	16.6%	24.8%	28.0%	31.3%
3	4.11%	5.84%	7.59%	23.2%	32.7%	36.2%	39.9%
4	4.01%	5.82%	7.67%	24.1%	33.3%	36.7%	40.2%
5	4.76%	6.48%	8.23%	31.1%	42.0%	45.8%	49.7%
6	5.10%	6.63%	8.18%	31.3%	43.6%	47.9%	52.2%
7	4.32%	6.30%	8.31%	31.3%	40.7%	43.9%	47.3%
8	4.86%	6.76%	8.69%	36.5%	46.7%	50.2%	53.7%
Average	4.28%	6.04%	7.83%	26.3%	36.0%	39.6%	43.2%

**Plan's current return assumption net of expenses.*

The horizon for these firms' forecasts varies from 5 to 20 years. It is entirely appropriate to use a mid-term horizon for setting the actuarial assumption because that is where we live and where we are evaluated by the public and history. We cannot be assuming that 7.75% is appropriate for the long term, while always declaring that the short-term and mid-term may be lower but that we will get bailed out by much higher returns in the long term. The actuarial investment return assumptions should be set by boards based on input from the forecasts of investment consulting firms, even those that may be mid-term forecasts.

Notice that the average 50th percentile of the 8 firms' forecasts is 6.04% net of fees using the Pension Board's current target asset allocation from the investment policy statement. This is lower than the average expected nominal return of 6.72% due to the effect of compounding (or geometric) returns after reflecting volatility. The average expected return may be 6.72% in any one single year, but chances are you won't see three consecutive years of exactly 6.72% annual returns. For example, let's say the actual returns on the market value of assets over a three-year period are 19.0% in the first year, 10.36% in the second year, and then -9.2% in the third year. The arithmetic average (mean) of those three years' returns would be equal to $6.72\% = (19.0 + 10.36 - 9.2) / 3$. However, the compound (geometric) average of those same three years' returns would be $(1.19 \times 1.1036 \times 0.908)^{1/3} = 6.04\%$.

In conclusion, it seems that it would be more consistent with the consensus of 8 major investment consultants to use a long term expected investment return assumption that is closer to 6.5% net of investment fees for the Firefighters' actuarial valuations under the *current* asset allocation policy. That is a large decrease in the rate from the current level of 7.75%, and an even larger decrease from the previous 8.0% assumption. Whether the rate is lowered this much for the valuation or not, we believe it should be lowered this much for purposes of the plan redesign study.

Actuarial Assumptions – Salary Increase Assumption

In their experience study report dated March 28, 2012, the retained actuary recommended no changes in the current salary increase assumption of 6.5%. This recommendation was based on actual salary increase experience observed over the 21-year period ending September 30, 2011. Historically across the country, wages tend to increase at a faster rate when the economy is doing well versus when the economy is not doing as well. Consider the period 10/1/1994 to 9/30/2000 (a period of strong economic growth) as an example. The average compound rate of return on the market value of assets in the firefighters' pension trust during this period was over 12.0% and average salary increases for firefighters were 7.8%. During the period 10/1/2008 to 9/30/2012 (following the economic downturn), however, the average compound return on the market value of assets was 6.5% and the average salary increase was 2.75% per year.

Over the long run, we believe there is a relationship between investment performance and wage increases. Current capital market forecasts by investment consultants are now predicting lower future investment returns than they have predicted in the past. If this ends up being true, we believe future salary increases will also be lower than they have been in the past. Therefore, if the investment return assumption is lowered to be consistent with current capital market forecasts, we believe it would also make sense to lower the salary increase assumption by a similar amount. For instance, if the investment return assumption was lowered from 7.75% to 6.50% for purposes of this study, then the salary increase assumption could also be lowered from 6.5% to 5.25%.

Actuarial Assumptions – Employment Termination Rates

In their experience study report dated March 28, 2012, the retained actuary recommended (and the Pension Board adopted) assumed termination rates which are double the rates that were previously used. This recommendation was based on observed experience over the 13-year period ending September 30, 2011.

After reviewing the reported turnover experience, the first thing that stands out is the fact that the bulk of the higher-than-expected turnover experience involved members with less than two years of service (19 out of the 29 observed terminations over the 13-year period). It is possible that much of the turnover experience for members with less than two years of service was incurred by volunteer firefighters, whose hours, wages and benefits are much lower than those for full-time firefighters. If the turnover experience was focused only on members with more two or more years of service or only on full-time firefighters, the results would look different. Even if the higher turnover experience observed during the first two years of service includes full-time firefighters, assumed employment termination rates for members with less than two years of service have very little effect on the cost and liabilities of the pension plan, and we do not believe it is appropriate to let this experience impact the assumed termination rates for members with more than two years of service, where assumed termination rates have a more significant impact on the cost and liabilities of the pension plan.

Also, we question the data shown in some places on the chart on page 10 of the experience study report. For instance, there were 36 members reported between the ages of 20 and 30 with 16 to 19 Years of Credited Service (in the column labeled "16 - 19"). For this to be a possibility, these members would have had to be hired between the ages of 5 and 14, which is highly unlikely. The column just to the right of this column is also labeled "16 - 19", which was presumably a typo. If this column was supposed to be labeled "20 or more", then we also question the 14 members reported in this column between the ages of 26 and 35.

If the questionable data and the turnover experience for members with less than two years of service are excluded from the analysis, the turnover experience looks like this:

Age	Years of Credited Service					Grand Total	Prior Assumption
	2 - 5	6 - 10	11 - 15	16 - 19	20+ (assumed)		
20 - 30							
Number of Members						0	
Number of Terminations						0	
Turnover Percentage						N/A	5.4% - 6.0%
31 - 35							
Number of Members	11	1				12	
Number of Terminations	0	0				0	
Turnover Percentage	0.0%	0.0%				0.0%	4.3%
36 - 40							
Number of Members	6	15		11	5	37	
Number of Terminations	0	0		1	0	1	
Turnover Percentage	0.0%	0.0%		9.1%	0.0%	2.7%	3.0%
41 - 45							
Number of Members	3	1	2	9	6	21	
Number of Terminations	0	1	0	0	0	1	
Turnover Percentage	0.0%	100.0%	0.0%	0.0%	0.0%	4.8%	2.0%
46 - 52							
Number of Members	3	4		7	7	21	
Number of Terminations	0	0		0	0	0	
Turnover Percentage	0.0%	0.0%		0.0%	0.0%	0.0%	0.9%
Totals							
Number of Members	23	21	2	27	18	91	
Number of Terminations	0	1	0	1	0	2	
Turnover Percentage	0.0%	4.8%	0.0%	3.7%	0.0%	2.2%	2.5%

Based on this experience, there is not enough evidence to suggest that doubling the expected termination rates for all ages and all years of service was the right assumption change to make. Our recommendation would be to go back to using the termination rates which were previously in place (in the "Prior Assumption" column above) and add a "select" termination rate assumption of 20% per year during the first two years of service (based on the observation that 19 out of 86 members terminated during the first two years of service).

