

TOWN OF GREENWICH
PURCHASING DEPARTMENT
101 Field Point Road
Greenwich, CT 06830
203 622-7881

NO.: 6943 RFP

ISSUE DATE: 1/18/13

DEADLINE DATE: 2/13/13

DEADLINE TIME: 3:00 P.M.

REQUEST FOR BID

REQUEST FOR PROPOSAL

PREBID CONFERENCE: _____

TIME AND DATE: _____

LOCATION: _____

ITEM/CATEGORY ACTUARIAL SERVICES

LOCATION TOWN OF GREENWICH

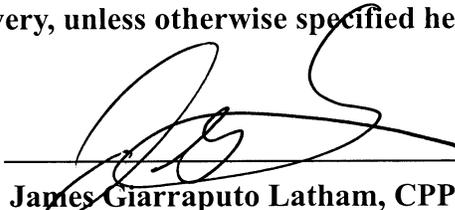
PREQUALIFICATION

STANDARDS/SPECIFICATIONS (ATTACHED)

INSURANCE REQUIRED (SEE ATTACHED)

PLEASE NOTE:

1. Sealed Bids/Proposals are due at the Town of Greenwich Purchasing Department on date noted. NO bids/proposals will be accepted after the date and time specified above. Whether the bid/ proposal is sent by mail or commercial express service, the bidder/proposer shall be responsible for actual delivery of the bid/proposal to the PURCHASING DEPARTMENT before the deadline time. Bids/proposals received after the deadline time will not be considered. PLEASE CLEARLY INDICATE BID/PROPOSAL NUMBER ON LOWER LEFT-HAND CORNER OF ENVELOPE.
2. BIDS/PROPOSALS ARE NOT ACCEPTED BY FAX OR E-MAIL.
3. COMPANY NAME AND ADDRESS MUST CONFORM ON ALL DOCUMENTS INCLUDING INSURANCE DOCUMENTS.
4. Bid/Proposal number must appear on all bids and related correspondence.
5. The Town of Greenwich is exempt from Federal and State Taxes.
6. The Town will consider an alternate bid only if bidders have been permitted to provide an alternate bid. An alternate bid must be clearly identified as such in order to be considered by the Town.
7. Stated prices are to be FOB destination inside delivery, unless otherwise specified herein.
8. Terms and Conditions indicated on reverse.


James Giarraputo Latham, CPPB, Senior Buyer

An Affirmative Action/Equal Opportunity Employer, M/F/H

Terms and Conditions

Bidders shall familiarize themselves with all provisions of the specifications and shall not at any time after submitting bid, dispute any of the specifications or assert that there was any misunderstanding in regard to the furnishing and delivering of the items called for in the proposal.

The Town of Greenwich reserves the right to issue addenda as needed on bids/proposals.

The Town of Greenwich reserves the right to reject any and all bids not deemed to be in the best interest of the Town of Greenwich, or to accept that bid which appears to be in the best interest of the Town of Greenwich. The Town of Greenwich reserves the right to waive any informalities in or reject any or all bids, or any part of any bid.

References to a particular trade name or manufacturer's catalog or model number are made for descriptive purposes to guide the bidder in interpreting the requirements of the Town of Greenwich. They should not be construed as, nor are they intended to exclude proposals on other types of materials, equipment and supplies. However, the bidder, if awarded a contract will be required to furnish the particular item referred to in the specification or description unless a departure or substitution is clearly noted and described in the proposal.

Respondents shall provide one proposal and bidders one bid price for each specified required line item with no more than one total lump sum bid, unless allowed to do otherwise by the solicitation. Respondents shall provide no more than one bid reply unless allowed by the solicitation. Bidders shall not include in their prices any Federal or State taxes from which the Town of Greenwich is exempt.

The successful bidder/s shall indemnify the Town of Greenwich against all losses, claims, actions and judgments brought or recovered against the contractor or the Town of Greenwich.

No proposal shall be received from, or contract awarded to, any person, firm or corporation who is in default or in debt to the Town of Greenwich for non-performance of any contract, or who is a defaulter as surety or otherwise from any obligation to the Town of Greenwich.

Bids must be signed in ink by the vendor. No bids shall be made in pencil. Any bids showing any erasures or alterations must be initialed by the bidder in ink. Failure to sign and give all information requested in the proposal may result in the bid being rejected.

Quantities as listed on the bid sheets are estimated for bidding purposes only. Award of contract shall be for the quantities actually ordered as needed during the contract period. However, the Town of Greenwich reserves the right to increase or decrease the quantities by 10%.

Unit prices quoted shall be net exclusive of all taxes, and must include all transportation, delivery and unloading costs; fully prepaid F.O.B. destination in place inside delivery. Debris, if any, removed.

The Town of Greenwich reserves the right to make awards on an item by item, total or lump sum basis. Where an award is made on an item by item basis, the unit price prevails. The Town reserves the right to make award in best interest of its own operation. All awards are contingent upon certification by the Town Comptroller that funds are available in appropriate accounts.

It is understood that prices shall hold firm and prevail for the actual quantities required or ordered as needed during the life of the contract whether more or less than estimated quantities. Unit prices shall not be subject to any increase during the life of the contract.

All deliveries are to be made within the time period specified in the bid proposal upon receipt of written purchase order or authorized verbal requests except as may be otherwise arranged by Supplier and Purchaser. Receipt of contract is not authority to ship. Emergency deliveries are to be made within twenty-four (24) hours from receipt of a telephone request from the Director of Purchasing and Supply. All deliveries are to be made on business weekdays between the hours of 9:00 A.M. and 4:00 P.M. except as may be otherwise arranged by the Supplier and Purchaser.

In the event deliveries are not made as specified to a Town delivery point, the Director of Purchasing and Supply shall reserve the right to purchase any such bid item on the open market and to charge any increase in price paid over the current contract price to the account of the vendor.

All bids will be awarded or rejected within sixty (60) days of bid opening date or for the stated period of validity, if different. Therefore, bidder agrees that prices will remain firm for acceptance for that period.

The contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex or national origin. The contractor, however, will take affirmative action to insure that minority group members are employed and are not discriminated against during employment. Such actions shall include, but not be limited to the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection of training, including apprenticeship.

The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, religion, color, sex or national origin. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract of understanding, a notice advising the labor union or worker's representative of the contractors' commitments under this specification and under rules, regulations and orders promulgated by the State.

"Affirmative Action" means procedures which establish hiring and employment goals, timetables, and practices to be implemented, with good faith efforts, for minority group members.

"Minority Group Members" as identified in EEO-4 reports shall mean Black, Hispanic, Asian or Pacific Islanders, American Indian, and Alaskan Natives.

The contractor or subcontractor offers and agrees to assign to the public purchasing body all right, title and interest in and to all causes of action it may have under Section 4 of the Clayton Act, 15 U.S.C. Section 15, or under Chapter 624 of the General Statutes of Connecticut, arising out of the purchase of services, property or intangibles of any kind pursuant to a public purchase contract or subcontract. This assignment shall be made and become effective at the time the public purchasing body awards or accepts such contract, without further acknowledgment by the parties.

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SECTION I: BACKGROUND AND PURPOSE

BACKGROUND AND PURPOSE

BACKGROUND

The Town of Greenwich, Connecticut is located in southwest Fairfield County. The First Selectman, who sits on the Board of Selectman with two additional Selectmen, manages the Town. Within the Town there are two (2) financial bodies, those being the Board of Estimate and Taxation and the Representative Town Meeting. The Town Of Greenwich is a single employer.

PURPOSE

The purpose of this Request for Proposal (RFP) is to acquire the services of an independent consulting actuary to the Town of Greenwich Retirement Board, and the Board of Estimate and Taxation (BET), and other departments or agencies of the Town of Greenwich. There will be two contracts independent of each other: one contract for valuation of the Defined Benefit Plan (Pension) and one contract for the valuation of Other Post- Employment Benefits (OPEB) valuation. It is possible that one firm may be selected for both contracts, or that two firms may be selected for each respective valuation.

Specifically, Section 202 of the Town of Greenwich Charter requires the appointment of an independent consulting actuary, who is an enrolled actuary, to the Greenwich Retirement Board, and Board of Estimate and Taxation pursuant to the Connecticut General Statutes Section 7-450(b).

Current Actuaries

The current actuary being used by the Retirement Board is Ed Friend, Inc. dba EFI Actuaries. The current actuary being used for the OPEB Valuation is Hooker and Holcomb (H&H).

SECTION II: SCOPE OF SERVICES

SCOPE OF SERVICES

ACTUARY QUALIFICATION REQUIREMENT

The respondent must be:

1. An independent actuary of wide experience and national reputation who is enrolled under Subtitle C of Title III of the Employee Retirement Income Security Act of 1974; and
2. A member of the Society of Actuaries or the American Academy of Actuaries.

The consultant shall not discriminate against any employee or applicant for employment because of age, sex, race, religion, color, national origin, marital status or handicap.

SCOPE OF SERVICES

The primary service to be provided is the completion of annual actuarial valuation and certifications of the Defined Benefit Plan including the assessment of Plan risks and the equivalent services for the OPEB Fund.

- Determination of minimum required and recommended annual contribution levels.
- Determination of present value of accrued benefits and current liability amounts and funded status.
- Identification of major Plan risks and potential risk management strategies (refer to http://actuary.org/pdf/pension/PPPTF_Final_Report_c.pdf for further clarification).
- Maintenance of the funding standard account and amortization basis.
- Preparation of annual actuarial valuation report and accompanying federal IRS schedules, if required.
- Maintenance of an historical database with all participant information (the Town will provide the data through July 1, 2012).
- Determination of eligible participants.
- Reconciliation with prior years' data.
- Calculation of accrued and projected benefits.
- A summary listing of participant data and benefits for permanent plan records.
- Completion of returns to the IRS, if required.
- Monitoring of plan(s) for compliance under applicable sections of the Internal Revenue Code.
- Actuary shall provide information to the Town Finance Department and the Town's independent auditors for inclusion in the Town's year ending financial statements under all applicable GASB bulletins and publications.
- Completion of the July 1, 2013 Defined Benefit Retirement Plan actuarial valuation with accompanying financial statement documentation no later than November 25, 2013 and subsequent annual valuations by equivalent dates in subsequent years.

SECTION II: SCOPE OF SERVICES

- Completion of the July 1, 2013 OPEB actuarial valuation with accompanying financial statement documentation no later than November 25, 2013 and subsequent annual valuations by equivalent dates in subsequent years.
- The consultant to attend annually two (2) meetings with the Retirement Board, and annually two (2) meetings with the BET for a total of four (4) annual meetings, in conjunction with the annual valuation reports on the Defined Benefit Plan and the OPEB Fund respectively. Additional meetings, if needed, shall be billed on an hourly rate plus expenses basis.
- Delivery of fifteen (15) bound copies of each valuation report, along with an electronic version in PDF file format.
- Calculation of the Annual Required Contribution including amortization of Unfunded Actuarial Accrued Liability based on level dollar funding using a closed period amortization schedule. The amortization period is currently 21 years, reduces by one year annually until 15 years at which point an open period amortization schedule would be used.
- Provide up to ten actuarial calculations each year for the Defined Benefit Plan. These could be QDRO calculations, recalculation of existing benefits, etc.
- In July 2015, do a five-year experience study for the Retirement Board that will allow the Board to update its Administrative Assumptions.
- In July of each year, prepare an end of year review that will take into account the previous year's investment performance, estimate of the following year's contribution and any impact of GASB changes. An example of the July 1, 2012 review is attached.
- Annual certification of the Cost of Living increase from May of each year to May of the following year using CPI Index CWURA101SA0. See attached for example.

Actuarial Data, July 1, 2012

Actuarial data for the Town of Greenwich, which is dated July 1, 2012, is included as **Exhibit I** and **Exhibit II** to this RFP. The data elements are provided as **Exhibit III**. Consultants may specify additional data elements.

Also included are the Eligibility of Health Care Credits as **Exhibit IV**, the Town of Greenwich Retiree Health Insurance Annual Credits as **Exhibit V**, and the "Description of Town of Greenwich explicit/implicit health care credits" as **Exhibit VI**.

SECTION II: SCOPE OF SERVICES

Additional Consulting Services

Various Town departments or agencies at the established hourly rate plus travel expense may require additional actuarial consulting services or at a fixed fee per calculation. Three examples of these additional services are:

1. Actuarial services that would be needed in conjunction with the Town's collective bargaining negotiations.
2. Calculation of QDRO benefits at a fixed fee per calculation
3. Calculation of actuarial benefits to correct previous errors at a fixed fee per calculation.

Use of Subcontractors

No subcontractors are to be used on this project unless specifically approved by the Town of Greenwich.

Timeframe for Provision of Services

It is critical that the timeframes for services to be rendered as given in the Scope of Services section are met.

Term of Contract

The selected consultant(s) will be offered the contract(s) for a three (3) year term to include the valuations for 7/1/13, 7/1/14 and 7/1/15. Two (2) option years shall be available and shall be exercised given the approval of both parties to the contract.

The above-mentioned contract(s) shall be subject to an annual appropriation by the Representative Town Meeting (RTM).

SECTION III: TERMS AND CONDITIONS

TERMS AND CONDITIONS

In addition to the Town's standard terms and conditions listed on the reverse side of the cover page of this RFP, the following shall also apply.

Issuing Authority

Mr. James Giarraputo Latham, CPPB, Senior Buyer has been designated to be responsible for the conduct of this procurement. Any inquiries or requests regarding this procurement must be submitted in writing to Mr. Latham to the address below by

Friday, February 1, 2013 at 11:00AM.

Town of Greenwich
Purchasing Department
101 Field Point Road
Greenwich, CT 06830

Fax: (203) 622-7776

Email: jlatham@greenwichct.org

Issuance of Addenda

The Town of Greenwich reserves the right to amend this solicitation by addenda. Addenda will be posted to the Town's website (www.greenwichct.org/bids) up to 48 hours in advance of the bid/proposal's due date and time. **It is the bidder's responsibility to check the Town's website for addenda.** If in the Town's opinion revisions are of such a magnitude, the deadline for this solicitation may be extended in an addendum. In addition, addenda can change specifications, reply sheets, and times and dates for prebid meetings as well as due dates/deadlines for questions and bids/proposals. **No notification of addenda issuance will be made other than on the Town's website.**

Withdrawal of Bids (or Proposals) Prior to Deadline

A bidder wishing to withdraw a bid/proposal prior to the deadline may do so by preparing a formal written request on company letterhead. The person who signs the letter must be the same person who signs the reply sheets. The Town will verify that the signature on the letter matches the signature on the reply sheets.

The Town will also verify the request to withdraw the bid/proposal by calling the bidder at the telephone number supplied on the reply sheets.

After the Town is satisfied that a request to withdraw a bid/proposal before the established deadline is valid, the bid/proposal will be returned to the bidder. The bidder may then withdraw completely from the bidding process, or may modify the bid/proposal and resubmit before the deadline.

SECTION III: TERMS AND CONDITIONS

Withdrawal of Bids (or Proposals) After the Deadline

If bid security is required and a bidder does not honor his/her bid for the specified time, the bid check shall become the property of the Town; or, if a bid bond was furnished, the bid bond shall become payable to the Town.

After the bid/proposal deadline has passed, the submitted bids/proposals become the property of the Town and are valid offers to be honored by the bidder for sixty (60) days or longer, as specified in the Request for Bid/Proposal.

Bidders who do not honor their bids/proposals for the sixty (60) day (or as specified) period, shall be declared irresponsible bidders.

Time

All times stated in this document refer to the Eastern Time Zone (ET). The normal office hours for the Town of Greenwich Purchasing Department are 8:00 a.m. to 4:00 p.m., Monday through Friday with the exception of declared holidays. Normal office hours for the Retirement Board are 8:00 a.m. to 4:00 p.m.

Proposal Submission Deadline

One (1) original and five (5) copies of Respondent's proposal, in a sealed envelope clearly marked "**Town of Greenwich RFP No. 6943**", must be received before the deadline. Whether the proposal is hand delivered, sent by mail or commercial express service, the Respondent shall be responsible for actual delivery of the proposal to the **Town of Greenwich Purchasing Department** before the deadline. Proposals received after the deadline will not be considered. All proposals become the property of the Town.

The respondent shall deliver the sealed proposal before the due date and deadline time to:

**Town of Greenwich
Purchasing Department
101 Field Point Road
Greenwich, CT 06830**

Duration of Proposal

The proposal will remain in effect for a period of sixty (60) calendar days from the deadline for submission of the proposal or until it is formally withdrawn, a contract is executed or this RFP is canceled, whichever occurs first.

SECTION III: TERMS AND CONDITIONS

Packaging

Each proposal must be sealed to provide confidentiality of the information prior to the submission date and time. The Town will not be responsible for premature opening of proposals not properly labeled. *A transmittal letter signed in ink by an authorized company representative, empowered with the right to bind the Respondent, shall accompany each proposal set.*

Records

Following the award of a contract, all responses to this RFP are subject to release as public records. Respondents are advised to consult with their legal counsel regarding any material in their proposal that the Respondent believes should not be public record. The Town of Greenwich assumes no liability on behalf of respondents.

Proposal Costs

The Respondent shall be responsible for all costs incurred in the development and submission of this proposal. The Town assumes no contractual obligation as a result of the issuance of this RFP, the preparation or submission of a proposal by a Respondent, the evaluation of an accepted proposal, or the selection of finalists. The Town shall not be contractually bound until the Town and the successful Respondent have executed a written contract for performance of the work.

Presentations

Selected Respondents may be asked to present their proposals to the Town representatives. The costs of such presentations shall be borne solely by the Respondents.

State, Local and Federal Laws

The respondent shall acknowledge and agree that, should it be awarded the Contract, it shall be solely responsible for strict compliance with all federal, state and local statutes, laws, codes, rules, regulations and ordinances, and for the procurement and maintenance of all necessary licenses and permits relating to the performance of services.

Applicable Law

The laws of the State of Connecticut shall govern this Contract and any and all litigation related to this Contract. In the event of litigation related to this Contract, the exclusive forum shall be the State of Connecticut and the exclusive venue for such litigation shall be the Judicial District for Stamford/Norwalk at Stamford.

SECTION III: TERMS AND CONDITIONS

CONTRACTUAL REQUIREMENTS AND CONDITIONS

Insurance Requirements

The **awarded** vendor will be required to provide insurance coverage as specified on the Insurance Requirements Sheet, **Exhibit A**, of this RFB. The **Acord certificate of insurance form** must be executed by your insurance agent/broker and returned to this office. Company name and address must conform on all documents including insurance documentation. It is required that the agent/broker note the individual insurance companies providing coverage, rather than the insurance group, on the Acord form. The Contract number (provided to the awarded Contractor), project name and a brief description must be inserted in the "Description of Operations" field. It must be confirmed on the Acord Form that the Town of Greenwich is endorsed as an additional insured by having the appropriate box checked off and stating such in the "Description of Operations" field.

A letter from the awarded vendor's agent/broker certifying that the Town of Greenwich has been endorsed onto the general liability policy as an additional insured is also mandatory. This letter shall be addressed to the Towns' Director of Purchasing and must follow exactly the format of the letter attached as Exhibit B. It must be signed by the same individual authorized representative who signed the Acord form. Both the certificate of insurance and the letter must be signed with original ink "wet" signatures. If the insurance coverage required is provided on more than one Acord certificate of insurance, then additional agent/broker letters are also required. Contract development will begin upon receipt of complete, correct insurance documentation.

The Contractor shall be responsible for maintaining the above insurance coverages in force to secure all of the Contractor's obligations under the Contract with an insurance company or companies with an AM Best Rating of B+:VII or better, licensed to write such insurance in Connecticut and acceptable to the Risk Manager, Town of Greenwich. For excess liability only, non-admitted insurers are acceptable, provided they are permitted to do business through Connecticut excess line brokers per listing on the current list of Licensed Insurance Companies, Approved Reinsurers, Surplus Lines Insurers and Risk Retention Groups issued by the State of Connecticut Insurance Department.

The vendor should submit with the proposal the signed, original "**Insurance Procedure**" form, **page 25**, which states that the vendor agrees to provide the specified insurance coverage for this proposal at no additional charge above any insurance charge declared in the bid.

SECTION III: TERMS AND CONDITIONS

Indemnification

The Contractor shall indemnify and save harmless the Town and its officers, agents, servants and employees, from and against any and all claims demands, suits, proceedings, liabilities, judgments, awards, losses, damages, costs and expenses, including attorneys' fees, on account of bodily injury, sickness, disease, death or other damages sustained by any person or persons injury or damage to or destruction of any property, directly or indirectly arising out of, relating to, or in connection with the work called for in the Contract, whether or not due or claimed to be due in whole or in part to the active, passive or concurrent negligence, fault or contractual default of the Contractor, its officers, agents, servants or employees, any of its subcontractors, the Town, any of its respective officers, agents, servants, or employees and/or any other person or persons, and whether or not such claims, demands, suits or proceedings are just, unjust, groundless, false, or fraudulent, and the Contractor shall and does hereby assume and agrees to pay for the defense of all such claims, demands, suits and proceedings, provided, however, that the Contractor shall not be required to indemnify the Town, its officers, agents, servants, or employees, against any such damages occasioned solely by acts or omissions of the Town, its officers, agents, servants or employees, other than supervisory acts or omissions of the Town, its officers, agents, servants, or employees, in connection with the work called for in the Contract.

Contract Format

The requirements contained in this RFP will become part of the contract with the consultant. The contract between the parties will consist of the Personal Services Agreement, insurance documentation, this RFP and the awarded consultant's proposal.

A sample of the Personal Service Agreement format, **Attachment C**, is included for reference. Please note that one contract is identified as Retirement Board Actuarial Services Contract and the second contract is identified as the BET OPEB Actuarial Services Contract.

Any exceptions to the language in this contract format must be noted in the "**Exceptions**" section of the **Reply Sheets** in order to be considered by the Town.

Taxes

The Town of Greenwich is exempt from the payment of taxes imposed by the federal government and or state of Connecticut, and such taxes shall not be in the prices.

SECTION III: TERMS AND CONDITIONS

Payment to Consultant

Payment under the contract will be made following receipt and approval of deliverables as identified in the contract.

Invoices for fees or other compensation for services or expenses submitted for contractual services shall be submitted in detail sufficient to enable a proper pre-audit and post-audit thereof and must be submitted according to the following schedule:

- Separate invoices shall be submitted to the Retirement Board, BET and/or Department requesting the work.
- The Retirement Board, BET or Department shall pay invoices within thirty (30) days of receipt following the approval and acceptance of the services.