Actuarial Assumptions – Rates of Retirement and Disability

Rates of retirement and disability were not addressed in the retained actuary's experience study report dated March 28, 2012. The current retirement assumption includes a 100% probability of retirement upon attainment of eligibility for Normal Retirement (with a one-year delay for members who have already reached Normal Retirement eligibility), and a 5% per year probability of early retirement after becoming eligible for Early Retirement. We note there are currently no active (non-DROP) members who are eligible for Normal Retirement as of October 1, 2012. Based on this fact and insufficient historical experience, we see no reason to revise the current assumed retirement rates. Also, based on insufficient historical experience, we see no reason to revise the current assumed disability rates.

Actuarial Assumptions – Rates of Mortality

The current mortality rates assumed for the pension plan are from the RP2000 Combined Healthy (sex distinct) mortality table. This is a standard industry table commonly used throughout the state of Florida. Based on the limited experience of this plan, it would not be possible to develop mortality rates that are specific to Brooksville firefighters, so the use of a standard industry table is warranted.

The assumption currently in place does not include an explicit provision to project future improvements in mortality. The Society of Actuaries has accumulated a tremendous amount data over the past several decades (mainly from the Social Security Administration and large federal government retirement systems) which shows that mortality rates have improved significantly over the past few decades, and they have used that data to calculate the average rate of mortality improvement from one year to the next. Based on the ongoing trend over many years of improving mortality rates, annual mortality improvements can be reasonably expected to continue in the future. The average observed rates of annual mortality improvement have been converted into a table of mortality improvement factors which can be applied to the current mortality rates to project what mortality rates will be in the future. Mortality tables that incorporate mortality improvement factors are referred to as “fully generational” mortality tables.

For purposes of this study, our recommendation is to continue using the current mortality rates assumption – RP2000 Combined Healthy (sex distinct). However, since we will be performing 30-year projections into the future, we recommend incorporating a table of mortality improvement factors, making the assumed mortality table a fully generational mortality table.

Actuarial and Amortization Methods

Actuarial cost methods are used to convert various raw present values and actuarial values of assets into city contributions, unfunded actuarial accrued liabilities, funded ratios and other such actuarial statistics. There are a few reasonable actuarial cost methods commonly used, including the entry age normal cost method used by the Firefighters Pension Board and its actuary. We recommend retaining this method for the future.

Amortization Periods and Methods

There are a few *amortization methods* that may be adopted by a pension board and used by the retained actuary for determining the City’s contribution requirement. The City’s annual contribution is composed of (a) a normal cost, i.e., the portion of the total present value that is allocated to the current year and (b) an amortization payment(s) designed to pay off the current unfunded actuarial accrued liability (UAAL) over time. Currently, the normal cost covering firefighters’ benefits and expenses is \$177,860 as of October 1, 2012 and the total amortization payment is \$192,448.

The UAAL may be amortized over a period up to 30 years and may be calculated as a level dollar amount (like most mortgages) or as a level percent of pay, whereby annual amortization payments start out lower than with the level dollar method, but are scheduled to increase in dollar amount each year in accordance with a payroll growth rate and end up as higher dollar amounts later. The selection of the method and length of time over which to amortize the cost of benefit improvements are important decisions for the Board.

As reported in the last actuarial valuation report as of October 1, 2012, the total unfunded actuarial accrued liability (UAAL) of the City of Brooksville Firefighters’ Retirement Trust Fund is \$1.68 million. The various components of this UAAL are being amortized over periods ranging from 6 years remaining to 27 years remaining. The total payment required on these amortization bases is \$192,448 as of October 1, 2012 for the current year. Because the amortization method is a level percent of pay method, the annual amount

for each such base is currently scheduled to increase by 2.87% every year until each one is fully amortized, reaching a zero balance at the end of each respective amortization period.

We are pleased to see that the funding policy requires each new component of unfunded actuarial accrued liability attributable to actuarial gains or losses and assumption changes to be amortized over 10 years and 20 years, respectively. However, it appears that the policy is to amortize new components of the unfunded actuarial accrued liability attributable to benefit changes over a 30 year period. Coupled with the level percent-of-pay method, there will be what is known as “negative amortization” in the early years of the amortization schedule with this length of an amortization period. The amortization payments for benefit improvements will initially not even cover the annual interest on the new amortization base.

We recommend the period of amortization for benefit changes be lowered from 30 years to 20 years, in line with the amortization period for assumption changes. This period is also in line with the average expected duration of active membership for firefighters who retire under the “20 and out” retirement eligibility provision. This is usually a decision made by the Pension Board, unless it is worked out between the City and the Pension Board in a written funding policy statement. It is highly recommended that a written funding policy statement be developed with input from both the City and the Pension Board.

DROP Interest Crediting Rate

Currently under the Deferred Retirement Option Plan (DROP) provisions, interest is credited to DROP account under one of two methods, as elected by the plan members: (a) interest equal to the net annual rate of investment earnings on the market value of pension plan assets, or (b) a fixed interest rate equal to 6.5%.

There is a potential cost in any DROP arrangement similar to the Firefighters’ Retirement Trust Fund. Since this plan offers a guaranteed fixed crediting rate option of 6.5%, in years when the Fund earns less than the guaranteed fixed rate (6.5%) the plan would experience a loss in relation to those electing the fixed rate. If the fixed crediting option were eliminated, the Plan could avoid potential losses from this source. On the other hand, there will be years when the fund earns more than 6.5% but only credits 6.5% in interest, thereby experiencing a gain in relation to those electing the fixed rate.

When viewed as an investment instrument, however, a 6.5% guaranteed fixed rate is a subsidized rate and is overly generous given current market conditions. No one can go into the marketplace in the current environment and obtain a 6.5% guaranteed interest rate. If the pension plan were to invest solely in fixed income investments, the expected rate of return on those investments would be significantly less than 6.5%. By providing a fixed interest rate of 6.5%, the pension plan is providing a guaranteed return approximately equal to the current expected return on a fully diversified portfolio of investments without asking DROP members to share in the associated risks of such an investment portfolio. We believe the fixed interest rate option in a DROP plan should reflect the current market conditions for similar financial instruments that provide guaranteed rates of return.

Municipal Policy Matters

A government’s contributions that are required to systematically support a pension promise made to its public servants need to be *affordable* in the short term and *sustainable* in the longer term. The affordability and sustainability of pension plan costs are most effectively addressed in the level of benefits promised (with deliberate plan designs) and through the pension fund’s investment policy for the underlying asset pool supporting these benefits (with deliberate asset allocations to volatile and not-so-volatile asset classes).

On the other hand, retirement benefits provided to public servants need to be *adequate* and *competitive*. Retirement benefits need to be adequate, in terms of adequate compensation for service rendered and in terms of adequate income during retirement years for a career of service to the City's residents and businesses. Retirement benefits also need to be sufficiently competitive to attract and retain a high quality and loyal staff.

The most affordable and sustainable employer contributions may not provide adequate and competitive retirement benefits. And the most adequate and competitive benefits may not be affordable and sustainable. These are the competing objectives that the City must balance. This expression of competing objectives may serve as a useful framework as the City embarks on this Pension Reform project.

Recommended Process for Pension Reform

After verifying the retained actuary's calculations and reviewing the actuarial assumptions and methods, the next step is to examine the projected costs of the *current plan benefit provisions* and potentially use revised assumptions as recommended on the preceding pages of this letter report.

Our recommended revised assumptions and methods are as follows:

- The long-term investment return assumption should be set in a way that reflects a more consensus-driven expectation of future returns, based on the current forward-looking expected returns of several different professional forecasters. While we recommend the City seek advice from investment consultants and actuaries to assess its risk tolerance and how to establish an investment policy and long-term investment return assumption consistent with that level of risk tolerance, at this point in the City's pension reform process, we are recommending that we move to a lower investment return assumption as we prepare to provide long-term projections of future costs and liabilities under the current plan and various alternative benefit design proposals. Our recommendation is to lower this assumption from 7.75% to 6.50% net of investment expenses.
- The salary increase assumption should be lowered in line with the reduction in the investment return assumption. Our recommendation is to lower this assumption from 6.50% to 5.25%.
- The employment termination rates should be adjusted back to the rates that were used prior to the experience study, and select termination rates of 20% per year during the first two years of membership should be added to the assumption.
- The mortality table assumption should be revised to a fully generational mortality assumption to project future improvements in mortality rates.
- The amortization period for amortizing the impact of changes in benefits should be reduced from 30 years to 20 years.

Alternative benefit design proposals will be intended to reduce the City's current and long-term costs, but if we do not begin with a solid realistic baseline of actuarial assumptions, then the City could enact a revised set of benefits that it expects will be sustainable, only to find itself in a predicament down the road, with costs that have become unsustainable due to the accumulation of actuarial experience losses.

After assumptions have been selected by the City for use in this study, a re-valuation of the current and future costs of the current plan provisions will provide a good baseline for later comparing the effect of alternative proposals.

Summary

Our replication results were sufficiently close to the retained actuary's results; so there are no concerns about the mathematical accuracy of the calculations and no concerns about having omitted consideration of relevant plan provisions. We refer to these results as Baseline 0.

After the City reviews this letter and approves the actuarial assumptions and methods for use in the projections of the Baseline 0 and subsequent alternative proposals, we will submit Letter Report #2 to the City. This letter report present the projected future costs and liabilities over the next 30 years under the current plan provisions and will include a few different scenarios of future investment returns to demonstrate the volatility and risk of the Plan.

Finally, after the City reviews this Letter Report #1 and the follow-on Letter Report #2, we will prepare a Letter Report #3 showing cost projections under the various alternative plan benefit designs the City might request.

Caveats and Qualifications

The calculations and other information provided in this letter report are based on the actuarial assumptions disclosed in the October 1, 2012 actuarial valuation report prepared by Foster & Foster, and on the summary of plan provisions as disclosed in the same October 1, 2012 actuarial valuation report, supplemented by the definitions and descriptions for the City of Brooksville Firefighters' Retirement Trust Fund in the City's Code of Ordinances. Census data was provided by the retained actuary, and we reviewed this data for reasonableness but did not audit it.

If you have reason to believe that the information provided in this report is inaccurate, or is in any way incomplete, or if you need further information in order to make an informed decision on the subject matter of this report, please contact the author of the report prior to making such decision.

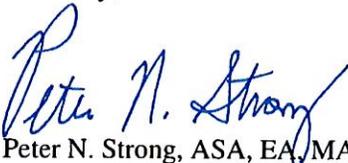
The undersigned are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

We welcome your questions and comments.

Circular 230 Notice: Pursuant to regulations issued by the IRS, to the extent this communication (or any attachment) concerns tax matters, it is not intended or written to be used, and cannot be used, for the purpose of (i) avoiding tax-related penalties under the Internal Revenue Code or (ii) marketing or recommending to another party any tax-related matter addressed within. Each taxpayer should seek advice based on the individual's circumstances from an independent tax advisor.

This communication shall not be construed to provide tax advice, legal advice or investment advice.

Sincerely,



Peter N. Strong, ASA, EA, MAAA, FCA
Consultant & Actuary



Theora P. Braccialarghe, FSA, EA, MAAA, FCA
Senior Consultant and Actuary

ACTUARIAL REPORT BY FOSTER & FOSTER

Provided to Council at the Pension Workshop of 4/29/14.

**CITY OF BROOKSVILLE
FIREFIGHTERS' RETIREMENT TRUST FUND**

**ACTUARIAL VALUATION REPORT
AS OF OCTOBER 1, 2013**

**CONTRIBUTIONS APPLICABLE TO THE PLAN/
FISCAL YEAR ENDED SEPTEMBER 30, 2015**



March 27, 2014

Susan Mae McCrary
Administrative Assistant II
Firefighters' Pension Board
85 Veterans Drive
Brooksville, FL 34601

Re: City of Brooksville
Firefighters' Retirement Trust Fund

Dear Susan:

We are pleased to present to the Board this report of the annual actuarial valuation of the City of Brooksville Firefighters' Retirement Trust Fund. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits and to develop the appropriate funding requirements for the applicable plan year(s).

The valuation has been conducted in accordance with generally accepted actuarial principles and practices, including the applicable Actuarial Standards of Practice as issued by the Actuarial Standards Board, and reflects laws and regulations issued to date pursuant to the provisions of Chapters 112 and 175, Florida Statutes, as well as applicable federal laws and regulations. In our opinion, the assumptions used in this valuation, as adopted by the Board of Trustees, represent reasonable expectations of anticipated plan experience.

In conducting the valuation, we have relied on personnel, plan design, and asset information supplied by the City of Brooksville, financial reports prepared by the custodian bank, and the actuarial assumptions and methods described in the Actuarial Assumptions section of this report. While we cannot verify the accuracy of all this information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy of the information and believe that it has produced appropriate results. This information, along with any adjustments or modifications, is summarized in various sections of this report.

The undersigned is familiar with the immediate and long-term aspects of pension valuations, and meets the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. All of the sections of this report are considered an integral part of the actuarial opinions.

To our knowledge, no associate of Foster & Foster, Inc. working on valuations of the program has any direct financial interest or indirect material interest in the City of Brooksville, nor does anyone at Foster & Foster, Inc. act as a member of the Board of Trustees of the City of Brooksville Firefighters' Retirement Trust Fund. Thus, there is no relationship existing that might affect our capacity to prepare and certify this actuarial report.

If there are any questions, concerns, or comments about any of the items contained in this report, please contact me at 239-433-5500.

Respectfully submitted,

Foster & Foster, Inc.

By



Patrick T. Donlan, ASA, MAAA
Enrolled Actuary #11-6595

PTD/lke

Enclosures

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SUMMARY OF REPORT

The annual actuarial valuation of the City of Brooksville Firefighters' Retirement Trust Fund, performed as of October 1, 2013, has been completed, and the results are presented in this Report. The contributions developed in this valuation apply to the plan/fiscal year ending September 30, 2015.