Compensation for travel expenses will be contingent upon such expenses being included in the proposal submitted in response to this RFP. Please note that the Town of Greenwich will allow travel expenses to be billed separately **solely** for the additional actuarial consulting services billed on an hourly basis. Travel expenses associated with the consulting assignment given under the section entitled “Scope of Services” in this RFP are to be **included in the firm fixed fee** given for a particular year’s actuarial service.

Meetings in excess of the four (4) provided for in the firm fixed fee for the identified actuarial services under the “Scope of Services” section may be billed separately.

SECTION IV: PROPOSAL AND CONTENT REQUIREMENT

PROPOSAL CONTENT REQUIREMENTS

The Town of Greenwich will use the contents of each proposal to determine each company's qualifications, its understanding of the Town's scope and objectives, the required methodology and the ability to complete services required under the contract.

The respondent shall deliver one (1) complete original proposal, and three (3) complete copies of the proposal to the Purchasing Department before the deadline. Respondents should also include one (1) CD or Flash Drive containing a PDF of the complete original proposal.

At the very beginning of Respondent's proposal, a letter of transmittal signed by an individual authorized to bind Respondent's company is to be included.

Proposals are to provide a brief summary of the history of your company, including the date of incorporation or founding date as well as the number of years providing similar actuarial services.

The proposed work plan must address how the work will be performed. It must demonstrate the consultant's experience, the expertise of the personnel who will provide the requested services and the consultant's ability to plan, complete and successfully deliver the results required in this RFP. The proposed work plan is to include the number of business days required to complete the valuations for the Defined Benefit and OPEB plans. **Please keep in mind that the chosen consultant must complete the services specified within the timeframes given under this RFP's "Scope of Services".**

Proposals should also include the following three sample reports:

- Valuation Report
- Experience Study
- Annual Year-end Review

Respondent's Qualifications

The respondent shall list its name and office address, which will provide the services along with its telephone number, fax, number, email address and website if applicable. The respondent should provide a general description of its business, including size, number of employees, number of credentialed actuaries, primary business, other business or services offered and review any past or contemplated changes in the ownership of the firm.

A listing of the primary personnel to be assigned to provide services, including the number of years experience and education, is to be provided. Personal resumes may be attached.

SECTION IV: PROPOSAL AND CONTENT REQUIREMENT

Respondent's References

At least three (3) company references shall be included with the proposal. References are to be for projects of a similar size and scope, which have been completed within the last two (2) years. References are to include company name, date of service, and description of service, contact name and title and contact telephone number.

Fee Structure

Respondent is to provide a firm fixed fee for each of the years of actuarial services to be provided as given in the Scope of Services. Any travel expense associated with these services is to be incorporated into the firm fixed fee for any given year. As part of the identified services, Respondent is to attend two (2) meetings per year for each valuation, the cost of which is to be included in the firm fixed fee. Meetings may be held during the day or at night and are estimated to be two (2) to four (4) hours in duration. Meetings in excess of two in number for any given year shall be billed at the additional meeting rate plus the travel expense rate discussed below.

For actuarial services that are not delineated in this RFP, which Town departments may require, Respondent is to provide an hourly rate for each of the years of possible additional consulting. Please be advised that travel time is not to be included when billing the hourly rate for additional work.

Respondent shall also provide the travel expense rate for each of the years of possible additional consulting. The travel expense rate shall apply to meetings in excess of two (2) under the firm fixed fee Scope of Work, to additional work assignments and to meetings related to additional work assignments.

Respondent shall complete and submit the Reply Sheets with proposal.

Statement of Proposing Company's Qualifications

The "Statement of Proposing Company's Qualifications, **Exhibit D**, is to be completed and included in the proposal.

Insurance Procedure Form

The signed Insurance Procedure Form, Attachment A, shall be included with the proposal after this form has been read and agreed to.

SECTION IV: PROPOSAL AND CONTENT REQUIREMENT

Criteria for Evaluation

Proposals and respondents will be evaluated using the following criteria:

| Criteria | Maximum Points |
|--|-----------------------|
| Proposed pricing. | 20 |
| Experience and qualifications of the firm; Number of years providing similar service and firm's ability to complete the required services of this project. | 20 |
| Experience and qualifications of the key personnel assigned to this project. | 20 |
| Respondent's understanding of the Town's scope, objectives, and required methodology. | 20 |
| Content and quality of the proposal; the proposed work plan; the number of business days required to complete the valuations for the Defined Benefit and OPEB plans. | 20 |
| TOTAL | 100 |

In addition to the criteria listed above, exceptions raised by the respondents will be factored into the evaluation. The financial strength of the finalist(s) may also be considered. The Town may also elect to interview one or more of the finalists. The results of the interview process will also be factored into selecting the consultant. Results of reference checks may also factor into the evaluation.

SECTION V: REPLY SHEETS

TOWN OF GREENWICH

REQUEST FOR PROPOSAL #6943 DEADLINE: 2/ 13/13 AT 3:00PM

ACTUARIAL SERVICES

REPLY SHEET (Page 1 of 10)

Pricing for Retirement Board Actuarial Services

Please state below in firm fixed fees the cost related to the provision of the specified actuarial services under the "Scope of Services" section in this RFP for each year:

| | | |
|-----------|----------------|----------|
| Year 2013 | Firm fixed fee | \$ _____ |
| Year 2014 | Firm fixed fee | \$ _____ |
| Year 2015 | Firm fixed fee | \$ _____ |
| Year 2016 | Firm fixed fee | \$ _____ |
| Year 2017 | Firm fixed fee | \$ _____ |

Please give the hourly rate for additional actuarial consulting services for each year:

| | | |
|-----------|-------------|----------|
| Year 2013 | Hourly rate | \$ _____ |
| Year 2014 | Hourly rate | \$ _____ |
| Year 2015 | Hourly rate | \$ _____ |
| Year 2016 | Hourly rate | \$ _____ |
| Year 2017 | Hourly rate | \$ _____ |

Please give the meeting rate for meetings in excess of two in number for identified "Scope of Services" work and for meetings related to additional actuarial consulting services paid by hourly rate for each year:

| | | |
|-----------|--------------|----------|
| Year 2013 | Meeting rate | \$ _____ |
| Year 2014 | Meeting rate | \$ _____ |
| Year 2015 | Meeting rate | \$ _____ |
| Year 2016 | Meeting rate | \$ _____ |
| Year 2017 | Meeting rate | \$ _____ |

Respondent's Company Name _____

Authorized Signature _____

SECTION V: REPLY SHEETS

TOWN OF GREENWICH

REQUEST FOR PROPOSAL #6943 DEADLINE: 2/ 13/13 AT 3:00PM

ACTUARIAL SERVICES

REPLY SHEET (Page 2 of 10)

Pricing for Retirement Board Actuarial Services Continued

Please provide the travel expense rate for meetings in excess of the two in number for identified "Scope of Services" work, for additional actuarial consulting services and for meetings related to additional actuarial consulting services:

| | | |
|-----------|---------------------|----------|
| Year 2013 | Travel expense rate | \$ _____ |
| Year 2014 | Travel expense rate | \$ _____ |
| Year 2015 | Travel expense rate | \$ _____ |
| Year 2016 | Travel expense rate | \$ _____ |
| Year 2017 | Travel expense rate | \$ _____ |

Please state requested timing of payments to be made by the Town for the services.

Please list below the company name, address, telephone number and responsible individual's name for all proposed subcontractors to be associated with these actuarial services. If none, please write "None".

Respondent's Company Name _____

Authorized Signature _____

SECTION V: REPLY SHEETS

TOWN OF GREENWICH

REQUEST FOR PROPOSAL #6943 DEADLINE: 2/ 13/13 AT 3:00PM

ACTUARIAL SERVICES

REPLY SHEET (Page 3 of 10)

Pricing for OPEB Actuarial Services

Please state below in firm fixed fees the cost related to the provision of the specified actuarial services under the "Scope of Services" section in this RFP for each year:

| | | |
|-----------|----------------|----------|
| Year 2013 | Firm fixed fee | \$ _____ |
| Year 2014 | Firm fixed fee | \$ _____ |
| Year 2015 | Firm fixed fee | \$ _____ |
| Year 2016 | Firm fixed fee | \$ _____ |
| Year 2017 | Firm fixed fee | \$ _____ |

Please give the hourly rate for additional actuarial consulting services for each year:

| | | |
|-----------|-------------|----------|
| Year 2013 | Hourly rate | \$ _____ |
| Year 2014 | Hourly rate | \$ _____ |
| Year 2015 | Hourly rate | \$ _____ |
| Year 2016 | Hourly rate | \$ _____ |
| Year 2017 | Hourly rate | \$ _____ |

Please give the meeting rate for meetings in excess of two in number for identified "Scope of Services" work and for meetings related to additional actuarial consulting services paid by hourly rate for each year:

| | | |
|-----------|--------------|----------|
| Year 2013 | Meeting rate | \$ _____ |
| Year 2014 | Meeting rate | \$ _____ |
| Year 2015 | Meeting rate | \$ _____ |
| Year 2016 | Meeting rate | \$ _____ |
| Year 2017 | Meeting rate | \$ _____ |

Respondent's Company Name _____

Authorized Signature _____

SECTION V: REPLY SHEETS

TOWN OF GREENWICH

REQUEST FOR PROPOSAL #6943 DEADLINE: 2/ 13/13 AT 3:00PM

ACTUARIAL SERVICES

REPLY SHEET (Page 4 of 10)

Pricing for OPEB Actuarial Services Continued

Please provide the travel expense rate for meetings in excess of two (2) in number for identified "Scope of Services" work, for additional actuarial consulting services and for meetings related to additional actuarial consulting services:

| | | |
|-----------|---------------------|----------|
| Year 2013 | Travel expense rate | \$ _____ |
| Year 2014 | Travel expense rate | \$ _____ |
| Year 2015 | Travel expense rate | \$ _____ |
| Year 2016 | Travel expense rate | \$ _____ |
| Year 2017 | Travel expense rate | \$ _____ |

Please state requested timing of payments to be made by the Town for the services.

Please list below the company name, address, telephone number and responsible individual's name for all proposed subcontractors to be associated with these actuarial services. If none, please write "None".

Respondent's Company Name _____

Authorized Signature _____

SECTION V: REPLY SHEETS

TOWN OF GREENWICH

REQUEST FOR PROPOSAL #6943 DEADLINE: 2/ 13/13 AT 3:00PM

ACTUARIAL SERVICES

REPLY SHEET (Page 5 of 10)

Pricing for Combined Retirement Board and OPEB Actuarial Services

Please state below in firm fixed fees the cost related to the provision of the specified actuarial services under the "Scope of Services" section in this RFP for each year:

| | | |
|-----------|----------------|----------|
| Year 2013 | Firm fixed fee | \$ _____ |
| Year 2014 | Firm fixed fee | \$ _____ |
| Year 2015 | Firm fixed fee | \$ _____ |
| Year 2016 | Firm fixed fee | \$ _____ |
| Year 2017 | Firm fixed fee | \$ _____ |

Please give the hourly rate for additional actuarial consulting services for each year:

| | | |
|-----------|-------------|----------|
| Year 2013 | Hourly rate | \$ _____ |
| Year 2014 | Hourly rate | \$ _____ |
| Year 2015 | Hourly rate | \$ _____ |
| Year 2016 | Hourly rate | \$ _____ |
| Year 2017 | Hourly rate | \$ _____ |

Please give the meeting rate for meetings in excess of four (4) in number for identified "Scope of Services" work and for meetings related to additional actuarial consulting services paid by hourly rate for each year:

| | | |
|-----------|--------------|----------|
| Year 2013 | Meeting rate | \$ _____ |
| Year 2014 | Meeting rate | \$ _____ |
| Year 2015 | Meeting rate | \$ _____ |
| Year 2016 | Meeting rate | \$ _____ |
| Year 2017 | Meeting rate | \$ _____ |

Respondent's Company Name _____

Authorized Signature _____

SECTION V: REPLY SHEETS

TOWN OF GREENWICH

REQUEST FOR PROPOSAL #6943 DEADLINE: 2/ 13/13 AT 3:00PM

ACTUARIAL SERVICES

REPLY SHEET (Page 6 of 10)

Pricing for Combined Retirement Board and BET Actuarial Services Continued

Please provide the travel expense rate for meetings in excess of four (4) in number for identified "Scope of Services" work, for additional actuarial consulting services and for meetings related to additional actuarial consulting services:

| | | |
|-----------|---------------------|----------|
| Year 2013 | Travel expense rate | \$ _____ |
| Year 2014 | Travel expense rate | \$ _____ |
| Year 2015 | Travel expense rate | \$ _____ |
| Year 2016 | Travel expense rate | \$ _____ |
| Year 2017 | Travel expense rate | \$ _____ |

Please state requested timing of payments to be made by the Town for the services.

Please list below the company name, address, telephone number and responsible individual's name for all proposed subcontractors to be associated with these actuarial services. If none, please write "None".

Respondent's Company Name _____

Authorized Signature _____

SECTION V: REPLY SHEETS

TOWN OF GREENWICH

REQUEST FOR PROPOSAL #6943 DEADLINE: 2/ 13/13 AT 3:00PM

ACTUARIAL SERVICES

REPLY SHEET (Page 8 of 10)

References

The respondent shall provide below all of the necessary information on references as specified in the RFP:

1. Company Name _____
 Date of Service _____
 Description of Service _____
 Contact Name and Title _____
 Contact Telephone _____

2. Company Name _____
 Date of Service _____
 Description of Service _____
 Contact Name and Title _____
 Contact Telephone _____

3. Company Name _____
 Date of Service _____
 Description of Service _____
 Contact Name and Title _____
 Contact Telephone _____

Respondent's Company's Name _____

Authorized Signature _____

SECTION V: REPLY SHEETS

TOWN OF GREENWICH

REQUEST FOR PROPOSAL #6943 DEADLINE: 2/ 13/13 AT 3:00PM

ACTUARIAL SERVICES

REPLY SHEET (Page 9 of 10)

Non-collusion Language

In submitting this bid/proposal, the undersigned declares that this is made without any connection with any persons making another bid/proposal on the same contract; that the bid/proposal is in all respects fair and without collusion, fraud or mental reservation; and that no official of the Town, or any person in the employ of the Town, is directly or indirectly interested in said bid/proposal or in the supplies or work to which it relates, or in any portion of the profits thereof.

Compliance with Ethics Code

In submitting this bid, the undersigned further declares that it has not, and will not, induce or attempt to induce any Town of Greenwich employee or officer to violate the Greenwich Code of Ethics in connection with its offer to provide goods or services under, or otherwise in the performance of, such contract.

The undersigned further understands that the above declarations are material representations to the Town of Greenwich made as a condition to the acceptance of the bid/proposal. If found to be false, the Town of Greenwich retains the right to reject said bid/proposal and rescind any resulting contract and/or purchase order and notify the undersigned accordingly, thereby declaring as void said bid/proposal and contract or purchase order.

RESPONDENT'S COMPANY NAME _____

ADDRESS _____

TELEPHONE # _____ **FAX #** _____

E-MAIL ADDRESS _____

WEB SITE _____

AUTHORIZED SIGNATURE _____

PRINT NAME _____

TITLE _____

STATE OF CT TAXPAYER ID # _____

FEDERAL TAXPAYER ID # _____

INCORPORATED IN THE STATE OF _____ **Corporate Seal** **Yes** **No**

SECTION V: REPLY SHEETS

TOWN OF GREENWICH

REQUEST FOR PROPOSAL #6943 DEADLINE: 2/ 13/13 AT 3:00PM

ACTUARIAL SERVICES

REPLY SHEET (Page 10 of 10)

NON- COLLUSION LANGUAGE CONTINUED

The Greenwich Code of Ethics can be found at www.greenwichct.org. Relevant provisions of the Code of Ethics state as follows:

2. DEFINITION. (1) Indirect interest, without limiting its generality, shall mean and include the interest of any subcontractor in any prime contract with the town and the interest of any person or his immediate family in any corporation, firm or partnership which has a direct or indirect interest in any transaction with the town. (2) Substantial financial interest shall mean any financial interest, direct or indirect, which is more than nominal and which is not common to the interest of other citizens of the town. (3) Town officer shall mean and include any official, employee, agent, consultant or member, elected or appointed, of any board, department, commission, committee, legislative body or other agency of the town. (4) Transaction shall mean and include the offer, sale or furnishing of any real or personal property, material, supplies or services by any person, directly or indirectly, as vendor, prime contractor, subcontractor or otherwise, for the use and benefit of the town for a valuable consideration, excepting the services of any person as a town officer.
3. GIFTS AND FAVORS. No town officer or his immediate family shall accept any valuable gift, thing, favor, loan or promise which might tend to influence the performance or nonperformance of his official duties.
4. IMPROPER INFLUENCE. No town officer having a substantial financial interest in any transaction with the town or in any action to be taken by the town shall use his office to exert his influence or to vote on such transaction or action.

By signing below, the undersigned declares that he/she has read the non-collusion language contained herein and agrees to abide by its contents:

AUTHORIZED SIGNATURE _____

PRINT NAME _____

RESPONDENT'S COMPANY NAME _____

SECTION VI: INSURANCE PROCEDURE

**TOWN OF GREENWICH
INSURANCE PROCEDURE**

PLEASE NOTE:

RETURN THIS COMPLETED FORM WITH YOUR BID/PROPOSAL. FAILURE TO DO SO MAY RESULT IN YOUR BID/PROPOSAL BEING REJECTED.

Please take the insurance requirements of the Contract to your agent/broker immediately upon receipt of the bid documents to determine your existing coverage and any costs for new or additional coverage required for the work noted in this Request for Bid/Proposal. Any bids/proposals which contain exceptions to the insurance requirements may be considered nonresponsive and may be rejected.

STATEMENT OF VENDOR:

I have read the insurance requirements for this work and have taken the documentation to my insurance agent/broker. The bid/proposal cost reflects any additional costs relating to insurance requirements for this work.

If I am awarded this contract, I or my insurance agent shall submit all of the required insurance documentation to the Town of Greenwich Purchasing Department within ten (10) days after the date of the award of the contract.

Signature

Date

Contractor

Insurance Requirement Sheet

EXHIBIT A

Insurance Requirements: Before starting and until final completion and acceptance of the work called for in the Contract and expiration of the guarantee period provided for in the Contract, the Contractor and its subcontractors, if any, shall procure and maintain insurance of the types and amounts checked in paragraphs A through F below for all Contract operations.

- A. **General Liability, with minimum coverages for combined bodily injury and property damage liability of \$2,000,000 general aggregate, \$1,000,000 per occurrence including:**
 - 1. **Commercial General Liability.**
 - 2. **Town as additional insured.**
 - 3. **Owners and Contractors Protective Liability (separate policy in the name of the Town).**
- B. **Comprehensive Automobile Liability, with minimum coverages of \$1,000,000 combined single limit for bodily injury and property damage, including, where applicable, coverage for any vehicle, all owned vehicles, scheduled vehicles, hired vehicles, non-owned vehicles and garage liability.**
- C. **Excess Liability, with minimum coverage of \$5,000,000 in umbrella form, or such other form as approved by Town Department Head and Risk Management Director.**
- D. **Workers' Compensation and Employer's Liability, with minimum coverages as provided by Connecticut State Statutes.**
- E. **Professional Liability (for design and other professionals for Errors and Omissions), with minimum coverage of \$1,000,000. If the policy is on a claims-made basis, coverage shall be continually renewed or extended for three (3) years after work is completed under the Contract.**
- F. **Other (Builder's Risk, etc.): _____.**
- G. **CERTIFICATE HOLDER: TOWN OF GREENWICH
ATTN: PURCHASING DEPT. (Also fill in on ACORD Certificate of Insurance)
101 Field Point Road, Greenwich, CT 06830.**

The **Acord certificate of insurance form** must be executed by your insurance agent/broker and returned to this office. Company name and address must conform on all documents including insurance documentation. It is required that the agent/broker note the individual insurance companies providing coverage, rather than the insurance group, on the Acord form. The Contract number (provided to the awarded Contractor), project name and a brief description must be inserted in the "Description of Operations" field. It must be confirmed on the Acord Form that the Town of Greenwich is endorsed as an additional insured by having the appropriate box checked off and stating such in the "Description of Operations" field. A letter from the awarded vendor's agent/broker certifying that the Town of Greenwich has been endorsed onto the general liability policy as an additional insured is also mandatory. This letter must follow exactly the format provided by the Purchasing Department and must be signed by the same individual authorized representative who signed the Acord form, both of which must be signed with original ink "wet" signatures. If the insurance coverage required is provided on more than one Acord certificate of insurance, then additional agent/broker letters are also required. Contract development will begin upon receipt of complete, correct insurance documentation.

The Contractor shall be responsible for maintaining the above insurance coverages in force to secure all of the Contractor's obligations under the Contract with an insurance company or companies with an AM Best Rating of B+:VII or better, licensed to write such insurance in Connecticut and acceptable to the Risk Manager, Town of Greenwich. For excess liability only, non-admitted insurers are acceptable, provided they are permitted to do business through Connecticut excess line brokers per listing on the current list of Licensed Insurance Companies, Approved Reinsurers, Surplus Lines Insurers and Risk Retention Groups issued by the State of Connecticut Insurance Department.

**AGENT/BROKER
(LETTERHEAD)**

(Date)

Town of Greenwich
Joan T. Sullivan, Director of Purchasing
101 Field Point Road
Greenwich, CT 06830

Re: **(Name of the Insured)**
Town of Greenwich Contract No. XXXX

Dear Mrs. Sullivan:

The undersigned hereby certifies as follows:

- (1) I am a duly licensed insurance agent under the laws of the State of **[insert state]** and an authorized representative of all companies affording coverage under the Acord form submitted herewith;
- (2) The Town of Greenwich has been endorsed as an additional insured under general liability policy no. **[insert policy number]**, issued by **[insert company affording coverage]** to **[name of insured]**;
- (3) The general liability policy referenced in paragraph (2) above meets or exceeds the coverage in Commercial General Liability ISO form CG 00 01 10 01, including contractual liability;
- (4) The policies listed in the Acord form submitted to the Town of Greenwich in connection with the above referenced contract have been issued to the insured in the amounts stated and for the periods indicated in the Acord form; and
- (5) The Town of Greenwich shall be given thirty (30) days prior written notice of cancellation, lapse or restrictive amendment (except ten days notice of nonpayment) of the policies listed in the Acord form.

Sincerely,

(Signature)

Type Name
Authorized Representative for all companies listed in the Acord form

PERSONAL SERVICE CONTRACT

Contract No.