The contribution requirements, when compared with the March 26, 2013 Actuarial Impact Statement, determined as of October 1, 2012, are as follows:

Valuation Date	10/1/2012	10/1/2013
Applicable Plan Year End	<u>9/30/2014</u>	<u>9/30/2015</u>
Total Required Contribution % of Total Annual Payroll	58.05%	57.82%
Less Member Cont's (Est.) % of Total Annual Payroll	3.29%	3.29%
Equals Required City & State % of Total Annual Payroll	54.76%	54.53%
State Contribution % of Total Annual Payroll	85,840 13.18%	85,840 13.18%
Balance from City* % of Total Annual Payroll	41.58%	41.35%

* As requested by the Division of Retirement, the required contribution from the City and State for the year ending September 30, 2015, is 54.53% of the actual non-DROP payroll realized in that year. As a budgeting tool, the City may contribute ~~41.35%~~ of each non-DROP Member's Salary and then make a one-time adjustment to account for the actual State Monies received, up to \$103,671. Please also note that the City has a prepaid contribution of \$21,578.99 that may be used to help offset the above stated requirements for fiscal 2014. This is the result of excess contributions made in fiscal 2013 (see Page 26).

As can be seen, the Total Required Contribution has decreased when expressed as a percentage of Total Annual Payroll. This reduction was attributable to net favorable actuarial experience over the past year. The primary components of favorable experience included average increases in Pensionable Earnings that were below the assumed rate and a 9.0% investment return (Actuarial Asset Basis) that exceeded the 7.75% assumption. Please see Page 14 for a more detailed analysis of the gain.

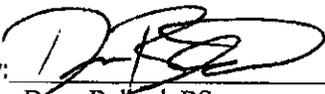
For informational purposes, the City's funding requirement, when expressed as a percentage of payroll, including an estimate of the annual pay for DROP participants, is approximately 32% for the Fiscal Year ending September 30, 2015. It is important to note that this funding rate is for illustration purposes only. The City should budget based on the percentages shown on page 5.

The balance of this Report presents additional details of the actuarial valuation and the general operation of the Fund. The undersigned would be pleased to meet with the Board of Trustees in order to discuss the Report and any pending questions concerning its contents.

Respectfully submitted,

FOSTER & FOSTER, INC.

By: 
Patrick T. Donlan, EA, ASA, MAAA

By: 
Drew Ballard, BS

Plan Changes Since Prior Valuation

Ordinance No 754-E was adopted on September 16, 2013. These changes had no impact on the current funding requirements to the Plan.

Additionally, this valuation report reflects the proposed ordinance to adopt the provisions of Senate Bill 1128 (overtime is limited to 300 hours per year and pensionable lump sum sick and vacation payouts are limited to the amount accrued as of July 1, 2013). The impact of these changes on the funding requirements are outlined in our March 26, 2014 Actuarial Impact Statement.

Actuarial Assumption/Method Changes Since Prior Valuation

The payroll growth assumption used in amortizing the Unfunded Actuarial Accrued Liabilities is limited to the lesser of the actual historical 10-year average payroll growth, or 3.0%. Last year, this amount was 2.87% per year and this year it is 2.28%.

Additionally, in conjunction with this valuation, we implemented use of different actuarial valuation software for purposes of valuing the liabilities associated with the Plan. The new valuation software is ProVal, developed by WinTech in Greenwich, Ct. While the funding requirements produced by ProVal and the prior system resulted in relatively small differences, the attribution methods used under each system when calculating Normal Cost and Accrued Liability for active Members are slightly different. Therefore, the Accrued Liability (and the Unfunded Actuarial Accrued Liability) shows a lower reduction than would have been expected and the Normal Cost is lower than would have been expected.

Comparative Summary of Principal Valuation Results

	<u>10/1/2013</u>	<u>10/1/2012</u>
A. Participant Data		
Number Included		
Actives	17	19
Service Retirees	15	13
DROP Retirees	3	3
Beneficiaries	0	0
Terminated Vested	9	9
Disability Retirees	0	0
Total	<u>44</u>	<u>44</u>
Total Annual Payroll	\$651,472	\$651,086
Payroll Under Assumed Ret. Age	651,472	651,086
Annual Rate of Payments to:		
Service Retirees	295,732	285,309
DROP Retirees	114,100	114,100
Beneficiaries	0	0
Terminated Vested	12,492	19,710
Disability Retirees	0	0
B. Assets		
Actuarial Value ¹	5,249,323	4,810,525
Market Value ¹	5,456,907	4,937,188
C. Liabilities		
Present Value of Benefits		
Active Members		
Retirement Benefits	2,248,802	2,120,960
Disability Benefits	15,562	18,496
Death Benefits	6,819	9,446
Vested Benefits	183,976	327,710
Refund of Contributions	18,538	25,579
Service Retirees	3,352,108	3,203,077
DROP Retirees ¹	1,789,219	1,588,238
Beneficiaries	0	0
Terminated Vested	65,131	146,161
Disability Retirees	0	0
Excess State Monies Reserve	110	0
Total	<u>7,680,265</u>	<u>7,439,667</u>

C. Liabilities - (Continued)	<u>10/1/2013</u>	<u>10/1/2012</u>
Present Value of Future Salaries	4,191,171	4,600,708
Present Value of Future Member Contributions	137,890	151,363
EAN Normal Cost (Retirement)	121,822	126,554
EAN Normal Cost (Disability)	2,167	1,372
EAN Normal Cost (Death)	498	676
EAN Normal Cost (Vesting)	9,629	19,089
EAN Normal Cost (Refunds)	4,064	1,928
Total Normal Cost (Entry Age Method)	<u>138,180</u>	<u>149,619</u>
Present Value of Future Normal Costs (Entry Age)	835,972	987,764
Accrued Liability (Retirement)	1,515,764	1,319,925
Accrued Liability (Disability)	3,677	7,422
Accrued Liability (Death)	3,651	4,010
Accrued Liability (Vesting)	109,376	174,046
Accrued Liability (Refunds)	5,258	9,023
Accrued Liability (Inactives) ¹	5,206,458	4,937,476
Excess State Monies Reserve	110	0
Total Actuarial Accrued Liability	<u>6,844,294</u>	<u>6,451,903</u>
Unfunded Actuarial Accrued Liability (UAAL)	1,594,970	1,641,378
 D. Actuarial Present Value of Accrued Benefits		
Vested Accrued Benefits		
Inactives ¹	5,206,458	4,937,476
Actives	736,156	579,450
Member Contributions	<u>133,297</u>	<u>122,573</u>
Total	6,075,911	5,639,499
Non-vested Accrued Benefits	<u>302,594</u>	<u>460,691</u>
Total Present Value Accrued Benefits	6,378,505	6,100,190
Increase (Decrease) in Present Value of Accrued Benefits Attributable to:		
Plan Amendments	0	
Assumption Changes	0	
New Accrued Benefits	121,985	
Benefits Paid	(304,630)	
Interest	460,960	
Other	0	
Total:	<u>278,315</u>	

Valuation Date	10/1/2013	10/1/2012
Applicable to Fiscal Year Ending	<u>9/30/2015</u>	<u>9/30/2014</u>

E. Pension Cost

Normal Cost (with interest) % of Total Annual Payroll ²	22.03	23.87
Administrative Expense (with int.) % of Total Annual Payroll ²	4.02	3.83
Payment Required to Amortize Unfunded Actuarial Accrued Liability over 29 years (as of 10/1/13) % of Total Annual Payroll ²	31.77	30.35
Total Required Contribution % of Total Annual Payroll ²	57.82	58.05
Expected Member Contributions % of Total Annual Payroll ²	3.29	3.29
Expected City & State Contrib. % of Total Annual Payroll ²	54.53	54.76

F. Past Contributions

Plan Years Ending:	<u>9/30/2013</u>
Total Required Contribution City and State Requirement	\$ 337,131 316,975

Actual Contributions Made:

Members	20,156
City	213,304
State	103,671 ³
Total	<u>337,131</u>

G. Net Actuarial Gain (Loss)	119,961
------------------------------	---------

¹ The asset values and liabilities for DROP Members include accumulated DROP Balances as of 10/1/2012 and 10/1/2013.

² Contributions developed as of 10/1/13 are expressed as a percentage of total annual payroll at 10/1/13 of \$651,472.

³ Reflects "traditional" interpretation of Chapter 99-1, Florida Statutes.

H. Schedule Illustrating the Amortization of the Total Unfunded Actuarial Accrued Liability as of:

<u>Year</u>	<u>Projected Unfunded Accrued Liability</u>
2013	\$1,594,970
2014	1,503,900
2015	1,400,875
2020	801,219
2025	434,191
2035	(51,982)
2042	0

I. (i) 3 Year Comparison of Actual and Assumed Salary Increases

		<u>Actual</u>	<u>Assumed</u>
Year Ended	9/30/2013	1.3%	6.5%
Year Ended	9/30/2012	0.4%	6.5%
Year Ended	9/30/2011	3.0%	6.5%

(ii) 3 Year Comparison of Investment Return on Actuarial Value

		<u>Actual</u>	<u>Assumed</u>
Year Ended	9/30/2013	9.0%	7.75%
Year Ended	9/30/2012	6.5%	7.75%
Year Ended	9/30/2011	-0.9%	8.0%

(iii) Average Annual Payroll Growth

(a) Payroll as of:	10/1/2013	\$651,472
	10/1/2003	520,010
(b) Total Increase		25.3%
(c) Number of Years		10.00
(d) Average Annual Rate		2.28%

STATEMENT BY ENROLLED ACTUARY

This actuarial valuation was prepared and completed by me or under my direct supervision, and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate, and in my opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of Part VII, Chapter 112, Florida Statutes. There is no benefit or expense to be provided by the plan and/or paid from the plan's assets for which liabilities or current costs have not been established or otherwise taken into account in the valuation. All known events or trends which may require a material increase in plan costs or required contribution rates have been taken into account in the valuation.


Patrick T. Donlan, EA, ASA, MAAA
Enrolled Actuary #11-6595

Please let us know when the report is approved by the Board and unless otherwise directed we will provide copies of the report to the following offices to comply with Chapter 112 Florida Statutes:

Mr. Keith Brinkman
Bureau of Local
Retirement Systems
Post Office Box 9000
Tallahassee, FL 32315-9000

Ms. Sarah Carr
Municipal Police and Fire
Pension Trust Funds
Division of Retirement
Post Office Box 3010
Tallahassee, FL 32315-3010

Reconciliation of Unfunded Actuarial Accrued Liabilities

(1)	Unfunded Actuarial Accrued Liability as of October 1, 2012	\$1,641,378
(2)	Sponsor Normal Cost developed as of October 1, 2012	128,198
(3)	Expected Administrative expenses during the year ended September 30, 2013	24,032
(4)	Expected interest on (1), (2) and (3)	139,005
(5)	Sponsor contributions to the System during the year ended September 30, 2013	316,975
(6)	Expected interest on (5)	10,703
(7)	Expected Unfunded Actuarial Accrued Liability as of September 30, 2013 (1)+(2)+(3)+(4)-(5)-(6)	1,604,935
(8)	Unfunded Accrued Liability as of October 1, 2013	1,594,970
(9)	Change to UAAL due to Software Change	109,996
(10)	Change to UAAL due to Actuarial (Gain)/Loss	(119,961)

	Date Established	Years Remaining	10/1/2013 Amount	Amortization Amount
"A"	10/1/1992	9	\$167,868	\$22,767
"B"	10/1/1997	14	118,474	11,615
"C"	10/1/2002	19	234,653	18,957
Method*	10/1/2004	21	48,079	3,669
Loss	10/1/2004	15	44,879	4,201
Loss	10/1/2005	15	172,722	16,169
Gain	10/1/2006	15	(91,563)	(8,572)
Loss	10/1/2007	15	104,879	9,818
Benefit	10/1/2007	24	19,606	1,395
Loss	10/1/2008	5	170,612	37,767
Method	10/1/2008	15	176,618	16,534
Benefit	10/1/2008	25	(47,797)	(3,332)
Loss	10/1/2009	6	164,913	31,185
Benefit	10/1/2009	26	(38,387)	(2,627)
Loss	10/1/2010	7	11,791	1,959
Assump	10/1/2010	17	74,606	6,446
Loss	10/1/2011	8	261,777	38,989
Assump	10/1/2011	18	106,592	8,893
Gain	10/1/2012	9	(56,890)	(7,716)
Benefit	10/1/2012	29	(38,497)	(2,508)
Method	10/1/2013	20	109,996	8,627
Gain	10/1/2013	10	(119,961)	(14,997)
			<u>1,594,970</u>	<u>199,239</u>

* It is assumed that 50% of the cost method change base from 2004 was attributable to unfavorable actuarial experience prior to that date. This loss will be amortized over a 20 year period effective October 1, 2008 (compared to 26 years). Additionally, prior gain and loss bases are amortized over 20 years (compared to 30 years), and new gain and loss bases on and after October 1, 2008 will be amortized over 10 years.

DETAILED ACTUARIAL (GAIN)/LOSS ANALYSIS

(1)	Unfunded Actuarial Accrued Liability (UAAL) as of October 1, 2012	1,641,378
(2)	Expected UAAL as of October 1, 2013	1,604,935
(3)	Summary of Actuarial (Gain)/Loss, by component:	
	Investment Return (Actuarial Asset Basis)	(58,258)
	Administrative Expenses	1,176
	Active Decrements (excluding mortality)	5,148
	Mortality (active and inactive)	27,163
	Salary Increases	(56,483)
	Other	(38,707)
	Change in UAAL due to (Gain)/Loss	(119,961)
	Transition to ProVal Software	109,996
(4)	Actual UAAL as of October 1, 2013	1,594,970

ACTUARIAL ASSUMPTIONS AND METHODS

<u>Mortality Rate</u>	RP2000 Combined Healthy (sex distinct). Disableds set forward 5 years. Based on a study of over 650 public safety funds, this table reflects a 10% margin for future mortality improvements.
<u>Termination Rates</u>	See Tables below (1302).
<u>Disability Rates</u>	See Tables below (1201). It is assumed that 75% of disablements and active Member deaths are service related.
<u>Retirement Age</u>	Earlier of age 55 and the completion of 10 years of service, or the completion of 20 years of service regardless of age, or age 60, regardless of service. Also, any Member who has reached Normal Retirement is assumed to continue employment for one additional year.
<u>Early Retirement</u>	Commencing upon a Member's eligibility for Early Retirement (Age 50 with 10 years of Credited Service), Members are assumed to retire with an immediate subsidized benefit at the rate of 5% per year.
<u>Interest Rate</u>	7.75% per year, compounded annually, net of investment related expenses.
<u>Salary Increases</u>	6.5% per year until retirement age; see Table below. Final salary in year of retirement is increased individually to account for additional non-regular compensation.
<u>Payroll Increase</u>	Up to 3% per year (2.28% for 10/1/13 val).
<u>Cost of Living Adjustments</u>	3% per year, from age 55 to 65.
<u>Administrative Expenses</u>	\$25,208 annually.
<u>Funding Method</u>	Entry Age Normal Actuarial Cost Method.
<u>Actuarial Asset Method</u>	Each year, the prior Actuarial Value of Assets is brought forward utilizing the historical geometric four-year average Market Value return (net of fees). It is possible that over time this technique will produce an insignificant bias above or below Market Value of Assets.