THIS AGREEMENT made and entered into this _____ day of _____ 2013, by and between the TOWN OF GREENWICH (hereinafter referred to as "Town"), acting herein by the undersigned official, and _____ (hereinafter referred to as "Contractor"), whose principal office is located at _____, acting herein by _____ its _____, hereunto duly authorized,

W I T N E S S E T H:

WHEREAS, the Town contemplates:

WHEREAS, the Town desires to retain the services of the Contractor to perform the following work:

NOW THEREFORE, in consideration of the mutual covenants and agreements herein contained, the parties agree as follows:

1. Describe services to be performed:

2. Describe method and terms of payment:

This agreement consists of:

Personal Service Contract form (pp. 1-7);

Exhibit A, Insurance Requirements & Certificate of Insurance (pp. XX-XX);

Other exhibit(s) (yes/no) entitled _____ (pp. _____);

Other attachment(s) (yes/no) entitled _____ (pp. _____);

for a total number of _____ numbered pages (hereinafter collectively referred to as "Contract").

3. Any conflict between this Contract and any invitation to bid, request for proposal, bid or response to request for proposal shall be resolved in favor of this Contract, with the exception that any provision of an invitation to bid, request for proposal, bid or response to request for proposal, that is attached as an Exhibit to this Contract, which Exhibit provides for a higher standard of obligation or service by Contractor, shall control as to the standard of obligation and service required of the Contractor and shall thereby supplement this Contract.

4. The Town may at any time, and for any reason, direct the discontinuance of the services and work contemplated under this Contract for a period of time. Such direction shall be in writing and shall specify the period during which the work shall be discontinued. The work shall be resumed on the dates specified in such direction, or upon such other date as the Town may thereafter specify in writing. The period during which such work shall have been discontinued shall be deemed added to the time for performance. Stoppage of work under this article shall not give rise to any claim against the Town.

5. The service and work contemplated under this Contract shall be completed in full on or before .

6. The Town may at any time and for any reason terminate this Contract by written notice specifying the termination date, which shall be not less than seven (7) days from the date such notice is given. In the event of such termination, services shall be paid for in such amount as shall compensate for the portion of the work satisfactorily performed prior to termination. Such amount shall be fixed by the Town after consultation with the Contractor and shall be subject to audit by the Town Comptroller. Termination under this section shall not give rise to any claim against the Town for damages for compensation in addition to that provided hereunder.

7. It is the intent of this Contract to secure the personal services of the Contractor or a duly authorized and competent representative(s) of the Contractor acceptable to the Town. Failure of the Contractor for any reason to make the personal service of such a person available to the Town to the extent necessary to perform the services required skillfully and promptly shall be cause for termination of this Contract.

8. The Contractor shall not assign this Contract without prior consent of the Town in writing.

9. In the event of death or disability of the principal of the Contractor, any qualified partner or associate of the Contractor may be authorized, at the option of the Town, to continue to perform and complete all the terms, covenants and provisions contained in this Contract.

10. If the Contractor has been delayed and as a result will be unable, in the opinion of the Town, to complete performance fully and satisfactorily within the time allowed therefor, the Contractor, upon submission of evidence of the cause of the delay, satisfactory to the Town, shall at the discretion of the Town, be granted an extension of time for performance equal to the period that the Contractor was actually and necessarily delayed.

11. When the Town shall have reasonable grounds for believing that a) the Contractor will be unable to perform this Contract fully and satisfactorily within the time fixed for performance, or b) a meritorious claim exists or will exist against the Contractor or the Town arising out of the negligence of the Contractor or the Contractor's breach of any provision of this Contract, then the Town may withhold payment of any amount otherwise due and payable to the Contractor hereunder. Any amount so withheld may be retained by the Town for such period as it may deem advisable to protect the Town against any loss and may, after written notice to the Contractor, be applied in satisfaction of any claim herein described. This provision is intended solely for the benefit of the Town. No person shall have any right against the Town or claim against the Town by reason of the Town's failure or refusal to withhold monies. No interest shall be payable by the Town on any amounts withheld under this provision. This provision is not intended to limit or in any way prejudice any other right of the Town.

12. The acceptance by the Contractor, his successors or assigns, of any payment made on the final requisition under this Contract, or of any final payment due on termination of this Contract, shall constitute a full and complete release of the Town from any and all claims, demands and causes of action whatsoever which the Contractor, his successors or assigns, have or may have against the Town under the provisions of this Contract.

13. The Contractor shall not assert any claim arising out of any supervisory act or omission by any agent, officer or employee of the Town in the execution or performance of this Contract against any such agent, officer or employee. The Contractor shall require each person supplying labor or materials to the Contractor to agree in writing to the Contractor not to make any claim against the Town, its officers, agents or employees by reason of such labor or materials, or by reason of any acts or omissions of the Contractor.

14. The Contractor shall indemnify and save harmless the Town and its officers, agents, servants and employees, from and against any and all claims, demands, suits, proceedings, liabilities, judgments, awards, losses, damages, costs and expenses, including attorneys' fees, on account of bodily injury, sickness, disease, death or other damages sustained by any person or persons injury or damage to or destruction of any property, directly or indirectly arising out of, relating to, or in connection with the work called for in the Contract, whether or not due or claimed to be due in whole or in part to the active, passive or concurrent negligence, fault, or contractual default of the Contractor, its officers, agents, servants or employees, any of its subcontractors, the Town, any of its respective officers, agents, servants, or employees and/or any other person or persons, and whether or not such claims, demands, suits or proceedings are just, unjust, groundless, false, or fraudulent, and the Contractor shall and does hereby assume and agrees to pay for the defense of all such claims, demands, suits and proceedings, provided, however, that the Contractor shall not be required to indemnify the Town, its officers, agents, servants, or employees, against any such damages occasioned solely by acts or omissions of the Town, its officers, agents, servants or employees, other than supervisory acts or omissions of the Town, its officers, agents, servants, or employees, in connection with the work called for in the Contract.

15. The Contractor shall take out and maintain during the life of this Contract the types and amounts of insurance as are set forth in the attached Exhibit B. Before commencing the work called for in this Contract, the Contractor shall furnish the Town with a completed certificate of insurance on the Acord form that is referenced in the attached Exhibit B evidencing such coverage.

16. Contractor agrees to comply in every respect with applicable State and Town laws, regulations and ordinances.

17. Contractor shall at all times be deemed to be an independent contractor and shall be wholly responsible for the manner in which it performs the services required of it by the terms of this Contract. Nothing herein contained shall be construed as creating the relationship of employer and employee or principal and agent, between the Town, its agencies, employees, agents and Contractor, its employees and agents. Contractor assumes exclusively the responsibility for the acts of its employees and agents as they relate to the services to be provided during the course and scope of their employment. Contractor, its agents and employees shall not be entitled to any rights and privileges of Town employees and shall not be considered in any manner to be Town employees.

18. The laws of the State of Connecticut shall govern this Contract and any and all litigation related to this Contract. In the event of litigation related to this Contract, the exclusive forum shall be the State of Connecticut and the exclusive venue for such litigation shall be the Judicial District for Stamford/Norwalk at Stamford.

Dated at Greenwich, Connecticut,
this _____ day of _____ 2013.

Witnessed by:

Witnessed by:

THE TOWN OF GREENWICH

By _____ **L.S.**

Its _____

THE CONTRACTOR

By _____ **L.S.**

Its _____

STATUTORY SHORT FORMS OF ACKNOWLEDGMENT

FOR AN INDIVIDUAL ACTING IN HIS OWN RIGHT:

STATE OF _____)
) ss: _____
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, by _____
(name of person acknowledged)

Notary Public
My Commission Expires:

FOR A CORPORATION:

STATE OF _____)
) ss: _____
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____ 2013 by _____
name and title of officer/agent
of _____ a _____
name of corporation State or place of incorporation

corporation, on behalf of the corporation.

Notary Public
My Commission Expires:

FOR A PARTNERSHIP:

STATE OF _____)
) ss: _____
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, by _____ acknowledging partner or agent partner (or agent) on behalf of _____, a partnership. name of partnership

Notary Public
My Commission Expires:

BY ANY PUBLIC OFFICER, TRUSTEE, OR PERSONAL REPRESENTATIVE:

STATE OF _____)
) ss: _____
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, by _____ name and title of position

Notary Public
My Commission Expires:

STATEMENT OF PROPOSING COMPANY'S QUALIFICATIONS

Company Name _____

Address _____

Phone Number _____

When organized _____

State of incorporation _____

How many years has company been engaged in business related to this proposal under the present company's name: _____

Contracts now in hand (gross amount) _____

Company officers _____

Have you ever defaulted on a contract or failed to complete a contract within the specified time?

Yes No

If so, please explain: _____

On a separate sheet of paper to be enclosed with the proposal please list five projects similar to the proposed work and give the dollar value of the projects. The company name, contact name and telephone number must be given to be used as references.

Proposer agrees prices will remain firm for _____ days.

AUTHORIZED SIGNATURE _____

PRINT NAME _____

TITLE _____

TEL. NO. _____

TAXPAYER IDENTIFICATION NO. _____

The Retirement System of the Town of Greenwich

July 1, 2012

December 14, 2012

Actuarial Review and
Analysis

EFI ACTUARIES | EFI/LIABILITY MANAGEMENT SERVICES, INC.

The nation's leader in plan-specific, interactive asset allocation optimization counseling

WASHINGTON, DC ✕ PHILADELPHIA ✕ SEATTLE ✕ SAN FRANCISCO

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Executive Summary

Introduction

This Report presents the results of an actuarial review and analysis of the Retirement System of the Town of Greenwich as of July 1, 2012. The purposes of this study are:

- To perform the annual actuarial study in accordance with the provisions of Subsection (c) of Section 202 of the Greenwich Municipal Code,
- To compute the annual dollar contribution required to fund the Plan in accordance with actuarial principles for fiscal year 2014 (payable July 1, 2013), and
- To present those items required for disclosure under Statement No. 25 of the Governmental Accounting Standards Board (GASB).

Plan Contributions

As expected, during the year since the July 1, 2011 review, the Town contribution has increased to \$19.83 million. The tables below show a comparison and reconciliation of the contributions for fiscal years 2013 and 2014. Of the roughly \$3.5 million increase, \$0.8 million was due to changes in economic assumptions and \$2.5 million due to recent investment experience.

Table 1: Town Contributions and Rates

| | <u>Town Contribution</u> | <u>Contribution Rate % of Payroll</u> | <u>Funding Ratio Assets/Asset Target</u> |
|--|------------------------------|---|--|
| July 1, 2011 (Fiscal Year 2013 Contribution) | \$ 16,366,937 | 22.59% | 73% |
| July 1, 2012 (Fiscal Year 2014 Contribution) | \$ 19,827,782 | 27.60% | 67% |

Table 2: Change in Actuarial Liability and Town Cost from Prior Valuation

| | <u>Actuarial Accrued Liability (\$ millions)</u> | <u>Cost as % of Payroll</u> | <u>Town Contribution (\$ millions)</u> |
|--|--|---------------------------------|--|
| July 1, 2011 (FY 2013) | \$ 421.0 | 22.59% | \$ 16.4 |
| Increase/(Decrease) due to: | | | |
| Expected Increase (including Prior Investment Loss Recognition) | 18.5 | 3.22% | 2.1 |
| Actual Investment Experience | 0.0 | 0.55% | 0.4 |
| Demographic/Salary Experience | 1.8 | 0.08% | 0.1 |
| Changes in Economic Assumptions | 9.0 | 1.19% | 0.8 |
| <u>Plan Change – New Police tier</u> | <u>0.0</u> | <u>(0.03%)</u> | <u>0.0</u> |
| Total Increase/(Decrease) | 29.3 | 5.01% | 3.4 |
| July 1, 2012 (FY 2014) | \$ 450.3 | 27.60% | \$ 19.8 |

The contribution above is based on the Plan provisions and population as of July 1, 2012, and has been determined using the Actuarial Value of Plan Assets, which includes the impact of asset smoothing (i.e., deferring a portion of each year's investment gain or loss). The Town Contribution is calculated based on the projected payroll for the corresponding fiscal year.

Among the reasons for the contribution changes since the prior year were the following:

1. There was an expected decrease in the valuation (smoothed) asset value due to scheduled recognition of prior investment losses, specifically fiscal year 2009. The impact of this planned loss recognition was an increase in the contribution rate of 3.22% of pay.
2. Actual investment experience was unfavorable, and served to increase the contribution rate by 0.55% of pay, the reverse of what occurred in fiscal year 2011. The return on the market value was close to 1.2%, which is lower than the expected return. Four-fifths of this loss is deferred for future recognition, while the remaining one-fifth is recognized immediately, causing the cost increase noted above.
3. Demographic experience caused the Plan actuarial liability and cost to decrease.

Demographic gains and losses occur because of status changes within the Plan that differ from those expected: retirements, deaths, disabilities, and terminations. This also includes the impact of new entrants, as well as actual salary increases versus those expected.

Each year, we work with Town staff to improve the quality of data, filling in missing information, and correcting prior information. This is normal for a population of this size, and data quality has improved steadily over the past eight years. The impact of any corrections to the database is categorized as demographic gain or loss, and is typically not material.

The net impact of the demographic experience was to decrease the contribution rate by 0.08% of pay, which is well within a reasonable range.

4. The Board adopted several changes in actuarial assumptions, which will be phased in over a four year period, according to the following schedule. The present long term investment return assumption objective is 7.00%.

| Measurement Date | Contribution Month | Assumed Investment Return | Assumed Inflation |
|------------------|--------------------|---------------------------|-------------------|
| July 1, 2011 | July, 2012 (FY13) | 7.75% | 3.25% |
| July 1, 2012 | July, 2013 (FY14) | 7.50% | 3.00% |
| July 1, 2013 | July, 2014 (FY15) | 7.25% | 3.00% |
| July 1, 2014 | July, 2015 (FY16) | 7.00% | 3.00% |

The impact of the current step of this phase-in (highlighted above) was an increase in the contribution of \$0.8 million for fiscal year 2014. The same increase was experienced last year when the first step was implemented.

Future Costs

The basic funding mechanism for a pension plan is designed to accumulate enough assets over the course of each member's career such that when the member retires, there will be sufficient funding – from employee and employer contributions, and investment returns - to provide benefits over his remaining lifetime. The annual cost of benefit accruals is known as the Normal Cost. The current Normal Cost (Town portion) for the Plan is about 8.4% of pay for General employees and 13.7% of pay for Police and Fire. These rates are necessarily higher under more conservative economic assumptions.

At any point in time, the asset accumulation can be measured against its target, known as the Actuarial Accrued Liability, which represents the accumulation of past Normal Costs. When the asset value is below the target, the difference is amortized, such that a portion of the shortfall is added to the annual contribution. Likewise, when the asset value is above the target, a portion of the surplus is deducted from the annual contribution. In either case, the amount is called the Amortization of the Unfunded Actuarial Accrued Liability.

There are several forces that will impact future Town contributions to the Plan.

1. Normal Cost – The Plan is now closed to all General employee bargaining units, meaning that no new entrants from these units enter the Plan when they are hired. Current members will remain in the Plan until they leave active service. The Plan remains open for Police and Fire (Safety) members; however new Police hires have a different benefit structure (outlined in the next Section of this Report). Because the annual benefit cost (Normal Cost) is higher for Police and Fire members, the percentage of pay cost is expected to increase, even if the total contribution amount will eventually decrease due to the closed Plan for General members.
2. Unfunded Actuarial Accrued Liability (UAAL) – The current UAAL is over \$130 million under current assumptions, and is expected to increase over the next few years as prior (2009) investment losses are fully recognized, and the Board's present economic assumptions are fully phased in. Plan costs will remain higher than the Normal Cost while the UAAL is amortized.
3. Changes in Actuarial Assumptions – As the Board's new assumptions are phased in over the next two years, the required contributions will increase due to the lower expected investment return.

Appendix II at the end of this Report shows a five year baseline projection of funding progress and contributions.

Conclusion and Certification

All actuarial calculations have been prepared in accordance with GASB Statement No. 25 and generally accepted actuarial principles, procedures, and standards of practice as prescribed by the Actuarial Standards Board. All schedules in this report were prepared by EFI. The undersigned meet the qualification standards of the American Academy of Actuaries and are qualified to conduct this Study.

Respectfully submitted,



Gregory M. Stump, FSA, MAAA



Karen T. Earley, FSA, MAAA

**Section 1: Summary of Plan Provisions,
Member Statistics, and
Actuarial Assumptions**

1.1: Brief Outline of Plan Provisions

Definitions

Compensation

For Management Confidential, Elected Officials, certain Board of Education members, LIUNA, GMEA, Teamsters, Instructional Aides, and Public Health Nurses, Compensation denotes annual earnable compensation.

For Firemen and Police Officers (hired before July 1, 2011), Compensation denotes annual earnable compensation, including injury and holiday pay, and shift differential. For both Firemen and Police Officers, EMT/MRT compensation is included. For Firemen, pays for dispatch stipend, handling of hazardous materials, confined space and trench rescue are also included.

Out of class pay is included for all employees. For Police Officers hired on or after July 1, 2011, pensionable compensation is limited to 112% of base pay.

Average Final Compensation

A Participant's Defined Benefit Average Final Compensation is based on the highest consecutive 26 bi-weekly pay periods.

Military Service

Service purchased for prior military service in accordance with existing collective bargaining agreements. The maximum credit is four years.

Membership Service

Service rendered subsequent to 1/1/1946 and since employee last became a member.

Creditable Service

Prior service plus military service plus purchased service plus membership service.

Eligibility Service

Prior service plus membership service.

Participation

Membership is mandatory for all regular employees in the service of the Town whether appointed or elected, except certified employees in public schools who are eligible to participate in the Connecticut Teachers' Retirement System.

Effective July 1, 2005, employees hired into the Teamster and GMEA bargaining units are ineligible for Retirement System membership. Instead, these employees must participate in the Town's defined contribution plan.

Effective September 1, 2006, new Elected Officials and Management Confidential employees are ineligible for Retirement System membership, and must participate in the Town's defined contribution plan.

Effective November 1, 2008, new employees hired into both the LIUNA and LIUNA Aides bargaining units are ineligible for Retirement System membership, and must participate in the Town's defined contribution plan.

Effective February 1, 2009, new employees hired into the Nurses bargaining unit are ineligible for Retirement System membership, and must participate in the Town's defined contribution plan.

Retirement Benefit

Eligibility

General employees are eligible for normal service retirement upon reaching age 65, upon attaining age 60 and completing 20 or more years of Eligibility Service or upon satisfying the Rule of 80.

Police Officers hired before July 1, 2011 are eligible for service retirement upon reaching age 55 or upon completing 20 or more years of Eligibility Service. Fire fighters are eligible for service retirement upon reaching age 50 or upon completing 20 or more years of Eligibility Service.

Police Officers hired on or after July 1, 2011 are eligible to retire after 25 years of service and age 50.

General employees are eligible for an early service retirement upon reaching age 60, except for Management Confidential, Elected Officials and certain Board of Education members, who can qualify for early service retirement at the earlier of age 55 with 5 years of Eligibility Service, or age 60.

Accrual Rates

For Management Confidential, Elected Officials, and certain Board of Education members, the Rate of Benefit is 1/40 for the first 20 years of Creditable Service and 1/50 thereafter.

For LIUNA, Teamsters, GMEA members, Instructional Aides, and Public Health Nurses, the Rate of Benefit is 1/50 for each year of Creditable Service.

For Police Officers (hired before July 1, 2011) and Firefighters, the Rate of Benefit is 1/40 for each year of Creditable Service. However, once a Police Officer (hired before 7/1/2011) or Firefighter has completed 26 years and 8 months of Creditable Service, the total benefit increases to a maximum of

75% of Final Compensation. For Police Officers hired on or after July 1, 2011 the Rate of Benefit is 1/50 for each year of Creditable Service.

Police Officers hired before July 1, 2011 (and retired on or after July 1, 2004) are eligible to receive an additional 0.5% of Final Compensation for each full year of Creditable Service after reaching the maximum retirement allowance, up to a maximum of seven years. Alternatively, an employee may elect, effective as of the date he or she reaches the maximum retirement allowance, to cease participation in the Retirement System and commence participation in a defined contribution plan to be established by the Town. An employee who makes this election will have his or her retirement allowance frozen as of the date of this election, and may not begin receiving this benefit until his or her actual retirement.

Benefit Amount

The normal service benefit amount is composed of two pieces:

1. An annuity which is the actuarial equivalent of the member's accumulated payroll deductions with interest at retirement; and
2. A pension which, together with the annuity, is equal to the Rate of Benefit multiplied by Average Final Compensation, multiplied by the number of years of Creditable Service, not greater than $\frac{2}{3}$ of Average Final Compensation. For Police Officers (hired before 7/1/2011) and Firefighters, the maximum benefit increases to $\frac{3}{4}$ of Final Compensation upon completion of 26 years and 8 months of Creditable Service.

No annual benefit shall be less than \$1,200 if the participant has provided 15 or more years of Eligibility Service.

In the past, members have been able to reduce their contributions by the amount of tax under the Federal Insurance Contributions Act or elect not to increase their pension rate of contribution. As of January 1, 2002, all employees must make a one-time irrevocable election whether or not to contribute to the System. If an employee has contributed less than the full percentage required at any point in his career, his benefit will be reduced. The benefit shall be equal to the greater of:

1. The pension equal to the amount which such pension would have been if the member had contributed throughout membership service the full percentage of earnable compensation required without regard to such election, plus the annuity which is the actuarial equivalent of the member's accumulated payroll deductions at retirement, or
2. $\frac{2}{3}$ of the total retirement allowance set forth above, plus $\frac{1}{3}$ of the retirement allowance set forth above multiplied by a fraction the numerator of which is the actual accumulated deductions at the time of retirement based on the actual contributions made by such member, and the denominator of which is the accumulated deductions which would have existed if such member

had contributed throughout his membership service the full percentage of his earnable compensation. The fraction is limited to a maximum of one and a minimum of zero.

For Management Confidential and Elected Officials, the amount of contributions and contribution deficiency, if any, is frozen as of December 31, 1994.

For certain Board of Education members, the amount of contributions and contribution deficiency, if any, is frozen as of June 30, 1998.

The early service retirement allowance is calculated in the same manner as the normal service retirement, except that the pension portion of the early retirement benefit is equal to the actuarial equivalent of the pension portion of a normal service retirement benefit commencing at the age at which the member would have completed the minimum requirements for service, computed on the basis of Average Final Compensation and Creditable Service at the date of retirement. The methods and minimums for applying a benefit reduction due to a contribution deficiency still apply.

Form of Benefit

For general employees, the normal form of benefit is a life annuity with a provision that upon the member's death the excess of accumulated deductions at retirement over the annuity payments received will be paid to the designated beneficiary or estate.