<u>Age</u>	<u>% Terminating During the Year</u>	<u>% Becoming Disabled During the Year</u>	<u>Current Salary as % of Salary at age 50</u>
20	12.0%	0.03%	15.1%
30	10.0	0.04	28.4
40	5.2	0.07	53.3
50	1.6	0.18	100.0

VALUATION NOTES

Total Annual Payroll is the projected annual rate of pay for the fiscal year beginning on the valuation date of all covered Members.

Present Value of Benefits is the single sum value on the valuation date of all future benefits to be paid to current Members, Retirees, Beneficiaries, Disability Retirees and Vested Terminations.

Total Required Contribution is equal to the Normal Cost plus an amount sufficient to amortize the Unfunded Accrued Liability over no more than 30 years. The required amount is adjusted for interest according to the timing of contributions during the year.

Entry Age Normal Cost Method - Under this method, the normal cost is the sum of the individual normal costs for all active participants. For an active participant, the normal cost is the participant's normal cost accrual rate, multiplied by the participant's current compensation.

(a) The normal cost accrual rate equals

(i) the present value of future benefits for the participant, determined as of the participant's entry age, divided by

(ii) the present value of the compensation expected to be paid to the participant for each year of the participant's anticipated future service, determined as of the participant's entry age .

(b) In calculating the present value of future compensation, the salary scale is applied both retrospectively and prospectively to estimate compensation in years prior to and subsequent to the valuation year based on the compensation used for the valuation.

(c) The accrued liability is the sum of the individual accrued liabilities for all participants and beneficiaries. A participant's accrued liability equals the present value, at the participant's attained age, of future benefits less the present value at the participant's attained age of the individual normal costs payable in the future. A beneficiary's accrued liability equals the present value, at the beneficiary's attained age, of future benefits. The unfunded accrued liability equals the total accrued liability less the actuarial value of assets.

(d) Under this method, the entry age used for each active participant is the participant's age at the time he or she would have commenced participation if the plan had always been in existence under current terms, or the age as of which he or she first earns service credits for purposes of benefit accrual under the current terms of the plan.

HISTORY OF PREMIUM TAX REFUNDS

<u>Received During Fiscal Year</u>	<u>Amount</u>	<u>Increase from Previous Year</u>
1992	27,269.58	_____%
1993	30,008.84	10.0%
1994	41,651.35	38.8%
1995	30,642.06	-26.4%
1996	38,106.41	24.4%
1997	48,017.70	26.0%
1998	84,812.44	76.6%
1999	66,771.57	-21.3%
2000	81,354.16	21.8%
2001	80,419.06	-1.1%
2002	89,799.33	11.7%
2003	95,688.18	6.6%
2004	91,992.46	-3.9%
2005	93,472.70	1.6%
2006	98,795.12	5.7%
2007	107,921.42	9.2%
2008	138,717.80	28.5%
2009	136,311.29	-1.7%
2010	102,370.58	-24.9%
2011	92,150.49	-10.0%
2012	63,865.78	-30.7%
2013	103,781.86	62.5%

EXCESS STATE MONIES RESERVE

	Regular Distribution			Special Distribution		
	Actual State Contribution	Applicable "Frozen" Amount	Excess State Monies Reserve	Actual State Contribution	Applicable "Frozen" Amount	Excess State Monies Reserve
1998	\$40,338.78	\$40,338.78	\$0.00	N/A	N/A	N/A
1999	48,689.93	40,338.78	8,351.15	18,081.64	18,081.64	0.00
2000	54,769.53	58,161.78	0.00	26,584.63	27,981.64	0.00
2001	49,168.27	49,168.27	0.00	31,250.79	36,075.15	0.00
2002	63,962.83	59,406.92	4,555.91	25,836.50	25,836.50	0.00
Amount used in implementing Ordinance 525-F (3.1% BR plus 20 & Out)			(12,907.06)			
2003	60,230.34	49,785.58	10,444.76	35,457.84	35,457.84	0.00
Amount used in implementing Ordinance 525-G (Re-evaluate 525-F annually)			(10,444.76)			
2004	58,432.41	53,598.37	4,834.04	33,560.05	33,560.05	0.00
Amount used in implementing Ordinance 525-G (Re-evaluate 525-F annually)			(4,834.04)			
2005	58,380.46	59,996.18	0.00	35,092.24	35,092.24	0.00
2006	65,077.58	61,370.88	3,706.70	33,717.54	33,717.54	0.00
2007	68,870.04	68,870.04	0.00	39,051.38	26,218.38	12,833.00
Amount used in implementing Ordinance 754 (Re-evaluate 525-F annually)			(3,706.70)			
2008	80,062.85	80,062.85	0.00	58,654.95	18,732.57	39,922.38
Amount used in implementing Ordinance 754-A (Re-evaluate 525-F annually)			0.00			
Amount used in implementing Ordinance 754-B (re-evaluate 525-F annually)						(12,833.00)
2009	73,468.75	73,468.75	0.00	62,842.54	30,202.67	(39,922.38)
Amount used in implementing Ordinance 754-D (re-evaluate 525-F annually)						
2010	75,623.60	75,623.60	0.00	26,746.98	28,047.82	(32,639.87)
2011	74,233.63	74,233.63	0.00	17,916.86	29,437.79	0.00
2012	52,910.31	52,910.31	0.00	10,955.47	43,634.94	0.00
2013	75,052.08	75,052.08	0.00	28,729.78	28,619.34	110.44
			0.00			110.44
Accumulated Regular Excess			0.00			0.00
Accumulated Special Excess			110.44			110.44
Total State Monies Reserve			110.44			110.44

BALANCE SHEET
September 30, 2013

<u>ASSETS</u>	COST VALUE	MARKET VALUE
Cash and Cash Equivalents:		
Short Term Investments	108,555.85	108,555.85
Prepaid Expenses	2,496.03	2,496.03
Cash	183,455.59	183,455.59
Total Cash and Equivalents	294,507.47	294,507.47
Receivable:		
Member Contributions in Transit	701.71	701.71
City Contributions in Transit	8,177.15	8,177.15
Accrued Income	16,612.37	16,612.37
Total Receivable	25,491.23	25,491.23
Investments:		
U. S. Bonds and Bills	227,630.31	227,665.85
Federal Agency Guaranteed Securities	392,777.81	402,716.43
Corporate Bonds	1,046,991.43	1,067,135.82
Stocks	1,702,256.36	2,190,326.18
Mutual Funds:		
Equity	1,117,234.27	1,270,643.09
Total Investments	4,486,890.18	5,158,487.37
TOTAL ASSETS	4,806,888.88	5,478,486.07
 <u>LIABILITIES AND NET ASSETS</u>		
Liabilities:		
Prepaid City Contribution	21,578.99	21,578.99
Total Liabilities	21,578.99	21,578.99
Net Assets, including DROP Account Balances	4,785,309.89	5,456,907.08
TOTAL LIABILITIES AND NET ASSETS	4,806,888.88	5,478,486.07

CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS
September 30, 2013
Market Value Basis

REVENUES

Contributions:		
Member	20,155.56	
City	213,303.86	
State	103,781.86	
Total Contributions		337,241.28
Earnings from Investments		
Interest & Dividends	141,453.63	
Net Realized Gain (Loss)	350,781.10	
Unrealized Gain (Loss)	57,232.08	
Total Earnings and Investment Gains		549,466.81
EXPENDITURES		
Expenses:		
Investment Related ¹	37,151.30	
Administrative	25,207.91	
Total Expenses		62,359.21
Distributions to Members:		
Benefit Payments	289,804.33	
Lump Sum DROP Balances	0.00	
Lump Sum PLOP Distributions	5,501.45	
Termination Payments	9,324.51	
Total Distributions		304,630.29
Change in Net Assets for the Year		519,718.59
Net Assets Beginning of the Year		4,937,188.49
Net Assets End of the Year		5,456,907.08

¹Investment Related expenses include investment advisory, custodial and performance monitoring fees.

ACTUARIAL ASSET VALUATION
September 30, 2013

Actuarial Assets for funding purposes are developed by increasing the Actuarial Assets used in the most recent actuarial valuation of the Fund by the average annual market value rate of return (net of investment related expenses) for the past four years. Actuarial Assets shall not be less than 80% nor greater than 120% of Market Value of Assets.

Details of the derivation are set forth as follows:

Plan Year End	Rate of Return*	
09/30/2010	9.33%	
09/30/2011	-0.02%	
09/30/2012	16.86%	
09/30/2013	10.35%	
Annualized Rate of Return for prior four (4) years:		8.96%
(A) 10/01/2012 Actuarial Assets:		\$4,810,525.33
(I) Net Investment Income:		
1. Interest and Dividends	141,453.63	
2. Realized Gains (Losses)	350,781.10	
3. Change in Actuarial Value	(23,688.49)	
4. Investment Related Expenses	(37,151.30)	
Total		431,394.94
(B) 10/01/2013 Actuarial Assets:		\$5,249,323.35
Actuarial Asset Rate of Return = $2I/(A+B-I)$:		8.96%
10/01/2013 Limited Actuarial Assets:		\$5,249,323.35

*Market Value Basis, net of investment related expenses.

CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS
September 30, 2013
Actuarial Asset Basis

REVENUES

Contributions:		
Member	20,155.56	
City	213,303.86	
State	103,781.86	
Total Contributions		337,241.28
Earnings from Investments		
Interest & Dividends	141,453.63	
Net Realized Gain (Loss)	350,781.10	
Change in Actuarial Value	(23,688.49)	
Total Earnings and Investment Gains		468,546.24
EXPENDITURES		
Expenses:		
Investment Related ¹	37,151.30	
Administrative	25,207.91	
Total Expenses		62,359.21
Distributions to Members:		
Benefit Payments	289,804.33	
Lump Sum DROP Balances	0.00	
Lump Sum PLOP Distributions	5,501.45	
Termination Payments	9,324.51	
Total Distributions		304,630.29
Change in Net Assets for the Year		438,798.02
Net Assets Beginning of the Year		4,810,525.33
Net Assets End of the Year ²		5,249,323.35

¹Investment Related expenses include investment advisory, custodial and performance monitoring fees.

²Net Assets may be limited for actuarial consideration.

DEFERRED RETIREMENT OPTION PLAN ACTIVITY
October 1, 2012 to September 30, 2013

09/30/2012 Balance	140,732.37
Plus Additions	113,794.02
Investment Return Earned	13,107.96
Less Distributions	0.00
09/30/2013 Balance	267,634.35

RECONCILIATION OF CITY'S PREPAID CONTRIBUTION FOR THE
FISCAL YEAR ENDED (FYE) SEPTEMBER 30, 2013

(1) City and State Required Contribution Rate (from the October 1, 2011 Actuarial Valuation Report)	51.74%
(2) Pensionable Payroll Derived from Member Contributions	\$612,631.00
(3) Required City and State Contribution (1) x (2)	316,975.28
(4) Less Allowable State Contribution	<u>(103,671.42)</u>
(5) Equals Required City Contribution	213,303.86
(6) Less Actual City Contributions	<u>(234,882.85)</u>
(7) Equals City's Prepaid Contribution as of September 30, 2013	\$21,578.99

STATISTICAL DATA

(Averages are salary weighted)

	<u>10/1/2010</u>	<u>10/1/2011</u>	<u>10/1/2012</u>	<u>10/1/2013</u>
<u>Active Members</u>				
Average Current Age	37.9	36.5	37.3	38.5
Average Age at Employment	27.7	29.4	30.6	30.7
Average Past Service	10.2	7.1	6.7	7.8
Average Annual Salary	\$35,758	\$32,741	\$34,268	\$38,322

AGE AND SERVICE DISTRIBUTION

PAST SERVICE

AGE	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30+	Total
15 - 19	0	0	0	0	0	0	0	0	0	0	0	0
20 - 24	0	0	0	0	0	0	0	0	0	0	0	0
25 - 29	1	0	1	0	0	1	0	0	0	0	0	3
30 - 34	0	0	0	0	0	3	1	0	0	0	0	4
35 - 39	1	0	0	0	0	1	1	0	0	0	0	3
40 - 44	0	0	1	0	0	0	0	0	0	0	0	1
45 - 49	0	0	0	0	1	1	0	0	0	0	0	2
50 - 54	0	0	0	0	0	1	1	0	1	0	0	3
55 - 59	0	0	0	0	0	0	1	0	0	0	0	1
60 - 64	0	0	0	0	0	0	0	0	0	0	0	0
65+	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	0	2	0	1	7	4	0	1	0	0	17

VALUATION PARTICIPANT RECONCILIATION

1. Active lives

a. Number in prior valuation 10/1/12	19
b. Terminations	
i. Vested (partial or full) with deferred benefits	1 *
ii. Non-vested or full lump sum distribution received	2
c. Deaths	
i. Beneficiary receiving benefits	0
ii. No future benefits payable	0
d. Disabled	0
e. Retired	1
f. DROP	0
g. Voluntary withdrawal	0
h. Continuing participants	15
i. New entrants	2
j. Total active life participants in valuation	17

2. Non-Active lives (including beneficiaries receiving benefits)

	<u>Service Retirees, Vested Receiving Benefits</u>	<u>DROP</u>	<u>Receiving Death Benefits</u>	<u>Receiving Disability Benefits</u>	<u>Vested Deferred</u>	<u>Total</u>
a. Number prior valuation	13	3	0	0	9	25
b. In	2	0	0	0	1	3
c. Out	0	0	0	0	1	1
d. Number current valuation	15	3	0	0	9	27

* Terminated non-vested. Has not yet received refund of contributions.