For Police Officers and Firefighters, the normal form of benefit is an annuity payable to the participant, with a survivor benefit of 50% of the pensioner's monthly allowance payable to the surviving spouse or minor children upon the death of the retiree. The surviving spouse receives the survivor's allowance until death or remarriage, whichever occurs first. If the surviving spouse dies, leaving surviving minor children, the 50% benefit passes to them in equal shares until each reaches age 18 (23 if full time student.) The benefit payable to a dependent child is payable for life (or the duration of incapacity) if the child is disabled.

Ordinary Disability Retirement Benefit

Eligibility

A participant is eligible for an ordinary disability retirement benefit if the participant is mentally or physically incapacitated for the further performance of duty, provided that such incapacity is likely to be permanent and not eligible for an accidental disability allowance. A participant must have earned 12 years of Eligibility Service (10 for Police Officers and Firefighters) to qualify for occupational disability.

Benefit Amount

The ordinary disability retirement allowance is composed of two pieces:

1. An annuity which is the actuarial equivalent of the member's accumulated deductions at retirement; and
2. A pension which, together with the annuity, provides a total retirement allowance equal to 90% of the Rate of Benefit multiplied by the number of years of Creditable Service, not greater than 90% of 2/3 of Average Final Compensation and not less than \$1,080. The minimum allowance is 30% of Average Final Compensation.

If there is a contribution deficiency at the time of retirement, the pension portion of the benefit is reduced to the amount which such pension would have been if the member had contributed throughout membership service the full percentage of earnable compensation required without regard to such election. Again, the amount of contributions and contribution deficiency, if any, is frozen for members of the Management Confidential and Elected Officials, and for certain Board of Education members.

Form of Benefit

The benefit form is the same as that for a normal service retirement benefit.

Accidental Disability Retirement Benefit

Eligibility

A participant is eligible for an accidental disability retirement benefit if the participant is totally and permanently incapacitated due to an accident occurring while in the performance of duty. Disability due to hypertension or heart disease, in the case of Police Officers and Firefighters, is presumed to have been suffered in the line of duty.

Benefit Amount

The accidental disability retirement allowance is composed of two pieces:

1. An annuity which is the actuarial equivalent of the member's accumulated deductions at retirement; and
2. A pension equal to 50% of average final compensation.

If the member has completed the minimum requirements for service retirement, he shall receive the greater of the allowance calculated above or a service retirement allowance.

Form of Benefit

The benefit form is the same as that for a normal service retirement benefit.

Pre-Retirement Ordinary Death Benefit

Eligibility

Upon the death of a Policeman or Firefighter from causes not entitling his beneficiary to accidental death benefits, a benefit is payable to the member's spouse prior to remarriage; or if no surviving spouse, payable in equal share to dependent children under age 18 (23 if a full-time student) until such children attain age 18 (23). If a surviving child is mentally or physically incapacitated, for substantial gainful employment before age 18, then the portion of the survivor's benefit is payable to that child during the duration of such incapacity.

The surviving spouse of general employee is eligible to receive a benefit upon the non-accidental death of the employee if the employee has completed 10 years of Eligibility Service.

As of July 1, 2005, participants in the GMEA and Teamster bargaining units are eligible to receive this non-accidental death benefit once the employee has completed 5 years of Eligibility Service.

Benefit Amount

For Police Officers and Firefighters, the benefit is an annual pension equal to one quarter of the member's Compensation at the time of death.

For general employees, the pre-retirement death benefit is 100% of the benefit that would have been payable had the participant retired immediately prior to his or her death and elected to receive a 100% Joint and Survivor annuity. Members of the Nurses bargaining unit are not eligible to receive this benefit.

As of July 1, 2004, Police Officers who are eligible for retirement at the time of death are eligible to receive the greater of their current death benefit or the pre-retirement death benefit described above for general employees.

Form of Benefit

For Police Officers and Firefighters, the death benefit begins when the participant dies and continues as described above. For general employees the death benefit is payable to the surviving spouse for life.

Pre-Retirement Accidental Death Benefit

Eligibility

Upon the death of a member resulting from an accident in the actual performance of duty, a benefit is payable to the member's spouse prior to remarriage; or if no spouse or if the spouse dies or remarries before the youngest child attains the age of 18 (23 if a full-time student), then to the child or children under age 18(23) until the youngest child attains age 18 (23); or if none of the foregoing

exists, then to the member's dependent father or mother, as the Retirement Board in its discretion shall determine, for life. Death due to hypertension or heart disease shall only be presumed to have been accidental for Police Officers and Firefighters.

Benefit Amount

The benefit is an annual pension equal to one half of the member's Average Final Compensation at the time of death.

Form of Benefit

The benefit is payable upon the death of the member to the appropriate beneficiary, as described above.

Termination Benefit

Eligibility

LIUNA members, GMEA members, Management Confidential employees and Elected Officials are eligible for a termination benefit after earning five years of Eligibility Service. As of June 30, 2005, members of the Teamsters and Nurses bargaining units are also eligible for a termination benefit after earning five years of Eligibility Service. All other members are eligible once they have earned ten years of Eligibility Service.

Benefit Amount

The benefit amount is computed in the same manner as a service retirement, using the Average Final Compensation and Creditable Service to the date of termination.

Form of Benefit

The benefit is payable in the same form as the service retirement benefit, except that the annuity does not begin immediately. For general employees, the benefit is deferred to age 65, age 60 if the employee has 30 years of Eligibility Service, or at the earliest age at which the member is in compliance with the Rule of 80. The benefit for Police Officers is deferred to age 55. The benefit for Fire Fighters is deferred to age 50.

Return of Deductions

Upon the withdrawal of a member, the amount of his accumulated deductions, plus any earnings thereon, is payable to him on demand, and he may still receive an employer provided benefit if eligible.

Upon the death of a member prior to retirement, the amount of his accumulated deductions is paid to his beneficiary or his legal representatives.

Workmen's Compensation Benefit Offset

Any amounts payable under the provisions of any Workmen's Compensation Law or policy, or under the provisions of any similar law or policy to a member on account of disability or death are in some circumstances offset against any Retirement System benefits provided from the contributions of the Town on account of such disability or death. This provision is slightly different for Fire Fighters and Police Officers.

Optional Benefit Forms

Prior to retirement, a member may elect to convert his retirement allowance into a benefit of equivalent actuarial value in accordance with one of the optional forms described below.

1. A reduced retirement allowance payable during his life with the provision that on his death the excess, if any, of his accumulated deductions at the time of retirement over the annuity payments made to him will be paid to his designated beneficiary or estate (the retirement allowances of general employees are not reduced to provide for this benefit form); or
2. A reduced retirement allowance payable during his life with the provision that after his death the reduced allowance will be continued for life to the beneficiary designated by him at the time of his retirement; or
3. A reduced retirement allowance payable during his life with the provision that after his death an allowance of one-half of his reduced allowance will be continued for life to the beneficiary designated by him at the time of his retirement (the retirement allowances of Police Officers and Fire Fighters are not reduced to provide for this benefit form.)

Post Retirement Adjustments

Commencing July 1, 1980, the retirement allowances of the then current beneficiaries were increased by an amount equal to the greater of 3% of the retirement allowance for each full year of retirement through July 1, 1979 or the amount necessary to raise the retirement allowance to the level it would have been had the formula minimum been \$200 per month at retirement.

Commencing July 1, 1987, the retirement allowances of the then current beneficiaries who were retired as of June 30, 1982 were increased by an amount based on current age and maximum allowance.

Commencing July 1, 1993, the retirement allowances of the then current beneficiaries who were retired as of June 30, 1987 were increased by an amount equal to 3% of the allowance for each full year of retirement from July 1, 1982 through June 30, 1988. The minimum increase was \$50 per month.

Commencing July 1, 1996, the retirement allowances of the then current beneficiaries who were retired as of June 30, 1994 were increased by an amount based on age and a percentage of the change in the Consumer Price Index from the June following retirement to June, 1996. The increased amount was equal to $\frac{1}{4}$ of the CPI for All Urban Consumers (CPI-U) increase for benefits payable up to age 65, and $\frac{1}{2}$ of the CPI-U increase for benefits payable at age 65.

Commencing July 1, 2000, the retirement allowances of the then current beneficiaries who were retired as of June 30, 1998 were increased by an amount based on age and a percentage of the change in the Consumer Price Index from June 1996 (or the June following retirement if retired after June 30, 1994) to June 1999. The increased amount was equal to 100% of the CPI for All Urban Consumers (CPI-U) increase. A minimum increase of \$20 per month also applied.

Commencing July 1, 2005, the retirement allowances of the then current beneficiaries who were retired as of June 30, 2003 were increased by an amount based on the percentage of the change in the Consumer Price Index from June 1999 (or the June following retirement if retired after June 30, 1999) to June 2004. The increased amount was equal to 100% of the CPI for All Urban Consumers (CPI-U) increase.

Subject to the conditions set forth below, the COLA shall be 100% of the annual increase in the Consumer Price Index for Urban Wage Earners and Clerical Workers for the New York-Northern New Jersey-Long Island, NY-NJ-CT-PA (CPI-W), not to exceed 3%, measured from May as reported in June.

In no event shall a retiree's annual retirement allowance exceed 150% of the allowance at which the employee retired. In the event the annual increase in the CPI is less than one percent (1%) no COLA shall be due. This recurring COLA shall be applicable (after one year of retirement) to Teamster members who terminate on or after July 1, 2004, to GMEA, Management Confidential and Elected Official members who terminate on or after July 1, 2005, and to LIUNA members and Professional Assistants who terminate on or after July 1, 2007. In each case, the member must be vested upon termination.

Early Retirement Incentive Programs

During fiscal years 1996, 1998, 2000, 2002 and 2009, early retirement incentive plans were in effect that allowed certain eligible members to retire with enhanced benefits, payable immediately.

Funding

The Town and the employees share in the cost of the Plan.

Employees of the different bargaining units contribute according to the following schedule:

- For LIUNA members, the rate of contribution is 4% as of June 30, 2002. For members hired on or after 7/1/2003, these contributions are mandatory.

- For Public Health Nurses, the rate of contribution is 4%. For Instructional Aides, the rate is 5%.
- For Police Officers and Fire Fighters, the rate of contribution is 5%. Member contributions cease once the member has completed 26 years and 8 months of Creditable Service, even for Police Officers who elect to continue earning benefits after the 26 years and 8 months period.
- For GMEA members, the rate of contribution is 4%. For members hired on or after 7/1/2003, these contributions are mandatory.
- For Teamsters, the rate of contribution is 4% as of February 9, 2002. For members hired on or after 7/1/2003, these contributions are mandatory.
- Management Confidential, Elected Officials and certain Board of Education members are not required to contribute to the System.

As of January 1, 2002, all employees were required to make a one-time irrevocable election whether or not to contribute to the System.

As of July 1, 2002, all employee contributions are made on a pre-tax basis.

The Town makes annual contributions consisting of a normal contribution which covers liabilities on account of the creditable service of members, and a portion to amortize the unfunded accrued liability or surplus.

Changes in Plan Provisions

All Police members hired after July 1, 2011 are placed into a new benefit tier, with alternate provisions described above.

1.2: Summary of Participant Data

Data on active and inactive Participants and their beneficiaries as of the calculation date was supplied by the Plan Administrator on electronic media. Participant data was neither verified nor audited. However, various checks for consistency with the prior year's data were made. The following tables represent a summary of the demographics of the Plan as of July 1, 2012.

| Active Participants | General | Fire | Police | Total |
|--|----------------|-------------|---------------|--------------|
| Number | 841 | 102 | 151 | 1,094 |
| Vested | 756 | 82 | 92 | 930 |
| Non Vested | 85 | 20 | 59 | 164 |
| Average Age | 54.00 | 44.27 | 41.13 | 51.32 |
| Average Service | 16.47 | 16.35 | 14.35 | 16.16 |
| Average Pay | \$67,150 | \$84,540 | \$89,943 | \$71,917 |
| Inactive Participants | | | | |
| Number of Service Retired Participants | 666 | 45 | 140 | 851 |
| Average Age | 75.69 | 66.04 | 66.34 | 73.64 |
| Average Annual Benefit | \$17,412 | \$40,464 | \$41,122 | \$22,531 |
| Number of Beneficiaries | 120 | 17 | 34 | 171 |
| Average Age | 71.61 | 76.33 | 70.60 | 71.88 |
| Average Annual Benefit | \$12,745 | \$13,853 | \$13,748 | \$13,054 |
| Number of Disabled Participants | 53 | 9 | 23 | 85 |
| Average Age | 64.64 | 63.38 | 58.86 | 62.95 |
| Average Annual Benefit | \$20,271 | \$28,945 | \$37,812 | \$25,936 |
| Number of Terminated Vested Participants | 173 | 0 | 7 | 180 |
| Average Age | 54.55 | N/A | 45.51 | 54.20 |
| Average Annual Benefit | \$10,494 | N/A | \$18,549 | \$10,807 |

**Changes in Plan Membership
General**

| | Active | Vested Terminated | Accidental Disability | Ordinary Disability | Retired | Beneficiaries | Total Participants |
|---------------------------------------|--------|----------------------|--------------------------|------------------------|---------|---------------|-----------------------|
| July 1, 2011 | 898 | 166 | 37 | 14 | 669 | 111 | 1,895 |
| New Entrants and Data Corrections | | 1 | | | | | 1 |
| Terminated with Vested Benefits | (17) | 17 | | | | | 0 |
| Became Disabled | (2) | | 2 | | | | 0 |
| Retired/DRO | (26) | (9) | | | 35 | 2 | 2 |
| Died or Terminated without Vesting | (10) | (1) | | | (33) | (1) | (45) |
| Died with Beneficiary Payable | (2) | (1) | | | (5) | 8 | 0 |
| Transfers | | | | | | | 0 |
| QDRO Commenced | | | | | | | 0 |
| July 1, 2012 | 841 | 173 | 39 | 14 | 666 | 120 | 1,853 |

**Changes in Plan Membership
Fire**

| | Active | Vested Terminated | Accidental Disability | Ordinary Disability | Retired | Beneficiaries | Total Participants |
|---------------------------------------|--------|----------------------|--------------------------|------------------------|---------|---------------|-----------------------|
| July 1, 2011 | 103 | 0 | 8 | 0 | 43 | 18 | 172 |
| New Entrants and Data Corrections | 3 | | | | | | 3 |
| Terminated with Vested Benefits | | | | | | | 0 |
| Became Disabled | (1) | | 1 | | | | 0 |
| Retired | (2) | | | | 2 | | 0 |
| Died or Terminated without Vesting | | | | | | (2) | (2) |
| Died with Beneficiary Payable | (1) | | | | | 1 | 0 |
| Transfers | | | | | | | 0 |
| QDRO Commenced | | | | | | | 0 |
| July 1, 2012 | 102 | 0 | 9 | 0 | 45 | 17 | 173 |

**Changes in Plan Membership
Police**

| | Active | Vested Terminated | Accidental Disability | Ordinary Disability | Retired | Beneficiaries | Total Participants |
|---------------------------------------|--------|----------------------|--------------------------|------------------------|---------|---------------|-----------------------|
| July 1, 2011 | 148 | 8 | 21 | 0 | 137 | 32 | 346 |
| New Entrants and Data Corrections | 11 | | | | | | 11 |
| Terminated with Vested Benefits | | | | | | | 0 |
| Became Disabled | (2) | | 2 | | | | 0 |
| Retired | (5) | (1) | | | 6 | | 0 |
| Died or Terminated without Vesting | (1) | | | | (1) | | (2) |
| Died with Beneficiary Payable | | | | | (2) | 2 | 0 |
| Transfers | | | | | | | 0 |
| QDRO Commenced | | | | | | | 0 |
| July 1, 2012 | 151 | 7 | 23 | 0 | 140 | 34 | 355 |

**Changes in Plan Membership
Total Plan**

| | Active | Vested Terminated | Accidental Disability | Ordinary Disability | Retired | Beneficiaries | Total Participants |
|---------------------------------------|--------|----------------------|--------------------------|------------------------|---------|---------------|-----------------------|
| July 1, 2011 | 1,149 | 174 | 66 | 14 | 849 | 161 | 2,413 |
| New Entrants and Data Corrections | 14 | 1 | | | | | 15 |
| Terminated with Vested Benefits | (17) | 17 | | | | | 0 |
| Became Disabled | (5) | | 5 | | | | 0 |
| Retired | (33) | (10) | | | 43 | 2 | 2 |
| Died or Terminated without Vesting | (11) | (1) | | | (34) | (3) | (49) |
| Died with Beneficiary Payable | (3) | (1) | | | (7) | 11 | 0 |
| Transfers | | | | | | | 0 |
| QDRO Commenced | | | | | | | 0 |
| July 1, 2012 | 1,094 | 180 | 71 | 14 | 851 | 171 | 2,381 |

1.3: Actuarial Methods and Assumptions

Actuarial Cost Method

The annual actuarial contribution to pre-fund retirement benefits provided to retired employees of the Town of Greenwich is computed under the Entry Age Normal Actuarial Cost Method. Under this Cost Method:

- Entry age for each participant is established based on age and service data provided for the Study.
- A Total Normal Cost for the plan is calculated as a dollar amount. The Town Normal Cost is the Total Normal Cost minus the expected employee contributions to the Plan. The payment is expressed as a percentage of active member payroll.
- The liability for all future pension benefits payable by the Town to current and future retired employees is computed. This is called the Fully Projected Liability.
- A portion of this actuarial liability is assigned to service earned to the measurement date. This portion is called the Actuarial Accrued Liability. The difference between the Fully Projected Liability and the Actuarial Accrued Liability is to be funded by future Total Normal Costs.
- The actuarial value of the assets on hand to pay these benefits is subtracted from the Actuarial Accrued Liability, producing the Unfunded Actuarial Accrued Liability.
- The Unfunded Actuarial Accrued Liability is amortized in level dollar payments over a fixed period. The payment for the next year is expressed as a percentage of projected active member payroll during that year. The amortization period is currently 21 years.

The Town's contribution to the Plan to be paid one year after the computation date is determined by multiplying the projected active payroll by the Town Normal Cost as a percentage of pay determined above, and then adding the amortization of the Unfunded Actuarial Accrued Liability.

Actuarial Assumptions

Current demographic assumptions are based on an actuarial experience study covering experience from July 1, 2005 through June 30, 2010.

| | |
|----------------------------|---|
| Measurement Date | Assets and actuarial liabilities are computed as of July 1, 2012. |
| Rate of Return | The annual rate of return on the actuarial value of Plan assets is assumed to be 7.50%. The rate is assumed to be net of all expenses. The prior assumption was 7.75% |
| Inflation | General and Wage inflation are assumed to be 3.00% per year. The prior assumption was 3.25% |
| Contribution Earnings Rate | Employee contribution/deficiency balances are assumed to accumulate at an annual interest rate of 4.0%, except for those Management Confidential and Elected Officials whose balances are frozen. |
| COLA Increases | The annual increase for the recurring COLA for eligible retirees is assumed to be 2.50%. |
| Increases in Pay | Assumed pay increases for active Participants consist of increases due to cost of living adjustments and productivity and those due to longevity and promotion. The rates listed below are in addition to wage inflation. |

Assumed annual rates of future pay increases among Plan members depend on service and are given by the following table (representative rates).

| | Police & Fire | GMEA & Teamsters | Nurses | LIUNA | Mgmt/ Conf & Elect. | Prof Asst |
|----------------|------------------------------|---------------------------------|---------------|--------------|--|----------------------|
| Service | | | | | | |
| 0 | 7.21% | 2.00% | 1.00% | 1.50% | 3.00% | 5.00% |
| 1 | 6.25% | 2.00% | 1.00% | 1.50% | 3.00% | 5.00% |
| 2 | 5.29% | 2.00% | 1.00% | 1.50% | 3.00% | 5.00% |
| 3 | 4.33% | 2.00% | 1.00% | 1.50% | 3.00% | 5.00% |
| 4 | 3.37% | 2.00% | 1.00% | 1.50% | 3.00% | 5.00% |
| 5 | 2.40% | 2.00% | 0.25% | 1.50% | 3.00% | 1.00% |
| 10 | 0.48% | 0.00% | 0.25% | 0.50% | 0.25% | 0.50% |
| 15 | 0.48% | 0.00% | 0.00% | 0.50% | 0.25% | 0.50% |
| 20 | 0.48% | 0.00% | 0.00% | 0.50% | 0.25% | 0.50% |
| 25+ | 0.48% | 0.00% | 0.00% | 0.00% | 0.25% | 0.00% |

Participant Mortality

Rates of mortality are based on the Retired Pensioners 2000 (RP 2000) Tables, with rates projected to 2010 using Scale AA and female ages set back one year. The rates for active members are assumed to be 50% of the rates shown below.

Representative rates are as follows:

| Age | Male | Female |
|-----|----------|----------|
| 25 | 0.000340 | 0.000173 |
| 35 | 0.000735 | 0.000393 |
| 45 | 0.001323 | 0.000885 |
| 55 | 0.002991 | 0.002192 |
| 65 | 0.011062 | 0.008198 |
| 75 | 0.032859 | 0.023731 |
| 85 | 0.103244 | 0.064801 |
| 95 | 0.262189 | 0.179176 |

Rates for disabled members are based on the same tables, with a five year age set forward.

No explicit provision has been made for future mortality improvement; however, based on the most recent experience study, the number of actual deaths was 105% of the expected number of deaths during the years 2005 through 2010. This implies an implicit margin for future improvement.

Service Retirement

Rates of service retirement among fire fighters and police officers eligible to retire are assumed to depend on service and are given by the following table.

| Year of Service | Annual Rate |
|-----------------|-------------|
| 20 | 10% |
| 21-25 | 5% |
| 26 | 0% |
| 27 | 40% |
| 28 – 33 | 25% |
| 34 and over | 100% |

All police and fire fighters are assumed to retire once they reach age 60 or attain 34 years of service.