SUMMARY OF PLAN PROVISIONS
(Through Proposed Ordinance)

<u>Date of Latest Restatement</u>	January 7, 2011
<u>Eligibility</u>	Employees who are classified as full-time and volunteer Firefighters shall participate in the System as a condition of employment.
<u>Credited Service</u>	Total years and fractional parts of years of service with the City as a Firefighter.
<u>Salary</u>	W-2 Earnings, plus tax deferred, tax sheltered and tax exempt income. Overtime is limited to 300 hours per year and pensionable lump sick and vacation payouts are limited to the amounts accrued as of July 1, 2013.
<u>Average Final Compensation</u>	Average Salary for the best 5 years during the 10 years immediately preceding retirement or termination.
<u>Member Contributions</u>	3.29% of Salary effective 10/1/2010.
<u>City and State Contributions</u>	Remaining amount required in order to pay current costs and amortize unfunded past service cost, if any. In no event will the City's contribution be less than 5% of the total Salary of the Members, as provided in Part VII of Chapter 112, Florida Statutes.
<u>Normal Retirement</u>	
Date	Earlier of age 60, age 55 and 10 years of Credited Service, or 20 years of Credited Service regardless of age.
Benefit	3.1% of Average Final Compensation times Credited Service
Form of Benefit	Ten Year Certain and Life Annuity (options available).
<u>Early Retirement</u>	
Eligibility	Age 50 and 10 Years of Credited Service.
Benefit	Accrued benefit, reduced 3% per year.
<u>Cost of Living Adjustment</u>	3% increase each January 1 from age 55 through age 65.
<u>Vesting</u>	
Schedule	100% after 10 years of Credited Service.
Benefit Amount	Member will receive the vested portion of his (her) accrued benefit payable at the otherwise Normal Retirement Date.

Disability

Eligibility

Service Incurred Covered from Date of Employment.

Non-Service Incurred 10 years of Credited Service.

Exclusions Disability resulting from use of drugs, illegal participation in riots, service in military, etc.

Benefit Benefit accrued to date of disability but not less than 42% of Average Final Compensation (Service Incurred).

Duration Payable for life, with 120 payments guaranteed, or until recovery (as determined by the Board; options available).

Death Benefits

Pre-Retirement

Vested Monthly accrued benefit payable to designated beneficiary for 10 years.

Non-Vested Refund of accumulated contributions, without interest.

Post-Retirement Benefits payable to beneficiary in accordance with option selected at retirement.

Board of Trustees

- a. Two Council appointees,
- b. Two Members of the Department elected by the membership, and
- c. Fifth Member elected by other 4 and appointed by Council.

Deferred Retirement Option Plan

Eligibility Satisfaction of Normal Retirement requirements.

Participation Not to exceed the earlier of 60 months or the completion of 30 years of service with the City as a Firefighter.

Rate of Return At Member's election: 6.5% or Net Investment Return

Distribution Cash lump sum (options available) at termination of employment.

DISCLOSURE INFORMATION PER STATEMENT NO. 25 OF THE
GOVERNMENTAL ACCOUNTING STANDARDS BOARD

The schedule provided below has been prepared in accordance with the requirements of paragraph 37 of Statement No. 25 of the Governmental Accounting Standards Board.

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) - Entry Age (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a % of Covered Payroll ((b-a)/c)
10/01/13	5,249,323	6,844,293	1,594,970	76.70%	651,472	244.83%
10/01/12	4,810,525	6,488,945	1,678,420	74.13%	651,086	257.79%
10/01/11	4,484,550	6,219,138	1,734,588	72.11%	687,564	252.28%
10/01/10	4,527,289	5,896,346	1,369,057	76.78%	750,916	182.32%
10/01/09	4,421,906	5,732,264	1,310,358	77.14%	831,397	157.61%
10/01/08	4,330,318	5,486,712	1,156,394	78.92%	805,384	143.58%

The schedule provided below has been prepared in accordance with the requirements of paragraph 38 of Statement No. 25 of the Governmental Accounting Standards Board.

SCHEDULE OF CONTRIBUTIONS FROM THE EMPLOYER AND OTHER CONTRIBUTING ENTITIES

Year Ended September 30	Annual Required Contribution	City Contribution	State Contribution	Percentage Contributed
2013	316,975	213,304	103,671 *	100.00%
2012	291,625	227,759	63,866	100.00%
2011	310,150	218,000	92,150	100.00%
2010	299,293	196,922	102,371	100.00%
2009	279,598	187,821	103,671 *	104.25%
2008	245,722	165,510	98,795 *	107.56%

* Reflects "traditional" interpretation of Chapter 175, Florida Statutes.

DISCLOSURE INFORMATION PER STATEMENT NO. 27 OF THE
GOVERNMENTAL ACCOUNTING STANDARDS BOARD

ANNUAL PENSION COSTS AND RELATED INFORMATION

Contribution rates as of 9/30/13	
City & State	51.74%
Plan Members	3.29%
Annual pension cost ¹	320,441
Contributions made ¹	316,975
Actuarial valuation date	10/1/2011
Actuarial cost method	Entry Age Normal
Amortization method	Level Percentage of Pay, Closed
Remaining amortization period	28 Years (as of 10/1/11)
Asset valuation method	4 Year Smooth
Actuarial assumptions:	
Investment rate of return	7.75%
Projected salary increase*	6.5%
* Includes inflation at	3.0%
Post Retirement COLA (age 55 to 65)	3.0%

THREE YEAR TREND INFORMATION

Year Ending	Annual Pension Cost (APC) ¹	Percentage of APC Contributed	Net Pension Obligation
9/30/13	320,441	99%	(75,370)
9/30/12	295,135	99%	(78,836)
9/30/11	223,141	98%	(82,346)

¹ Annual Pension Cost from City & State sources beginning in the year ended 9/30/12.

DISCLOSURE INFORMATION PER STATEMENT NO. 27 OF THE
GOVERNMENTAL ACCOUNTING STANDARDS BOARD

DEVELOPMENT OF NET PENSION OBLIGATION (NPO)

This municipal Defined Benefit Plan has been subject to the minimum funding standards since the adoption of the "Florida Protection of Public Employee Retirement Benefits Act" (Part VII of Chapter 112, Florida Statutes) in 1980. Accordingly, the sponsor has funded the actuarially determined required contributions for all years from October 1, 1987, through the transition date, October 1, 1997. Thus, the NPO on October 1, 1997, is 0.

The development of the Net Pension Obligation to date is as follows:

	<u>9/30/10</u>	<u>9/30/11</u>	<u>9/30/12</u>	<u>9/30/13</u>
Actuarially Determined				
Contribution (A)	196,922	218,000	291,625	316,975 ¹
Interest on NPO	(7,355)	(6,999)	(6,588)	(6,110)
Adjustment to (A)	11,802	12,140	10,098	9,576
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Annual Pension Cost	201,369	223,141	295,135	320,441
Contributions Made	196,922	218,000	291,625	316,975 ¹
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Increase in NPO	4,447	5,141	3,510	3,466
NPO Beginning of Year	(91,934)	(87,487)	(82,346)	(78,836)
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NPO End of Year	(87,487)	(82,346)	(78,836)	(75,370)

¹ The Actuarially Determined Contribution and Contributions Made include State Money beginning with the fiscal year ended 9/30/12.