Rates of early and normal service retirement among general

Service Retirement

employees eligible to retire are assumed to depend on age and are given by the following table.

| Age | Early | Normal |
|------------|--------------|---------------|
| 50-51 | 0% | 4% |
| 52-56 | 0% | 5% |
| 57-58 | 0% | 6% |
| 59 | 0% | 7% |
| 60-61 | 4% | 15% |
| 62 | 9% | 15% |
| 63 | 7% | 15% |
| 64 | 5% | 5% |
| 65 | 0% | 20% |
| 66-67 | 0% | 15% |
| 68 | 0% | 20% |
| 69 | 0% | 25% |
| 70-74 | 0% | 50% |
| 75+ | 0% | 100% |

Disability

Rates of ordinary and accidental disability are based on the age of the employee. Representative rates for fire fighters and police officers are as follows:

| Age | Ordinary | Accidental |
|------------|-----------------|-------------------|
| 25 | 0.048% | 0.120% |
| 30 | 0.060% | 0.150% |
| 35 | 0.078% | 0.195% |
| 40 | 0.102% | 0.255% |
| 45 | 0.150% | 1.125% |
| 50 | 0.252% | 1.125% |
| 55 | 0.444% | 1.125% |
| 59 | 0.612% | 0.000% |

For General members, the following total rates apply:

| Age | Male | Female |
|------------|-------------|---------------|
| Under 35 | 0.00% | 0.00% |
| 35-64 | 0.75% | 0.15% |
| 65+ | 0.00% | 0.00% |

No disabilities are assumed to occur once a General member is eligible for normal retirement. Accidental disability rates are assumed to be the same as ordinary disability rates, each equal to 50% of the rates shown above.

Termination

Rates of termination for all employees from causes other than death, disability, and service retirement are based on the employee's years of service. Representative rates of termination for fire fighters and police officers are shown in the following table:

| Service | Police and Fire | General |
|---------|-----------------|---------|
| 0 | 8.0% | 16.0% |
| 1 | 4.0% | 12.8% |
| 2 | 2.0% | 10.2% |
| 3 | 1.0% | 8.2% |
| 4 | 1.0% | 6.6% |
| 5 | 1.0% | 5.2% |
| 10 | 0.0% | 1.7% |
| 15 | 0.0% | 0.6% |
| 20 | 0.0% | 0.0% |

No terminations are assumed to occur once a member is eligible for normal retirement. Rates for Professional Assistants are two times the General rates shown above.

Family Composition

All Participants are assumed to have beneficiaries eligible for pre-retirement death benefits (and post-retirement benefits for Police Officers and Firefighters.) Male spouses are assumed to be three years older than their wives.

Actuarial Value of Plan Assets

Actuarial gains and losses from Plan investments over each of the five years prior to the calculation date are recognized at the rate of 20% per year in computing the actuarial value of Plan assets. Actuarial Value is limited to an 80% to 120% Corridor around the Market Value.

Changes in Actuarial Assumptions and Methods

The Board adopted several changes in actuarial assumptions, which are being phased in over a four year period, according to the following schedule. . The present long term investment return assumption objective is 7.00%.

| Measurement Date | Contribution Month | Assumed Investment Return | Assumed Inflation |
|------------------|--------------------|---------------------------|-------------------|
| July 1, 2011 | July, 2012 (FY13) | 7.75% | 3.25% |
| July 1, 2012 | July, 2013 (FY14) | 7.50% | 3.00% |
| July 1, 2013 | July, 2014 (FY15) | 7.25% | 3.00% |
| July 1, 2014 | July, 2015 (FY16) | 7.00% | 3.00% |

Section 2: Asset Information

2.1: Income Statement

July 1, 2011 through June 30, 2012

| | Market Value | | Actuarial Value | |
|--------------------------------|--------------|--------------------|-----------------|--------------------|
| Value at July 1, 2011 | \$ | 305,914,999 | \$ | 323,328,933 |
| Contributions | | | | |
| Employee Contributions | \$ | 2,257,241 | \$ | 2,257,241 |
| Employer Contributions | | 14,488,000 | | 14,488,000 |
| Other Receipts/Adjustments | | <u>329,679</u> | | <u>329,679</u> |
| Total Contributions | \$ | 17,074,920 | \$ | 17,074,920 |
| Investment Income | | | | |
| Asset Appreciation | \$ | 4,037,628 | \$ | N/A |
| Investment Expenses | | <u>(259,092)</u> | | N/A |
| Total Investment Income | \$ | 3,778,536 | \$ | 1,204,285 |
| Disbursements | | | | |
| Benefit Payments | | (23,046,678) | | (23,046,678) |
| Refunds | | (114,350) | | (114,350) |
| Expenses | | (452,105) | | (452,105) |
| Other Expenses | | <u>0</u> | | <u>0</u> |
| Total Disbursements | \$ | (23,613,133) | \$ | (23,613,133) |
| Value at June 30, 2012 | \$ | 303,155,322 | \$ | 317,995,005 |
| Approximate Return | | 1.2% | | 0.4% |

2.2: Computation of Actuarial Value of Assets

| <u>Year Ended</u> | <u>Expected Earnings¹</u> | <u>Actual Earnings</u> | <u>Investment Gain/(Loss)</u> | <u>Percent of (c) Not Recognized</u> | <u>Amount Not Recognized</u> |
|--|--------------------------------------|------------------------|-------------------------------|--------------------------------------|------------------------------|
| | (a) | (b) | (c) = (b) – (a) | (d) | (e) = (c) x (d) |
| June 30, 2012 | 24,016,467 | 3,778,536 | (20,237,931) | 80% | (16,190,345) |
| June 30, 2011 | 21,516,690 | 47,243,218 | 25,726,528 | 60% | 15,435,917 |
| June 30, 2010 | 20,151,746 | 26,506,515 | 6,354,769 | 40% | 2,541,908 |
| June 30, 2009 | 28,940,504 | (54,195,310) | (83,135,814) | 20% | (16,627,163) |
| June 30, 2008 | 27,815,568 | (14,952,894) | (42,768,462) | 0% | <u>0</u> |
| (1) Total Gain/(Loss) Unrecognized as of Valuation Date | | | | | (14,839,683) |
| (2) Market Value | | | | | 303,155,322 |
| (3) Preliminary Actuarial Value: ((2)-(1)) | | | | | 317,995,005 |
| Final Actuarial Value (no less than 80% and no greater than 120% of Market Value) | | | | | 317,995,005 |
| Ratio of Actuarial Value to Market Value | | | | | 104.9% |

¹ Computed using current return assumed on market value for each year, all income and expenses assumed to occur mid-year, except the employer contribution, which is assumed to be made at the beginning of the fiscal year. Expected earnings for fiscal years 2009 and earlier were based on prior year actuarial value.

Section 3: Actuarial Computations

3.1: Computation of Prior Annual Contribution and Rate

| | July 1, 2011 |
|---|----------------------|
| (1) Total Entry Age Normal Cost | \$ 9,196,693 |
| (2) <u>Estimated Employee Contributions</u> | <u>2,126,265</u> |
| (3) Town Normal Cost [(1) – (2)] | 7,070,428 |
| (4) Current Payroll | 73,355,905 |
| (5) Town Normal Cost as a Percentage of Payroll [(3)÷(4)] | 9.64% |
| (6) Active Accrued Liabilities | 202,861,756 |
| (7) Inactive Accrued Liabilities | |
| Retirees & Beneficiaries | 208,797,703 |
| Vested Deferred | <u>9,319,399</u> |
| Total | 218,117,102 |
| (8) Total Accrued Liability [(6)+(7)] | 420,978,858 |
| (9) Actuarial Value of Assets (Section 2.2) | 323,328,933 |
| (10) Net Unfunded Liability (Surplus) [(8)-(9)] | 97,649,925 |
| (11) Amortization of Net Unfunded Liability (Surplus) | 9,384,315 |
| <i>Remaining Amortization Period</i> | <i>22 Years</i> |
| (12) Projected Fiscal 2013 Payroll | 72,444,912 |
| (13) Estimated Fiscal 2013 Normal Cost Contribution [(5)x(12)] | 6,982,622 |
| (14) Estimated Fiscal 2013 Total Contribution [(11)+(13), not less than 0] | \$ 16,366,937 |
| (15) Total Cost as a Percentage of Projected Payroll [(14)÷(12)] | 22.59% |

3.2: Computation of Annual Contribution as of July 1, 2012

| | Before Assumption Changes | After Assumption Changes* |
|---|--|--|
| <i>Return and Inflation Assumptions</i> | <i>7.75%/3.25%</i> | <i>7.50%/3.00%</i> |
| (1) Total Entry Age Normal Cost | 9,204,912 | 9,391,977 |
| (2) <u>Estimated Employee Contributions</u> | <u>2,140,014</u> | <u>2,139,834</u> |
| (3) Town Normal Cost [(1)-(2)] | 7,064,898 | 7,252,143 |
| (4) Current Year Expected Payroll | 73,128,418 | 73,124,651 |
| (5) Town Normal Cost as a Percentage of Payroll [(3)÷(4)] | 9.66% | 9.92% |
| (6) Active Actuarial Accrued Liability | 211,718,610 | 216,505,183 |
| (7) Inactive Accrued Liabilities | | |
| Retirees & Beneficiaries | 220,351,374 | 224,235,255 |
| <u>Vested Deferred</u> | <u>9,223,639</u> | <u>9,524,908</u> |
| Total | 229,575,013 | 233,760,163 |
| (8) Total Accrued Liability [(6)+(7)] | 441,293,623 | 450,265,346 |
| (9) Actuarial Value of Assets (Section 2.2) | 317,995,005 | 317,995,005 |
| (10) Net Unfunded Liability (Surplus) [(8)-(9)] | 123,298,618 | 132,270,341 |
| (11) Amortization of Net Unfunded Liability (Surplus) | 12,073,788 | 12,701,838 |
| <i>Remaining Amortization Period</i> | <i>21 Years</i> | <i>21 Years</i> |
| (12) Projected Fiscal 2014 Payroll | 71,978,026 | 71,852,167 |
| (13) Estimated Fiscal 2014 Normal Cost Contribution [(5)x(12)] | 6,953,759 | 7,125,944 |
| (14) Estimated Fiscal 2014 Total Contribution [(11)+(13), not less than 0] | \$ 19,027,547 | \$ 19,827,782 |
| (15) Total Cost as a Percentage of Projected Payroll [(14)÷(12)] | 26.44% | 27.60% |

* also includes small impact from change in Police Plan provisions for new hires

Section 4: Disclosure Information

4.1: Schedules of Funding Status and Employer Contributions Required Under GASB Statement No. 25

The Governmental Accounting Standards Board (GASB) Statements No. 25 and 27 relate to the disclosure of pension liabilities on a public employer's financial statements. For accounting periods beginning after June 15, 1996, information required under these statements must be prepared for a public employer who seeks compliance with generally accepted accounting principles (GAAP) on behalf of its public employee retirement system.

GASB Statement No. 25 requires preparation of schedules of funding status and employer contributions, as well as the disclosure of plan provisions, actuarial assumptions, and other information.

The required schedules are shown below.

Schedule of Funding Status

| Measurement Date | Actuarial Value of Assets (AVA) | Actuarial Accrued Liability (AAL) | Unfunded Actuarial Accrued Liability (UAAL) | Funded Ratio (AVA/AAL) | Covered Payroll | UAAL as a Percent of Payroll |
|------------------|---------------------------------|-----------------------------------|---|------------------------|-----------------|------------------------------|
| 7/1/2003 | \$323,022,806 | \$255,123,408 | (\$67,899,398) | 127% | \$67,939,345 | -100% |
| 7/1/2004 | \$321,149,799 | \$259,828,716 | (\$61,321,084) | 124% | \$70,591,041 | -87% |
| 7/1/2005 | \$316,137,276 | \$289,863,860 | (\$26,273,415) | 109% | \$75,514,945 | -35% |
| 7/1/2006 | \$315,460,272 | \$312,240,736 | (\$3,219,536) | 101% | \$78,834,768 | -4% |
| 7/1/2007 | \$329,840,109 | \$327,379,454 | (\$2,460,655) | 101% | \$78,183,097 | -3% |
| 7/1/2008 | \$343,200,040 | \$349,526,917 | \$6,326,877 | 98% | \$73,698,287 | 9% |
| 7/1/2009 | \$331,354,183 | \$374,254,658 | \$42,900,475 | 89% | \$73,125,475 | 59% |
| 7/1/2010 | \$325,566,171 | \$404,142,454 | \$78,576,283 | 81% | \$73,151,844 | 107% |
| 7/1/2011 | \$323,328,933 | \$420,978,858 | \$97,649,925 | 77% | \$73,460,517 | 133% |
| 7/1/2012 | \$317,995,005 | \$450,265,346 | \$132,270,341 | 71% | \$73,124,651 | 181% |

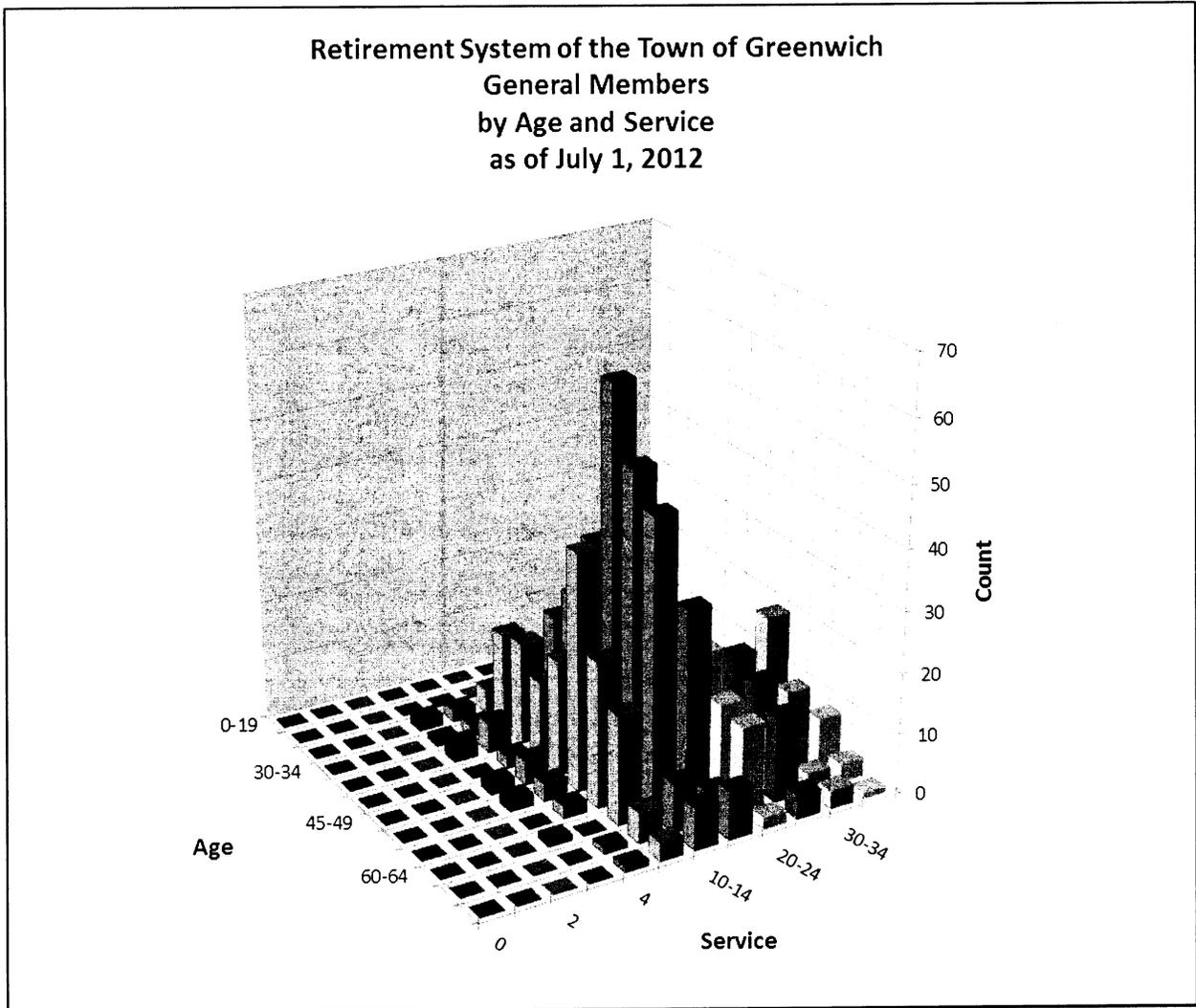
Schedule of Town Contributions

| Fiscal Year Ending | Annual Required Contribution | Actual Contribution | Percentage Contributed |
|--------------------|------------------------------|---------------------|------------------------|
| 6/30/02 | 0 | 0 | 100% |
| 6/30/03 | 0 | 0 | 100% |
| 6/30/04 | 0 | 1,752,594 | 100% |
| 6/30/05 | 660,012 | 660,072 | 100% |
| 6/30/06 | 688,849 | 688,849 | 100% |
| 6/30/07 | 3,991,790 | 3,992,000 | 100% |
| 6/30/08 | 6,501,690 | 6,500,000 | 100% |
| 6/30/09 | 6,620,000 | 6,620,000 | 100% |
| 6/30/10 | 7,162,000 | 7,162,000 | 100% |
| 6/30/11 | 10,995,143 | 10,995,143 | 100% |
| 6/30/12 | 14,488,000 | 14,488,000 | 100% |

The table below summarizes certain information about this actuarial report.

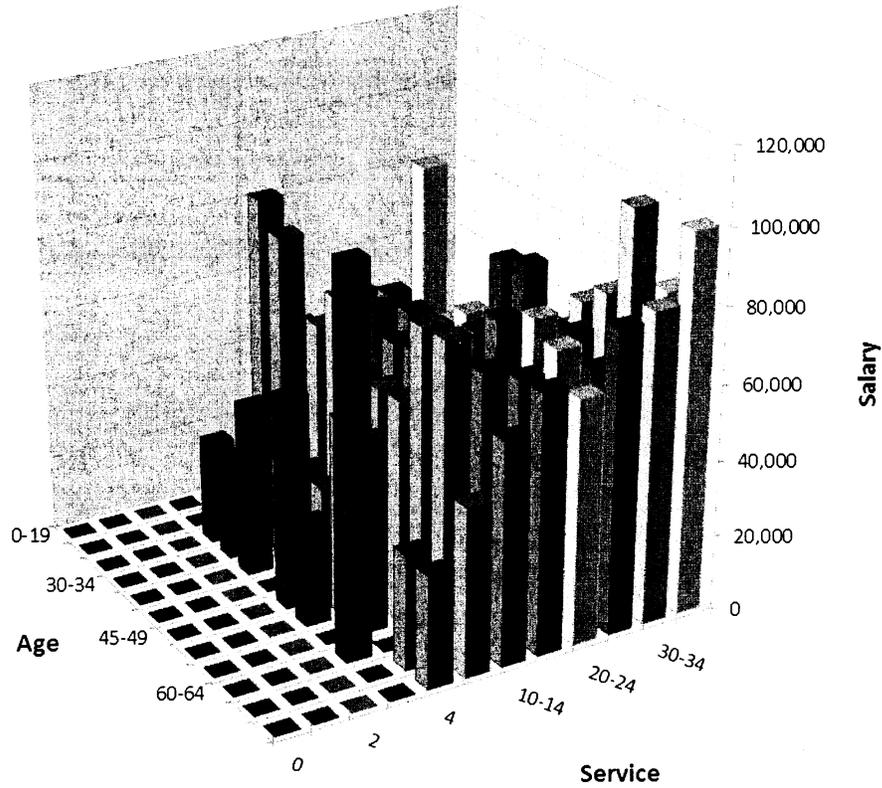
| | |
|-------------------------------|--|
| Measurement date | July 1, 2012 |
| Actuarial cost method | Entry Age Normal |
| Amortization method | Level Dollar, closed, decreasing until 15 years is reached, at which point it will be open. |
| Remaining amortization period | 21 Years |
| Asset method | Market value less unrecognized investment gains or losses phased in over a closed 5 year period, limited to no less than 80% and no greater than 120% of Market Value of Assets. |
| Actuarial assumptions: | |
| Investment rate of return* | 7.50% |
| Projected salary increases* | 3.00% – 8.17% for General members 3.50% - 10.50% for Safety members |
| *Includes inflation at | 3.00% |
| Cost of living adjustments | 2.50% for members with COLA (beginning at age 62, limited to 150% cumulative max increase) |

Appendix I: Detailed Demographic Information



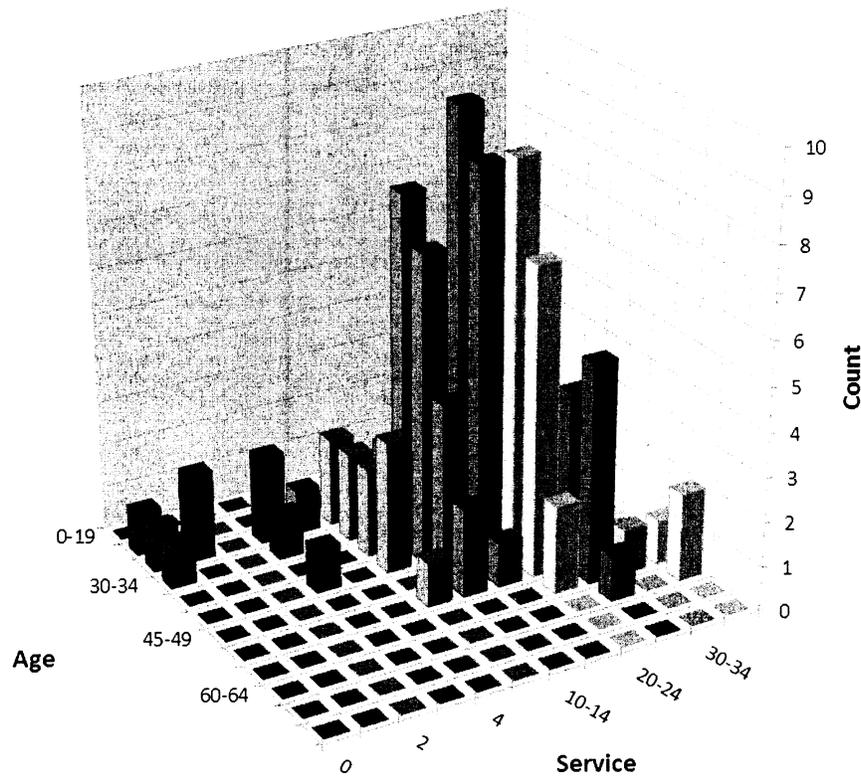
| Service \ Age | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 |
|---------------|----------|----------|----------|-----------|-----------|------------|------------|------------|-----------|-----------|-----------|-----------|------------|
| 0-19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20-24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25-29 | 0 | 0 | 0 | 2 | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| 30-34 | 0 | 0 | 0 | 1 | 2 | 16 | 4 | 0 | 0 | 0 | 0 | 0 | 23 |
| 35-39 | 0 | 0 | 0 | 3 | 5 | 17 | 20 | 3 | 1 | 0 | 0 | 0 | 49 |
| 40-44 | 0 | 0 | 0 | 0 | 2 | 13 | 26 | 10 | 8 | 0 | 0 | 0 | 59 |
| 45-49 | 0 | 0 | 0 | 2 | 4 | 19 | 37 | 26 | 18 | 13 | 1 | 0 | 120 |
| 50-54 | 0 | 0 | 0 | 2 | 3 | 39 | 64 | 29 | 14 | 14 | 11 | 0 | 176 |
| 55-59 | 0 | 0 | 0 | 0 | 2 | 24 | 53 | 24 | 21 | 19 | 24 | 4 | 171 |
| 60-64 | 0 | 0 | 0 | 1 | 0 | 18 | 48 | 32 | 15 | 17 | 14 | 8 | 153 |
| 65-69 | 0 | 0 | 0 | 0 | 1 | 5 | 8 | 5 | 14 | 14 | 3 | 3 | 53 |
| 70+ | 0 | 0 | 0 | 0 | 1 | 3 | 7 | 8 | 2 | 4 | 3 | 1 | 29 |
| Total | 0 | 0 | 0 | 11 | 22 | 158 | 267 | 137 | 93 | 81 | 56 | 16 | 841 |

Retirement System of the Town of Greenwich
General Active Members
Payroll by Age and Service
as of July 1, 2012



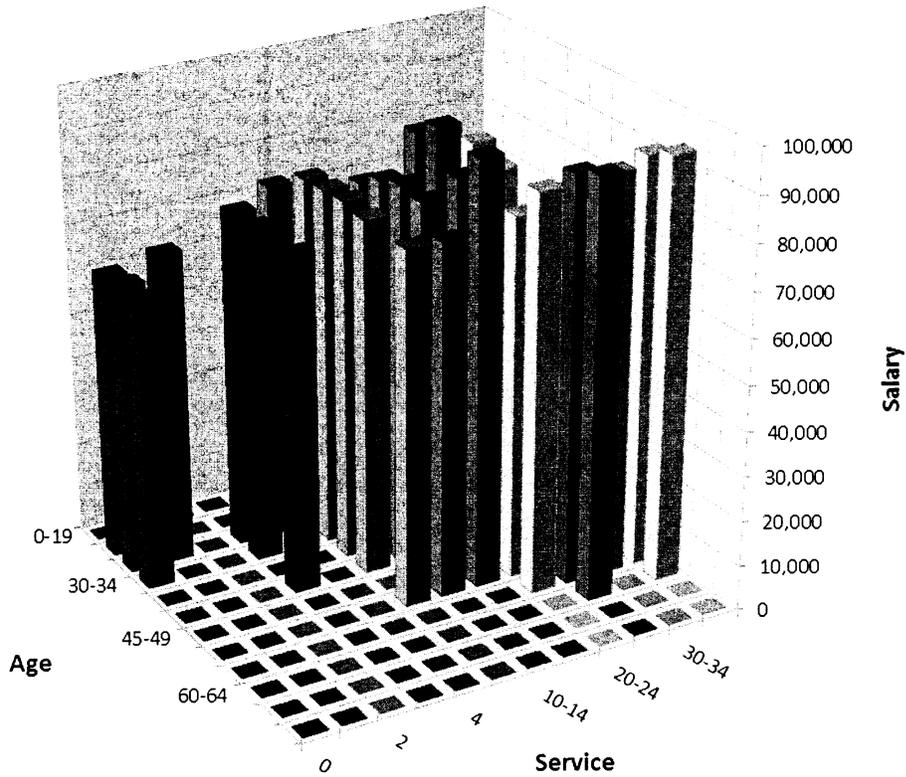
| Age | 0 | 1 | 2 | 3 | 4 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | Total | | |
|-------|---|---|---|---------|--------|--------|--------|--------|--------|--------|---------|---------|--------|
| 0-19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |
| 20-24 | 0 | 0 | 0 | 27,413 | 31,619 | 50,292 | 0 | 0 | 0 | 0 | 39,904 | | |
| 25-29 | 0 | 0 | 0 | 27,413 | 94,444 | 59,174 | 57,006 | 0 | 0 | 0 | 60,483 | | |
| 30-34 | 0 | 0 | 0 | 45,543 | 88,302 | 63,098 | 69,908 | 67,120 | 98,295 | 0 | 68,339 | | |
| 35-39 | 0 | 0 | 0 | 0 | 30,296 | 74,117 | 69,109 | 66,059 | 60,954 | 0 | 67,274 | | |
| 40-44 | 0 | 0 | 0 | 56,461 | 29,998 | 59,939 | 63,917 | 65,615 | 67,334 | 78,808 | 56,137 | 64,461 | |
| 45-49 | 0 | 0 | 0 | 27,413 | 52,098 | 58,247 | 65,505 | 64,049 | 64,272 | 81,395 | 62,337 | 63,963 | |
| 50-54 | 0 | 0 | 0 | 0 | 50,927 | 59,185 | 62,349 | 72,468 | 63,471 | 68,642 | 73,423 | 72,035 | 65,809 |
| 55-59 | 0 | 0 | 0 | 102,338 | 0 | 81,990 | 68,597 | 79,359 | 77,307 | 70,951 | 79,350 | 65,156 | 74,564 |
| 60-64 | 0 | 0 | 0 | 0 | 30,606 | 82,676 | 72,296 | 67,984 | 73,280 | 65,596 | 104,380 | 81,413 | 72,904 |
| 65-69 | 0 | 0 | 0 | 0 | 29,976 | 44,798 | 59,193 | 68,909 | 64,798 | 79,915 | 82,328 | 100,045 | 66,423 |
| 70 | 0 | 0 | 0 | 44,450 | 54,225 | 63,536 | 65,806 | 70,038 | 68,234 | 72,993 | 74,554 | 72,105 | 67,150 |

Retirement System of the Town of Greenwich
Fire Active Members
by Age and Service
as of July 1, 2012

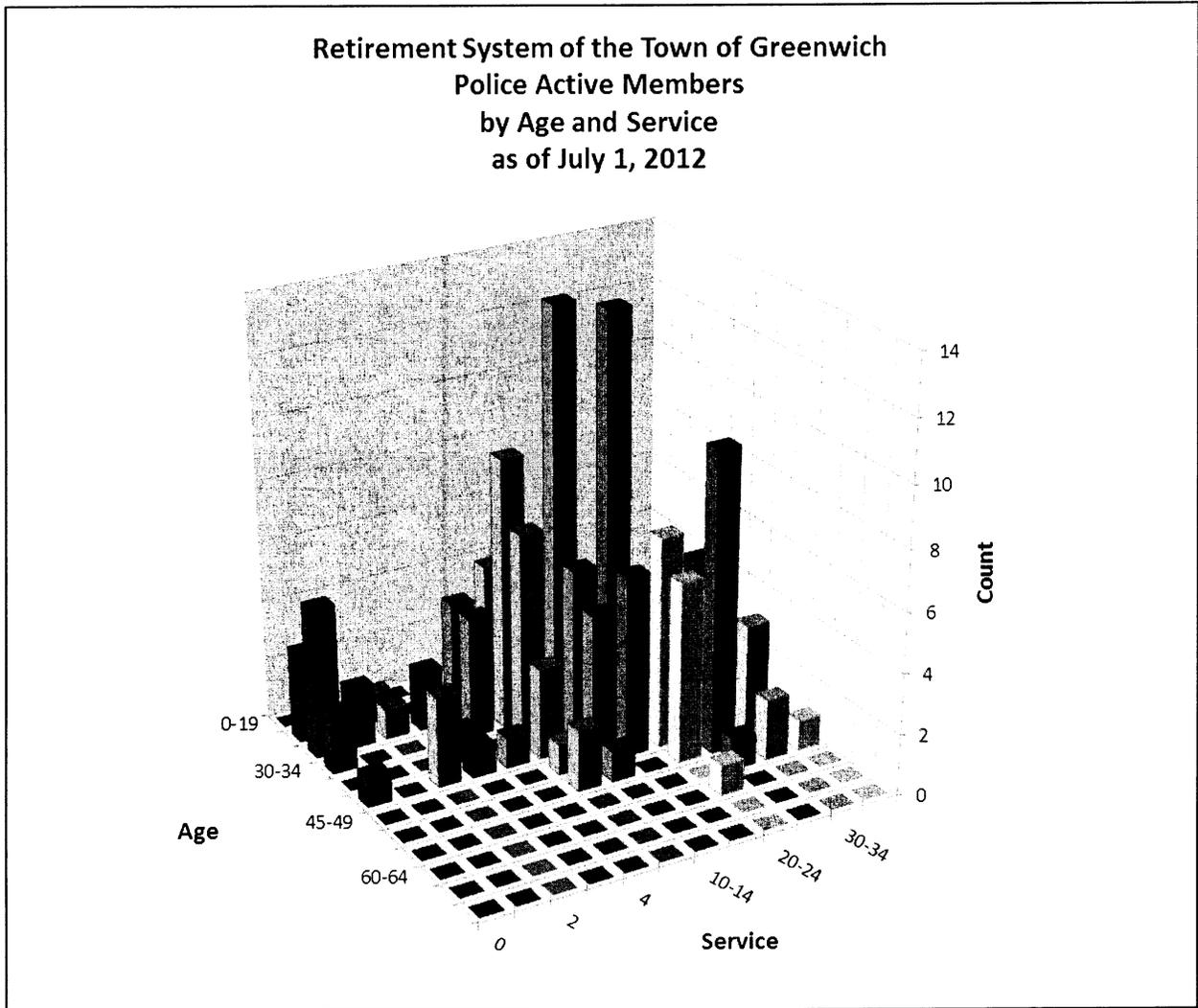


| Age | 0 | 2 | 4 | 10-14 | 20-24 | 30-34 | Count |
|--------------|----------|----------|----------|----------|----------|-----------|------------|
| 0-19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20-24 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 25-29 | 1 | 2 | 0 | 2 | 1 | 2 | 8 |
| 30-34 | 1 | 0 | 0 | 1 | 0 | 2 | 6 |
| 35-39 | 0 | 0 | 0 | 0 | 0 | 2 | 13 |
| 40-44 | 0 | 0 | 0 | 1 | 0 | 3 | 25 |
| 45-49 | 0 | 0 | 0 | 0 | 0 | 4 | 22 |
| 50-54 | 0 | 0 | 0 | 0 | 0 | 1 | 15 |
| 55-59 | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| 60-64 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 65-69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 70+ | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 3 | 2 | 0 | 4 | 1 | 10 | 102 |

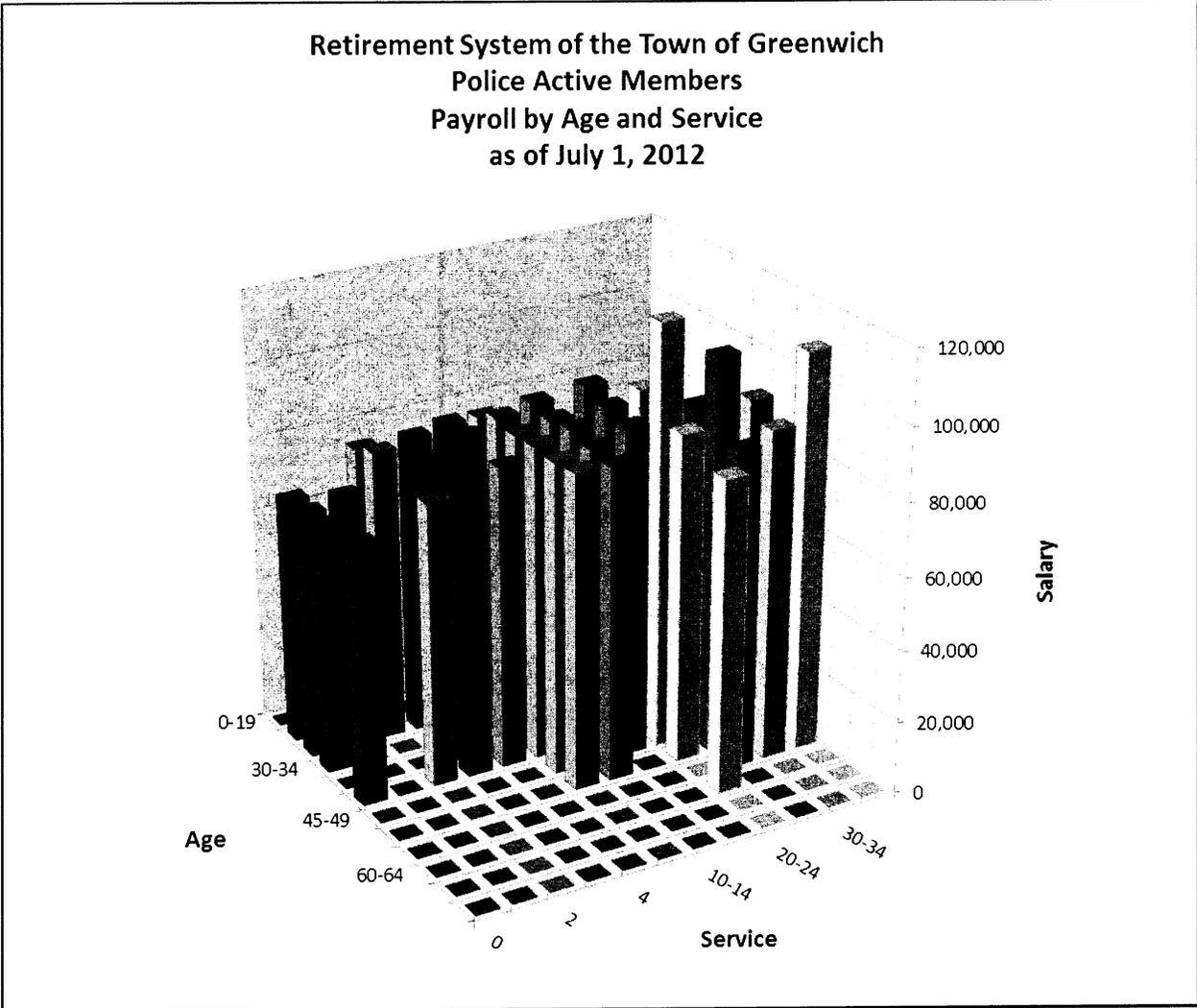
Retirement System of the Town of Greenwich
Fire Active Members
Payroll by Age and Service
as of July 1, 2012



| Service / Age | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30+ | Total | |
|---------------|---------------|---------------|----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 0-19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 20-24 | 63,382 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 63,382 | |
| 25-29 | 64,379 | 69,384 | 0 | 75,012 | 78,979 | 78,957 | 0 | 0 | 0 | 0 | 0 | 73,758 | |
| 30-34 | 64,379 | 0 | 0 | 74,592 | 0 | 79,405 | 79,174 | 0 | 0 | 0 | 0 | 76,022 | |
| 35-39 | 0 | 0 | 0 | 0 | 0 | 79,753 | 82,555 | 91,170 | 0 | 0 | 0 | 84,112 | |
| 40-44 | 0 | 0 | 0 | 74,752 | 0 | 78,721 | 84,316 | 94,977 | 90,062 | 0 | 0 | 88,446 | |
| 45-49 | 0 | 0 | 0 | 0 | 0 | 0 | 83,559 | 87,035 | 87,033 | 0 | 0 | 86,402 | |
| 50-54 | 0 | 0 | 0 | 0 | 0 | 78,503 | 78,144 | 93,902 | 80,178 | 82,950 | 0 | 81,449 | |
| 55-59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 88,178 | 90,179 | 88,648 | 90,851 | |
| 60-64 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 92,589 | 0 | 93,501 | |
| 65-69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 70+ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Total | 64,047 | 69,384 | 0 | 74,842 | 78,979 | 79,090 | 82,588 | 91,326 | 85,507 | 87,528 | 88,648 | 92,618 | 84,540 |



| Age | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 |
|--------------|-----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|----------|----------|------------|
| 0-19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20-24 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 25-29 | 5 | 2 | 1 | 2 | 4 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 19 |
| 30-34 | 2 | 0 | 0 | 1 | 4 | 9 | 2 | 0 | 0 | 0 | 0 | 0 | 18 |
| 35-39 | 0 | 0 | 0 | 1 | 0 | 7 | 14 | 1 | 0 | 0 | 0 | 0 | 23 |
| 40-44 | 1 | 0 | 3 | 1 | 1 | 3 | 6 | 14 | 4 | 0 | 0 | 0 | 33 |
| 45-49 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 6 | 7 | 6 | 1 | 0 | 26 |
| 50-54 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 6 | 10 | 4 | 0 | 23 |
| 55-59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 4 |
| 60-64 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 65-69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 70+ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 11 | 2 | 5 | 5 | 9 | 27 | 28 | 21 | 18 | 17 | 7 | 1 | 151 |



| Service / Age | 0 | 1 | 2 | 3 | 4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 | 60-64 | 65-69 | 70+ | |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|---------------|----------------|---------------|-------|-------|-------|-------|-------|-----|--------|
| 0-19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20-24 | 68,355 | 0 | 78,249 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 70,829 |
| 25-29 | 68,566 | 71,018 | 80,967 | 82,794 | 84,559 | 84,363 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 78,499 |
| 30-34 | 68,883 | 0 | 0 | 79,444 | 84,534 | 87,793 | 89,802 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 84,727 |
| 35-39 | 0 | 0 | 0 | 92,326 | 0 | 86,412 | 88,441 | 95,662 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 88,306 |
| 40-44 | 71,523 | 0 | 78,184 | 83,910 | 83,517 | 86,828 | 89,326 | 93,171 | 96,056 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 89,653 |
| 45-49 | 0 | 0 | 0 | 0 | 0 | 86,258 | 87,755 | 91,318 | 117,109 | 93,070 | 86,306 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 97,593 |
| 50-54 | 0 | 0 | 0 | 0 | 0 | 87,177 | 86,566 | 0 | 91,040 | 109,524 | 96,092 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 99,425 |
| 55-59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 88,128 | 91,492 | 110,236 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 95,337 |
| 60-64 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 86,416 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 86,416 |
| 65-69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 70+ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 68,835 | 71,018 | 78,754 | 84,254 | 84,432 | 86,590 | 88,538 | 92,760 | 102,036 | 102,458 | 93,380 | 110,236 | 89,943 | | | | | | | |

Town of Greenwich Service Retired Participants and Beneficiaries

| Number of Participants by Age | | | | |
|-------------------------------|------------|-----------|------------|--------------|
| Age | General | Fire | Police | Total |
| 0-29 | 7 | 0 | 0 | 7 |
| 30-34 | 1 | 0 | 0 | 1 |
| 35-39 | 2 | 0 | 0 | 2 |
| 40-44 | 0 | 0 | 2 | 2 |
| 45-49 | 3 | 3 | 6 | 12 |
| 50-54 | 8 | 3 | 13 | 24 |
| 55-59 | 17 | 7 | 26 | 50 |
| 60-64 | 61 | 8 | 27 | 96 |
| 65-69 | 170 | 15 | 32 | 217 |
| 70-74 | 129 | 7 | 31 | 167 |
| 75-79 | 113 | 9 | 14 | 136 |
| 80-84 | 135 | 7 | 18 | 160 |
| 85-89 | 91 | 2 | 5 | 98 |
| 90-94 | 41 | 0 | 0 | 41 |
| 95+ | 8 | 1 | 0 | 9 |
| Total Participants | 786 | 62 | 174 | 1,022 |

| Average Monthly Benefit by Age | | | | | |
|--------------------------------|-----------------|-----------------|-----------------|-----------------|--|
| Age | General | Fire | Police | Total | |
| 0-29 | \$ 390 | \$ 0 | \$ 0 | \$ 390 | |
| 30-34 | 66 | 0 | 0 | 66 | |
| 35-39 | 388 | 0 | 0 | 388 | |
| 40-44 | 0 | 0 | 3,331 | 3,331 | |
| 45-49 | 768 | 3,917 | 3,052 | 2,697 | |
| 50-54 | 1,624 | 4,258 | 5,113 | 3,843 | |
| 55-59 | 1,998 | 4,502 | 3,760 | 3,265 | |
| 60-64 | 1,898 | 4,007 | 3,533 | 2,534 | |
| 65-69 | 1,613 | 2,448 | 3,098 | 1,890 | |
| 70-74 | 1,590 | 1,993 | 2,614 | 1,797 | |
| 75-79 | 1,405 | 2,472 | 1,703 | 1,507 | |
| 80-84 | 1,197 | 1,195 | 1,393 | 1,219 | |
| 85-89 | 966 | 752 | 1,007 | 963 | |
| 90-94 | 708 | 0 | 0 | 708 | |
| 95+ | 1,053 | 484 | 0 | 990 | |
| Average Benefit | \$ 1,392 | \$ 2,764 | \$ 2,981 | \$ 1,745 | |

Town of Greenwich Disabled Participants

| Number of Participants by Age | | | | |
|-------------------------------|-----------|----------|-----------|-----------|
| Age | General | Fire | Police | Total |
| 25-29 | 0 | 0 | 0 | 0 |
| 30-34 | 1 | 0 | 0 | 1 |
| 35-39 | 0 | 0 | 0 | 0 |
| 40-44 | 1 | 0 | 1 | 2 |
| 45-49 | 3 | 1 | 3 | 7 |
| 50-54 | 4 | 1 | 4 | 9 |
| 55-59 | 9 | 2 | 5 | 16 |
| 60-64 | 10 | 1 | 4 | 15 |
| 65-69 | 7 | 1 | 4 | 12 |
| 70-74 | 10 | 1 | 2 | 13 |
| 75-79 | 3 | 2 | 0 | 5 |
| 80-84 | 4 | 0 | 0 | 4 |
| 85-89 | 1 | 0 | 0 | 1 |
| 90-94 | 0 | 0 | 0 | 0 |
| 95+ | 0 | 0 | 0 | 0 |
| Total Participants | 53 | 9 | 23 | 85 |

| Average Monthly Benefit by Age | | | | | |
|--------------------------------|-----------------|-----------------|-----------------|-----------------|--|
| Age | General | Fire | Police | Total | |
| 25-29 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | |
| 30-34 | 861 | 0 | 0 | 861 | |
| 35-39 | 0 | 0 | 0 | 0 | |
| 40-44 | 739 | 0 | 3,561 | 2,150 | |
| 45-49 | 1,478 | 2,763 | 3,507 | 2,531 | |
| 50-54 | 1,991 | 2,542 | 2,810 | 2,416 | |
| 55-59 | 1,782 | 2,606 | 2,854 | 2,220 | |
| 60-64 | 2,008 | 3,234 | 3,032 | 2,363 | |
| 65-69 | 1,766 | 2,522 | 4,254 | 2,658 | |
| 70-74 | 1,406 | 2,254 | 1,867 | 1,542 | |
| 75-79 | 1,824 | 1,591 | 0 | 1,731 | |
| 80-84 | 1,834 | 0 | 0 | 1,834 | |
| 85-89 | 185 | 0 | 0 | 185 | |
| 90-94 | 0 | 0 | 0 | 0 | |
| 95+ | 0 | 0 | 0 | 0 | |
| Average Benefit | \$ 1,689 | \$ 2,412 | \$ 3,151 | \$ 2,161 | |

Town of Greenwich Terminated Vested Participants

| Number of Participants by Age | | | | |
|-------------------------------|------------|----------|----------|------------|
| Age | General | Fire | Police | Total |
| 25-29 | 0 | 0 | 0 | 0 |
| 30-34 | 4 | 0 | 0 | 4 |
| 35-39 | 10 | 0 | 0 | 10 |
| 40-44 | 14 | 0 | 4 | 18 |
| 45-49 | 18 | 0 | 2 | 20 |
| 50-54 | 29 | 0 | 1 | 30 |
| 55-59 | 46 | 0 | 0 | 46 |
| 60-64 | 44 | 0 | 0 | 44 |
| 65-69 | 3 | 0 | 0 | 3 |
| 70-74 | 2 | 0 | 0 | 2 |
| 75-79 | 2 | 0 | 0 | 2 |
| 80-84 | 1 | 0 | 0 | 1 |
| 85-89 | 0 | 0 | 0 | 0 |
| 90-94 | 0 | 0 | 0 | 0 |
| 95+ | 0 | 0 | 0 | 0 |
| Total Participants | 173 | 0 | 7 | 180 |

| Average Monthly Benefit by Age | | | | | | | |
|--------------------------------|---------|------------|------|----------|--------|--------------|---------------|
| Age | General | | Fire | | Police | | Total |
| 25-29 | \$ | 0 | \$ | 0 | \$ | 0 | \$ 0 |
| 30-34 | | 341 | | 0 | | 0 | 341 |
| 35-39 | | 700 | | 0 | | 0 | 700 |
| 40-44 | | 556 | | 0 | | 1,330 | 728 |
| 45-49 | | 719 | | 0 | | 1,881 | 835 |
| 50-54 | | 878 | | 0 | | 1,738 | 906 |
| 55-59 | | 1,170 | | 0 | | 0 | 1,170 |
| 60-64 | | 899 | | 0 | | 0 | 899 |
| 65-69 | | 665 | | 0 | | 0 | 665 |
| 70-74 | | 294 | | 0 | | 0 | 294 |
| 75-79 | | 134 | | 0 | | 0 | 134 |
| 80-84 | | 523 | | 0 | | 0 | 523 |
| 85-89 | | 0 | | 0 | | 0 | 0 |
| 90-94 | | 0 | | 0 | | 0 | 0 |
| 95+ | | 0 | | 0 | | 0 | 0 |
| Average Benefit | \$ | 874 | \$ | 0 | \$ | 1,546 | \$ 901 |

Town of Greenwich Benefit Form Elections

| | General | Fire | Police | Other |
|-------------------------------|----------|----------|----------|----------|
| Retired Participants | | | | |
| Straight Life Annuity | 0 | 0 | 0 | 0 |
| Changing Life Annuity | 0 | 0 | 0 | 0 |
| Life Annuity with Cash Refund | 427 | 3 | 3 | 433 |
| Full Joint and Survivor | 146 | 4 | 11 | 161 |
| Half Joint and Survivor | 93 | 38 | 125 | 256 |
| Other | 0 | 0 | 1 | 1 |
| Not Assigned or Reported | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |
| Total Retired Participants | 666 | 45 | 140 | 851 |
| Disabled Participants | | | | |
| Straight Life Annuity | 0 | 0 | 0 | 0 |
| Changing Life Annuity | 0 | 0 | 0 | 0 |
| Life Annuity with Cash Refund | 33 | 1 | 4 | 38 |
| Full Joint and Survivor | 12 | 0 | 0 | 12 |
| Half Joint and Survivor | 8 | 8 | 19 | 35 |
| Other | 0 | 0 | 0 | 0 |
| Not Assigned or Reported | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |
| Total Disabled Participants | 53 | 9 | 23 | 85 |

Appendix II: Five Year Projections

Projected contributions and Unfunded Actuarial Accrued Liability (UAAL) are shown below.

Experience gains and losses will impact Plan actuarial liabilities and costs, so the actual contributions and unfunded amounts will deviate from what is shown here, possibly significantly. For example, the \$20 million investment return shortfall is reflected below, making all of the projected amounts higher than what was estimated in 2011.

Projection of Plan Unfunded Actuarial Accrued Liability (UAAL) and Town Contributions

(\$ millions)

| <u>Valuation</u> | <u>Assumed Return/Inflation</u> | <u>Contribution Fiscal Year</u> | <u>Unfunded AAL</u> | <u>Contribution</u> |
|------------------|-------------------------------------|-------------------------------------|-------------------------|---------------------|
| 7/1/2012 | 7.50%/3.00% | 2014 | \$ 132.3 | \$ 19.8 |
| 7/1/2013 | 7.25%/3.00% | 2015 | \$ 161.3 | \$ 23.1 |
| 7/1/2014 | 7.00%/3.00% | 2016 | \$ 172.9 | \$ 24.8 |
| 7/1/2015 | 7.00%/3.00% | 2017 | \$ 168.5 | \$ 24.7 |
| 7/1/2016 | 7.00%/3.00% | 2018 | \$ 167.2 | \$ 25.0 |

Appendix III: Cost Allocation

The following is an allocation of actuarial liabilities and costs to the various bargaining units covered by the Plan. The allocation is based on a hypothetical apportionment of assets to each group proportional to that group's total active Unfunded Actuarial Accrued Liability (Inactive UAAL assumed to be \$0 when assets are at least = Inactive AAL).

Allocation of Town Contribution for Fiscal Year 2014

| Unit | Total Contribution | Projected Salary | Count | % of Pay |
|--------------------------------|--------------------|-------------------|--------------|---------------|
| GMEA | 3,111,698 | 12,219,229 | 532 | 25.47% |
| Teamsters | 3,437,091 | 14,513,826 | 663 | 23.68% |
| Fire | 3,090,590 | 8,628,401 | 168 | 35.82% |
| Police | 4,332,948 | 12,968,527 | 342 | 33.41% |
| Nurses | 284,393 | 1,382,548 | 33 | 20.57% |
| LIUNA | 3,158,096 | 14,290,946 | 333 | 22.10% |
| Elected | 38,222 | 70,661 | 7 | 54.10% |
| Management/Confidential | 1,790,907 | 4,459,206 | 110 | 40.16% |
| <u>Instructional Aides</u> | <u>583,837</u> | <u>3,318,822</u> | <u>193</u> | 17.59% |
| Total FY14 Contribution | 19,827,782 | 71,852,167 | 2,381 | 27.60% |

Percentage of pay contribution rates for closed groups are based on the payroll of only eligible members, and do not include salaries for employees in the Town's defined contribution plan.



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**Town of
Greenwich CT
GASB 43/45
Valuation as of
July 1, 2012**

Evan W. Woollacott, Jr.,
F.C.A., M.A.A.A., Enrolled
Actuary

Deborah Cook-Hebert,
F.S.A., M.A.A.A.

December 19, 2012

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Town of Greenwich, CT
 July 1, 2012 OPEB Valuation

Certification

This report presents the results of the July 1, 2012 Actuarial Valuation for Town of Greenwich's post-retirement benefit other than pension (OPEB) for Town and Board of Education Employees (the Plan) for the purpose of estimating the funded status of the Plan and determining the Annual Required Contribution (ARC) for the fiscal year ending June 30, 2014. This report is intended to satisfy the requirements of Connecticut General Statute 7-450a. This report may not be appropriate for any other purpose.

The valuation has been performed in accordance with generally accepted actuarial principles and practices. It is intended to comply with all applicable Actuarial Standards of Practice.

I certify that the actuarial assumptions and methods that were selected by me and represent my best estimate of anticipated actuarial experience under the Plan.

In preparing this valuation, I have relied on employee data provided by the Plan Sponsor, and on asset and contribution information provided by the Town. I have audited neither the employee data nor the financial information, although I have reviewed them for reasonableness.

The results in this valuation report are based on the Plan as summarized in the *Plan Provisions* section of this report and the actuarial assumptions and methods detailed in the *Description of Actuarial Methods and Assumptions* section of this report.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as: 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. Due to the limited scope of this report, an analysis of the potential range of such future measurements has not been performed.

I am a member of the American Academy of Actuaries and meet its Qualification Standards to render the actuarial opinion contained herein.


 Evan W. Woollacott, Jr., F.C.A., M.A.A.A.,
 Enrolled Actuary

December 19, 2012

Executive Summary

The Actuarial Liabilities were valued as of July 1, 2012. This report was used to calculate the Annual Required Contribution (ARC) for the fiscal year beginning July 1, 2013. A table of historical ARCs is below.

| Fiscal Year Beginning | ARC | Covered Payroll | ARC as a % of Covered Payroll |
|--------------------------|-------------|--------------------|----------------------------------|
| July 1, 2007 | \$9,800,000 | \$156,800,000 | 6.3% |
| July 1, 2008 | \$4,483,860 | \$149,543,000 | 3.0% |
| July 1, 2009 | \$4,068,600 | \$161,797,000 | 2.5% |
| July 1, 2010 | \$3,661,000 | \$166,004,000 | 2.2% |
| July 1, 2011 | \$3,722,000 | \$165,742,000 | 2.2% |
| July 1, 2012 | \$4,620,000 | \$167,967,000 | 2.8% |
| July 1, 2013 7.75% | \$5,124,000 | N/A | N/A |
| July 1, 2013 7.5% | \$5,267,000 | N/A | N/A |

For the Town of Greenwich, GASB 45 Reporting was effective June 30, 2008. Since that time the Town has contributed in excess of the total ARCs. With the excess contributions, the Town now has a Net OPEB Asset of \$6,298,300 as of June 30, 2012. This amount is shown in the Town's financial statements.

A summary of plan liabilities since the Town began compliance with Government Accounting Standards Board 45 is below:

| Actuarial Valuation Date | Actuarial Value of Assets | Actuarial Accrued Liabilities (AAL) | Unfunded AAL | Funded Ratio | Covered Payroll | UAAL as a Percentage of Covered Payroll |
|-----------------------------|------------------------------|--|-----------------|-----------------|--------------------|--|
| July 1, 2007 | \$0 | \$102,879,000 | \$102,879,000 | 0.0% | \$156,800,000 | 65.6% |
| July 1, 2008 | \$18,840,000 | \$60,678,000 | \$41,838,000 | 31.0% | \$149,543,000 | 28.0% |
| July 1, 2009 | \$16,873,000 | \$54,086,000 | \$37,213,000 | 31.2% | \$161,797,000 | 23.0% |
| July 1, 2010 | \$16,323,000 | \$51,807,000 | \$35,484,000 | 31.5% | \$166,004,000 | 21.4% |
| July 1, 2011 | \$17,579,000 | \$63,154,000 | \$45,575,000 | 27.8% | \$165,742,000 | 27.5% |
| 7/1/2012 (7.75%) | \$16,646,000 | \$66,451,000 | \$49,805,000 | 25.1% | \$167,967,000 | 29.7% |
| 7/1/2012 (7.5%) | \$16,646,000 | \$68,504,000 | \$51,858,000 | 27.8% | \$167,967,000 | 30.9% |

The July 1, 2007 liability was determined based on a discount rate of 7.75% for the explicit benefits and 4.0% for implicit benefits while the July 1, 2008 through July 1, 2011 liabilities were calculated using a discount rate of 7.75%. The July 1, 2012 liabilities have been calculated using both a 7.75% and 7.5% discount rate.

Executive Summary (continued)

Changes in Valuation

We continued to include a liability for the group of former employees who have Worker's Compensation or Heart and Hypertension that the Town is self-insuring. As of July 1, 2012, there are 61 members in this group. Last year, we developed a claims factor to produce approximately \$750,000 of expected claims for the fiscal year ending June 30, 2012. The actual realized claims totaled \$1,065,000. As a result, for this valuation, we increased our claims per contract from \$11,904 to \$14,918. This assumption produces expected claims during fiscal 2013 of \$910,000.

Current professional standards recommend that we project mortality improvement. As a result, we have changed the mortality assumption to the RP2000 Mortality table with improvement projected to the date of decrement with Scale AA. For Police and Fire, we used blue collar mortality. For other groups, we used no collar mortality.

We also changed the medical trend assumption to 10% for 2012, grading down to an ultimate rate of 5% (changed from 10% for 2011, grading down to an ultimate rate of 5%)

This valuation also reflects a change in the asset valuation methodology. The asset smoothing corridor range for the July 1, 2011 valuation was 75% to 125%. For the July 1, 2012 valuation, the corridor is 80% to 120%. The corridor change had no impact on this year's actuarial value of assets.

For the fiscal year ending June 30, 2012, our Town expected benefits were \$3,025,000. Actual net Town benefits were \$4,198,000. With each valuation, we will monitor the net Town benefits.

Overall, plan liabilities were approximately \$975,000 less than expected. The primary source of this favorable actuarial experience was less than expected Town premiums. Overall, we expected an increase in Town premiums of 10% but the premiums were level.

Actuarial Accrued Liability as of July 1, 2012
(7.75% discount rate)

| | <u>Active Accrued Liability</u> | <u>Inactive Accrued Liability</u> | <u>Early Retirement Incentive</u> | <u>Total Accrued Liability</u> | <u>Allocated Assets</u> | <u>Unfunded Accrued Liability</u> |
|---|---|---|---|--|-----------------------------|---|
| <u>Excluding Self-insured group:</u> | | | | | | |
| Fire | \$6,886,900 | \$5,395,700 | \$0 | \$12,282,600 | \$3,956,000 | \$8,326,600 |
| GMEA | 879,200 | 501,600 | 36,000 | 1,416,800 | 456,400 | 960,400 |
| LIUNA | 617,600 | 491,900 | 15,000 | 1,124,500 | 362,200 | 762,300 |
| Management/Elected | 276,000 | 251,300 | 7,100 | 534,400 | 172,100 | 362,300 |
| Nurses | 17,200 | 0 | 0 | 17,200 | 5,500 | 11,700 |
| Police | 9,244,200 | 7,257,100 | 0 | 16,501,300 | 5,314,700 | 11,186,600 |
| Teachers | 5,844,700 | 11,189,200 | 0 | 17,033,900 | 5,486,300 | 11,547,600 |
| Teamsters | <u>1,654,500</u> | <u>1,024,500</u> | <u>93,900</u> | <u>2,772,900</u> | <u>893,100</u> | <u>1,879,800</u> |
| Total | \$25,420,300 | \$26,111,400 | \$152,000 | 51,683,700 | \$16,646,300 | \$35,037,400 |
| Self-insured Group | \$0 | \$14,767,200 | \$0 | \$14,767,200 | \$0 | \$14,767,200 |
| Combined | \$25,420,300 | \$40,878,600 | \$152,000 | \$66,450,900 | \$16,646,300 | \$49,804,600 |

ARC for Fiscal Year Beginning July 1, 2013
(7.75% discount rate)

| <u>Excluding Self-insured Group</u> | <u>Normal Cost</u> | <u>Amortization</u> | <u>Annual Required Contribution</u> |
|-------------------------------------|--------------------|---------------------|---|
| Fire | \$245,800 | \$690,900 | \$936,700 |
| GMEA | 31,200 | 79,700 | 110,900 |
| LIUNA | 16,300 | 63,300 | 79,600 |
| Management/Elected | 15,200 | 30,100 | 45,300 |
| Nurses | 500 | 1,000 | 1,500 |
| Police | 523,100 | 928,300 | 1,451,400 |
| Teachers | 121,200 | 958,300 | 1,079,500 |
| Teamsters | <u>37,100</u> | <u>156,000</u> | <u>193,100</u> |
| Total | \$990,400 | \$2,907,600 | \$3,898,000 |
| <u>Self-insured Group</u> | \$0 | \$1,225,500 | \$1,225,500 |
| <u>Combined</u> | \$990,400 | \$4,133,100 | \$5,123,500 |

**Actuarial Accrued Liability as of July 1, 2012
(7.5% discount rate)**

| | <u>Active Accrued Liability</u> | <u>Inactive Accrued Liability</u> | <u>Early Retirement Incentive</u> | <u>Total Accrued Liability</u> | <u>Allocated Assets</u> | <u>Unfunded Accrued Liability</u> |
|---|---|---|---|--|-----------------------------|---|
| <u>Excluding Self-insured group:</u> | | | | | | |
| Fire | \$7,147,900 | \$5,533,800 | \$0 | \$12,681,700 | \$3,959,500 | \$8,722,200 |
| GMEA | 902,800 | 508,600 | 36,100 | 1,447,500 | 451,900 | 995,600 |
| LIUNA | 634,100 | 499,000 | 15,100 | 1,148,200 | 358,500 | 789,700 |
| Management/Elected | 282,500 | 254,300 | 7,100 | 543,900 | 169,800 | 374,100 |
| Nurses | 17,800 | 0 | 0 | 17,800 | 5,500 | 12,300 |
| Police | 9,610,100 | 7,451,400 | 0 | 17,061,500 | 5,327,000 | 11,734,500 |
| Teachers | 6,073,700 | 11,509,000 | 0 | 17,582,700 | 5,489,700 | 12,093,000 |
| Teamsters | <u>1,699,200</u> | <u>1,039,700</u> | <u>94,100</u> | <u>2,833,000</u> | <u>884,500</u> | <u>1,948,500</u> |
| Total | \$26,368,100 | \$26,795,800 | \$152,400 | \$53,316,300 | \$16,646,400 | \$36,669,900 |
| Self-insured Group | \$0 | \$15,187,600 | \$0 | \$15,187,600 | \$0 | \$15,187,600 |
| Combined | \$26,368,100 | \$41,983,400 | \$152,400 | \$68,503,900 | \$16,646,400 | \$51,857,500 |

**ARC for Fiscal Year Beginning July 1, 2013
(7.5% discount rate)**

| <u>Excluding Self-insured Group</u> | <u>Normal Cost</u> | <u>Amortization</u> | <u>Annual Required Contribution</u> |
|-------------------------------------|--------------------|---------------------|---|
| Fire | \$261,500 | \$709,200 | \$970,700 |
| GMEA | 32,800 | 80,900 | 113,700 |
| LIUNA | 17,200 | 64,200 | 81,400 |
| Management/Elected | 15,800 | 30,400 | 46,200 |
| Nurses | 500 | 1,000 | 1,500 |
| Police | 555,400 | 954,100 | 1,509,500 |
| Teachers | 128,600 | 983,200 | 1,111,800 |
| Teamsters | <u>39,100</u> | <u>158,400</u> | <u>197,500</u> |
| Total | \$1,050,900 | \$2,981,400 | \$4,032,300 |
| <u>Self-insured Group</u> | \$0 | \$1,234,800 | \$1,234,800 |
| <u>Combined</u> | \$1,050,900 | \$4,216,200 | \$5,267,100 |

**Reconciliation of Market Value of Assets
For Fiscal Year Ending June 30, 2012**

| | |
|--------------------------------|-----------------|
| Net Assets as of June 30, 2011 | \$20,208,976 |
| Contributions: | |
| Employer | 1,685,000 |
| Plan members | 3,904,742 |
| Miscellaneous | <u>154,880</u> |
| Total | 5,744,622 |
| Investment Income | |
| Net appreciation | (167,689) |
| Interest and dividends | <u>379,718</u> |
| Total | 212,029 |
| Investment expenses | (20) |
| Deductions | |
| Benefits | (8,200,298) |
| Administrative costs | <u>(56,968)</u> |
| Total | (8,257,266) |
| Change in New Assets | (2,300,635) |
| Net Assets as of June 30, 2012 | \$17,908,341 |

**Development of Actuarial Asset Value
For Fiscal Year Ending June 30, 2012**

| | |
|--|-----------------|
| Net Actuarial Assets as of July 1, 2011 | \$17,578,647 |
| Contributions: | |
| Employer | 1,685,000 |
| Plan members | 3,904,742 |
| Miscellaneous | <u>154,880</u> |
| Total | 5,744,622 |
| Expected Return | 1,264,854 |
| Deductions | |
| Benefits | (8,200,298) |
| Administrative costs | <u>(56,968)</u> |
| Total | (8,257,266) |
| Expected Actuarial Assets as of July 1, 2012 | \$16,330,857 |
| Market Value of Assets as of July 1, 2012 | \$17,908,341 |
| Appreciation (Depreciation) Capitalized 20% of difference between Expected Actuarial Assets and Market Value | 315,497 |
| Preliminary Actuarial Asset Value as of July 1, 2012 | \$16,646,354 |
| 80% of Market Value | \$14,326,673 |
| 120% of Market Value | \$21,490,009 |
| Actuarial Asset Value as of July 1, 2012, not less than 80% of Market Value, and not greater than 120% of Market Value | \$16,646,354 |

OPEB Asset Return Assumption

| | Target Portfolio Percent <u>as of 6/30/2012</u> | Expected <u>Return*</u> | Weighted <u>Return</u> |
|-------------------------------|--|----------------------------|---------------------------|
| <u>Fixed Income</u> | | | |
| Vanguard Total Bond Index | 20.8% | 5.50% | 1.14% |
| iShares 1-3 Year Credit | 3.0% | 4.00% | 0.12% |
| Met West High Yield | 3.0% | 7.50% | 0.23% |
| PIMCO Foreign Bond | 2.8% | 6.50% | 0.18% |
| <u>Equities</u> | | | |
| Vanguard Domestic Equity | 44.4% | 8.50% | 3.77% |
| Yachtman Focused Fund | 5.0% | 8.50% | 0.43% |
| Vanguard International Equity | 10.5% | 9.25% | 0.97% |
| Janus Overseas Fund | 3.5% | 9.25% | 0.32% |
| Vanguard Emerging Markets | 7.0% | 10.50% | 0.74% |
| <u>Money Market</u> | | | |
| Vanguard Prime Money Market | 0.0% | 3.00% | 0.00% |
| Totals | 100.0% | | 7.90% |

**Expected return assumptions provided by Hooker & Holcombe Investment Advisors.
The returns are based on their most recently published Capital Market Assumption (2011).*

Census Information

Data as of July 1, 2012

| | <u>Town</u> | <u>Police and Fire</u> | <u>Board of Education</u> | <u>Total</u> |
|--------------------------------|-------------|----------------------------|-------------------------------|--------------|
| Actives | | | | |
| Eligible for Town Credit | 539 | 247 | 0 | 786 |
| Ineligible for Town Credit | <u>409</u> | <u>0</u> | <u>967</u> | <u>1,376</u> |
| Total Actives | 948 | 247 | 967 | 2,162 |
| Retirees with Medical Coverage | | | | |
| Eligible for Town Credit | 389 | 128 | 0 | 517 |
| Ineligible for Town Credit | <u>21</u> | <u>6</u> | <u>89</u> | <u>116</u> |
| Total Retirees | 410 | 134 | 89 | 633 |

Data as of July 1, 2011

| | <u>Town</u> | <u>Police and Fire</u> | <u>Board of Education</u> | <u>Total</u> |
|--------------------------------|-------------|----------------------------|-------------------------------|--------------|
| Actives | | | | |
| Eligible for Town Credit | 590 | 245 | 0 | 835 |
| Ineligible for Town Credit | <u>369</u> | <u>0</u> | <u>967</u> | <u>1,336</u> |
| Total Actives | 959 | 245 | 967 | 2,171 |
| Retirees with Medical Coverage | | | | |
| Eligible for Town Credit | 398 | 106 | 0 | 504 |
| Ineligible for Town Credit | <u>15</u> | <u>6</u> | <u>95</u> | <u>116</u> |
| Total Retirees | 413 | 112 | 95 | 620 |

Average Age and Average Service
As of July 1, 2012

| | <u>Town</u> | <u>Police and Fire</u> | <u>Board of Education</u> | <u>Total</u> |
|----------------------|-------------|----------------------------|-------------------------------|--------------|
| Actives | | | | |
| Average Attained Age | 52.7 | 42.3 | 44.7 | 47.9 |
| Average Service | 14.4 | 14.7 | 11.5 | 13.1 |
| Retirees | | | | |
| Average Attained Age | 75.4 | 65.4 | 65.9 | 72.0 |

As of July 1, 2011

| | <u>Town</u> | <u>Police and Fire</u> | <u>Board of Education</u> | <u>Total</u> |
|----------------------|-------------|----------------------------|-------------------------------|--------------|
| Actives | | | | |
| Average Attained Age | 52.1 | 42.5 | 44.6 | 47.7 |
| Average Service | 14.4 | 15.0 | 11.3 | 13.1 |
| Retirees | | | | |
| Average Attained Age | 76.8 | 65.2 | 65.2 | 72.9 |

**Medical, Pharmacy and Dental Plans and Premiums
Monthly Premiums Effective January 1, 2013**

| | Employee Only | Employee and Spouse |
|--|--------------------------|--------------------------------|
| <u>Town (non-Medicare eligible)</u> | | |
| CIGNA \$10 HMO (All unions except GEA) | \$825.22 | \$1,567.93 |
| CIGNA \$10 POS | 854.40 | 1,623.37 |
| CIGNA \$10 PPO (Nurses) | 867.47 | 1,648.20 |
| CIGNA \$15 POS (Nurses) | 866.73 | 1,646.78 |
| CIGNA \$1,500/\$3,000 HDHP/HSA with noRX (Fire, Teamsters, Nurses) | 695.13 | 1,320.74 |
| \$1,500/\$3,000 HDHP/HSA with RX Copay (LIUNA, Silver Shield, M/C, GMEA) | 671.98 | 1,276.77 |
| CIGNA \$20 PPO | 735.99 | 1,398.38 |
| <u>Board of Education (non-Medicare eligible)</u> | | |
| CIGNA \$15 PPO (GEA) | \$858.01 | \$1,630.22 |
| CIGNA \$15 PPO HD (GEA) | 843.04 | 1,601.77 |
| CIGNA \$1,500/\$3,000 HDHP/HSA (GEA, GOSA) | 695.13 | 1,320.74 |
| \$1,500/\$3,000 HDHP/HSA with RX Copay (BOE LIUNA) | 671.98 | 1,276.77 |
| <u>Town (Medicare eligible)</u> | | |
| \$10 PPO - Med Prime | \$300.70 | \$571.33 |
| \$10 POS - Med Prime | 285.34 | 542.14 |
| \$10 POE - Med Prime | 277.48 | 527.22 |
| <u>Prescription Drugs</u> | | |
| Town \$5/\$25/\$40 (no Medicare) | \$112.16 | \$213.13 |
| Town \$5/\$25/\$40 (Medicare Eligible) | 166.31 | 332.62 |
| Town \$10/\$25/\$40 (no Medicare) | 109.36 | 207.80 |
| Town \$10/\$25/\$40 (Medicare Eligible) | 162.15 | 324.30 |
| Town 80/20 (no Medicare) | 127.59 | 242.45 |
| Town 80/20 (Medicare Eligible) | 189.19 | 378.38 |
| Town \$1/\$1 | 145.81 | 277.08 |
| BOE \$5/\$25/\$40 | 117.15 | 222.61 |
| BOE \$10/\$25/\$40 | 114.22 | 217.04 |
| <u>Dental (used same as prior year)</u> | | |
| GMEA | \$55.09 | \$104.69 |
| Teamsters | 56.40 | 107.18 |
| Nurses, Silver Shield, LIUNA (Town) | 52.92 | 100.57 |
| Fire | 51.91 | 98.65 |
| M/C | 57.56 | 109.39 |
| GEA, LIUNA (BOE) | 50.45 | 95.87 |
| GOSA | 51.86 | 98.55 |

Projected Town Cost for Current and Future Retirees

| Fiscal Year beginning | Projected Benefit Payments (Excludes Self-insured Benefits) | | | Total |
|--------------------------|--|-------------|-----------------------|-------------|
| | Town | Police/Fire | Board of Education | |
| 2012 | \$471,348 | \$938,198 | \$571,397 | \$1,980,943 |
| 2013 | 448,682 | 1,173,554 | 662,320 | 2,284,556 |
| 2014 | 436,560 | 1,377,704 | 759,968 | 2,574,232 |
| 2015 | 467,751 | 1,594,524 | 858,088 | 2,920,363 |
| 2016 | 481,674 | 1,719,930 | 956,116 | 3,157,720 |
| 2017 | 494,890 | 1,841,572 | 1,051,039 | 3,387,501 |
| 2018 | 529,334 | 2,007,480 | 1,143,880 | 3,680,694 |
| 2019 | 547,012 | 2,139,234 | 1,238,265 | 3,924,511 |
| 2020 | 571,692 | 2,306,747 | 1,336,357 | 4,214,796 |
| 2021 | 601,638 | 2,536,714 | 1,449,725 | 4,588,077 |
| 2022 | 611,851 | 2,656,431 | 1,559,399 | 4,827,681 |
| 2023 | 626,068 | 2,844,907 | 1,665,602 | 5,136,577 |
| 2024 | 609,819 | 2,993,233 | 1,779,417 | 5,382,469 |
| 2025 | 599,319 | 3,116,653 | 1,874,509 | 5,590,481 |
| 2026 | 659,464 | 3,259,153 | 1,941,417 | 5,860,034 |
| 2027 | 682,225 | 3,385,319 | 2,018,963 | 6,086,507 |
| 2028 | 607,455 | 3,516,923 | 2,107,067 | 6,231,445 |
| 2029 | 634,099 | 3,634,529 | 2,160,198 | 6,428,826 |
| 2030 | 633,414 | 3,763,117 | 2,250,418 | 6,646,949 |
| 2031 | 622,677 | 3,852,738 | 2,290,243 | 6,765,658 |

Projected Town Cost for Current Retirees

Projected Benefit Payments for Retirees (Excludes Self-insured Benefits)

| Fiscal Year beginning | <u>Town</u> | | | <u>Police and Fire</u> | | |
|--------------------------|------------------|-----------------------------|-------------|------------------------|-----------------------------|-------------|
| | Gross Benefit | Participant Contribution | Net Benefit | Gross Benefit | Participant Contribution | Net Benefit |
| 2012 | \$2,848,466 | \$2,407,853 | \$440,613 | \$1,140,875 | \$311,640 | \$829,235 |
| 2013 | 2,896,258 | 2,531,566 | 364,692 | 1,228,224 | 325,872 | 902,352 |
| 2014 | 2,900,758 | 2,603,246 | 297,512 | 1,315,260 | 346,515 | 968,744 |
| 2015 | 2,932,621 | 2,651,277 | 281,344 | 1,415,763 | 363,166 | 1,052,597 |
| 2016 | 2,910,870 | 2,656,538 | 254,332 | 1,407,681 | 358,494 | 1,049,186 |
| 2017 | 2,858,020 | 2,630,801 | 227,219 | 1,412,519 | 363,779 | 1,048,739 |
| 2018 | 2,805,557 | 2,589,042 | 216,515 | 1,440,709 | 370,235 | 1,070,473 |
| 2019 | 2,730,520 | 2,532,800 | 197,720 | 1,421,255 | 364,740 | 1,056,514 |
| 2020 | 2,674,615 | 2,483,421 | 191,194 | 1,438,179 | 363,555 | 1,074,624 |
| 2021 | 2,580,977 | 2,411,616 | 169,361 | 1,483,877 | 371,594 | 1,112,283 |
| 2022 | 2,511,408 | 2,349,549 | 161,859 | 1,459,885 | 370,372 | 1,089,513 |
| 2023 | 2,435,707 | 2,282,025 | 153,682 | 1,496,136 | 376,954 | 1,119,182 |
| 2024 | 2,335,545 | 2,200,138 | 135,407 | 1,493,749 | 378,089 | 1,115,660 |
| 2025 | 2,246,954 | 2,122,049 | 124,905 | 1,483,103 | 377,975 | 1,105,129 |
| 2026 | 2,174,551 | 2,050,206 | 124,345 | 1,503,521 | 381,729 | 1,121,792 |
| 2027 | 2,078,221 | 1,964,159 | 114,062 | 1,455,348 | 376,277 | 1,079,071 |
| 2028 | 1,931,527 | 1,851,350 | 80,177 | 1,437,352 | 374,749 | 1,062,604 |
| 2029 | 1,844,891 | 1,769,953 | 74,938 | 1,433,003 | 374,772 | 1,058,232 |
| 2030 | 1,757,035 | 1,686,604 | 70,431 | 1,370,597 | 367,047 | 1,003,551 |
| 2031 | 1,667,998 | 1,601,560 | 66,438 | 1,317,890 | 360,595 | 957,295 |

| Fiscal Year beginning | <u>Board of Education</u> | | | <u>Grand Total</u> | | |
|--------------------------|---------------------------|-----------------------------|-------------|--------------------|-----------------------------|-------------|
| | Gross Benefit | Participant Contribution | Net Benefit | Gross Benefit | Participant Contribution | Net Benefit |
| 2012 | \$1,474,533 | \$927,611 | \$546,922 | \$5,463,874 | \$3,647,104 | \$1,816,770 |
| 2013 | 1,559,495 | 965,551 | 593,944 | 5,683,977 | 3,822,989 | 1,860,988 |
| 2014 | 1,645,273 | 1,003,059 | 642,214 | 5,861,291 | 3,952,820 | 1,908,470 |
| 2015 | 1,724,644 | 1,036,361 | 688,283 | 6,073,028 | 4,050,804 | 2,022,224 |
| 2016 | 1,806,869 | 1,068,140 | 738,729 | 6,125,420 | 4,083,172 | 2,042,247 |
| 2017 | 1,891,632 | 1,098,853 | 792,779 | 6,162,171 | 4,093,433 | 2,068,737 |
| 2018 | 1,961,928 | 1,120,182 | 841,746 | 6,208,194 | 4,079,459 | 2,128,734 |
| 2019 | 2,042,923 | 1,145,461 | 897,462 | 6,194,698 | 4,043,001 | 2,151,696 |
| 2020 | 2,121,523 | 1,168,790 | 952,733 | 6,234,317 | 4,015,766 | 2,218,551 |
| 2021 | 2,206,164 | 1,193,150 | 1,013,014 | 6,271,018 | 3,976,360 | 2,294,658 |
| 2022 | 2,279,171 | 1,211,736 | 1,067,435 | 6,250,464 | 3,931,657 | 2,318,807 |
| 2023 | 2,355,149 | 1,230,982 | 1,124,167 | 6,286,992 | 3,889,961 | 2,397,031 |
| 2024 | 2,428,359 | 1,247,314 | 1,181,045 | 6,257,653 | 3,825,541 | 2,432,112 |
| 2025 | 2,485,993 | 1,256,536 | 1,229,457 | 6,216,050 | 3,756,560 | 2,459,491 |
| 2026 | 2,493,176 | 1,249,425 | 1,243,751 | 6,171,248 | 3,681,360 | 2,489,888 |
| 2027 | 2,500,326 | 1,246,075 | 1,254,251 | 6,033,895 | 3,586,511 | 2,447,384 |
| 2028 | 2,509,253 | 1,247,201 | 1,262,052 | 5,878,132 | 3,473,300 | 2,404,833 |
| 2029 | 2,503,305 | 1,244,136 | 1,259,169 | 5,781,199 | 3,388,861 | 2,392,339 |
| 2030 | 2,483,594 | 1,236,679 | 1,246,915 | 5,611,226 | 3,290,330 | 2,320,897 |
| 2031 | 2,454,588 | 1,224,555 | 1,230,033 | 5,440,476 | 3,186,710 | 2,253,766 |

Projected Town Cost for Self-insured Benefits

| Fiscal Year beginning | Total |
|----------------------------------|--------------|
| 2012 | \$909,961 |
| 2013 | 950,363 |
| 2014 | 990,772 |
| 2015 | 1,030,697 |
| 2016 | 1,070,399 |
| 2017 | 1,109,299 |
| 2018 | 1,147,221 |
| 2019 | 1,184,263 |
| 2020 | 1,219,472 |
| 2021 | 1,252,463 |
| 2022 | 1,282,837 |
| 2023 | 1,308,681 |
| 2024 | 1,331,757 |
| 2025 | 1,352,340 |
| 2026 | 1,368,555 |
| 2027 | 1,379,055 |
| 2028 | 1,385,342 |
| 2029 | 1,385,357 |
| 2030 | 1,380,449 |
| 2031 | 1,369,318 |

**Town of Greenwich, Post-retirement Medical and Life Insurance
Summary of Principal Plan Provisions Valued**

GMEA

Eligibility for Town Credits 20 years of credited service, receiving retirement benefits from the Town Retirement Plan, and electing to continue health insurance with the Town. Employees hired on or after July 1, 2011 are not eligible for Town Credit.

Retiree/Spouse Town Credit The annual amount payable by the Town varies based on date of retirement, age and the coverage level elected:

| <u>Retirement Date</u> | | To age 65 | | After 65 | |
|------------------------|-----------|-----------|---------|----------|---------|
| From | To | Single | Family | Single | Family |
| 7/1/2003 | Present | \$1,000 | \$2,200 | \$600 | \$1,200 |
| 7/1/1997 | 6/30/2003 | 760 | 1,970 | 600 | 1,200 |
| 7/1/1989 | 6/30/1997 | 700 | 1,500 | 600 | 1,200 |
| 7/1/1984 | 6/30/1989 | 500 | 1,300 | 470 | 1,170 |
| 7/1/1981 | 6/30/1984 | 350 | 850 | 0 | 0 |
| prior to 6/30/1981 | | 0 | 0 | 0 | 0 |

The retiree must pay for amounts in excess of the Town Credit. Town Credits are applied to the monthly premium on a pro-rated basis.

Plan of Coverage Various medical, dental and pharmaceutical plans depending on whether prior to age 65 or after age 65.

Current Premium Rates as used for Retiree Medical Liabilities Under age 65 \$8,944 per person for medical and \$1,234 for pharmaceutical.
Age 65 and Over \$3,200 per person for medical and \$2,071 for pharmaceutical.

Life Insurance Benefit \$20,000 for two years following retirement. No benefit for employees who retire on or after July 1, 2011.

Teamsters

Eligibility for Town Credits

20 years of credited service, receiving retirement benefits from the Town Retirement Plan, and electing to continue health insurance with the Town. Employees hired on or after January 1, 1995 are not eligible for Town Credit.

Retiree/Spouse Town Credit

The annual amount payable by the Town varies based on date of retirement, age and the coverage level elected:

| <u>Retirement Date</u> | | To age 65 | | After 65 | |
|------------------------|-----------|-----------|---------|----------|---------|
| From | To | Single | Family | Single | Family |
| 7/1/2008 | Present | \$910 | \$2,120 | \$610 | \$1,430 |
| 7/1/1994 | 6/30/2008 | 760 | 1,970 | 460 | 1,280 |
| 7/1/1992 | 6/30/1994 | 750 | 1,800 | 450 | 1,170 |
| 7/1/1986 | 6/30/1992 | 700 | 1,500 | 450 | 1,170 |
| 7/1/1984 | 6/30/1986 | 500 | 1,300 | 450 | 1,170 |
| prior to 6/30/1984 | | 0 | 0 | 0 | 0 |

The retiree must pay for amounts in excess of the Town Credit. Town Credits are applied to the monthly premium on a pro-rated basis.

Plan of Coverage

Various medical, dental and pharmaceutical plans depending on whether prior to age 65 or after age 65.

Current Premium Rates as used for Retiree Medical Liabilities

Under age 65 \$8,944 per person for medical and \$1,234 for pharmaceutical.
Age 65 and Over \$3,200 per person for medical and \$2,071 for pharmaceutical.

Life Insurance Benefit

\$5,000 for two years following retirement for those who retired prior to September 1, 2009.

Plan Provisions
continued**Fire**

Eligibility for Town Credit 20 years of credited service, receiving retirement benefits from the Town Retirement Plan, and electing to continue health insurance with the Town.

Retiree/Spouse
Town Credit The annual amount payable by the Town varies based on date of retirement, age and the coverage level elected:

| <u>Retirement Date</u> | | To age 65 | | After 65 | | |
|------------------------|-----------|------------------------|--------|----------|--------|--|
| From | To | Single | Family | Single | Family | |
| 7/1/1988 | Present | 75% of premium elected | | | | |
| 7/1/1986 | 6/30/1988 | 700 | 1,800 | 0 | 0 | |
| 7/1/1984 | 6/30/1986 | 500 | 1,300 | 0 | 0 | |
| prior to 6/30/1984 | | 0 | 0 | 0 | 0 | |

The retiree must pay for amounts in excess of the Town Credit. Town Credits are applied to the monthly premium on a pro-rated basis.

Plan of Coverage Various medical, dental and pharmaceutical plans depending on whether prior to age 65 or after age 65.

Current Premium Rates as used for Retiree Medical Liabilities

| | |
|-----------------|--|
| Under age 65 | \$8,944 per person for medical and \$1,234 for pharmaceutical. |
| Age 65 and Over | \$3,200 per person for medical and \$2,071 for pharmaceutical. |

Life Insurance Benefit \$25,000 for five years following retirement for those who retired after 7/1/1988, but before 7/1/2010.

One times annual base salary for five years following retirement for those who retired on or after 7/1/2010.

Police

Eligibility for Town Credits 20 years of credited service, receiving retirement benefits from the Town Retirement Plan, and electing to continue health insurance with the Town.

Retiree/Spouse Town Credit The annual amount payable by the Town varies based on date of retirement, age and the coverage level elected:

| <u>Retirement Dates</u> | | To age 65 | | After 65 | | |
|-------------------------|--------------------|------------------------|--------|----------|--------|--|
| From | To | Single | Family | Single | Family | |
| 7/1/1999 | Present | 75% of premium elected | | | | |
| 7/1/1989 | 6/30/1999 | 850 | 2,150 | 0 | 0 | |
| 7/1/1984 | 6/30/1989 | 700 | 1,800 | 0 | 0 | |
| | prior to 6/30/1984 | 0 | 0 | 0 | 0 | |

The retiree must pay for amounts in excess of the Town Credit. Town Credits are applied to the monthly premium on a pro-rated basis.

Effective with the 2010-2014 collective bargaining agreement, for an employee awarded an accidental disability allowance, the Town pays 18.75% of the premium for an employee with less than 5 years of service, 37.5% if the employee had 5 years but less than 10 years of service, 56.25% if the employee has 10 but less than 15 years of service and 75% if the employee had 15 or more years of service. If the employee is permanently and totally disabled, the Town pays 100% of the premium.

Plan of Coverage Various medical, dental and pharmaceutical plans depending on whether prior to age 65 or after age 65.

| | | |
|---|-----------------|--|
| Current Premium Rates as used for Retiree Medical Liabilities | Under age 65 | \$8,944 per person for medical and \$1,234 for pharmaceutical. |
| | Age 65 and Over | \$3,200 per person for medical and \$2,071 for pharmaceutical. |

Life Insurance Benefit 1 times annual salary for five years following retirement.

LIUNA

Eligibility for Town Credits

20 years of credited service, receiving retirement benefits from the Town Retirement Plan, and electing to continue health insurance with the Town. LIUNA members employed at Nathaniel Witherell and all other LIUNA Members hired on or after January 1, 1996 are not eligible to receive Town Credit.

Retiree/Spouse Town Credit

The annual amount payable by the Town varies based on date of retirement, age and the coverage level elected:

| <u>Retirement Dates</u> | | To age 65 | | After 65 | |
|-------------------------|--------------------|-----------|--------|----------|--------|
| From | To | Single | Family | Single | Family |
| 1/1/1996 | Present | 760 | 1,970 | 760 | 1,970 |
| 7/1/1985 | 12/31/1995 | 700 | 1,800 | 700 | 1,800 |
| | prior to 6/30/1985 | 0 | 0 | 0 | 0 |

The retiree must pay for amounts in excess of the Town Credit. Town Credits are applied to the monthly premium on a pro-rated basis.

Plan of Coverage

Various medical, dental and pharmaceutical plans depending on whether prior to age 65 or after age 65.

Current Premium Rates as used for Retiree Medical Liabilities

| | |
|-----------------|--|
| Under age 65 | \$8,944 per person for medical and \$1,234 for pharmaceutical. |
| Age 65 and Over | \$3,200 per person for medical and \$2,071 for pharmaceutical. |

Nurses

Eligibility for Town Credit 25 years of credited service, receiving retirement benefits from the Town Retirement Plan, and electing to continue health insurance with the Town. Nurses hired on or after February 1, 2009 are not eligible to receive a Town Credit.

Retiree/Spouse Town Credits The annual amount payable by the Town varies based on date of retirement, age and the coverage level elected:

| <u>Retirement Dates</u> | | To age 65 | | After 65 | |
|-------------------------|-------------------|-----------|---------|----------|---------|
| From | To | Single | Family | Single | Family |
| 7/1/2009 | Present | \$700 | \$1,500 | \$670 | \$1,370 |
| 7/1/1986 | 6/30/2009 | 500 | 1,300 | 470 | 1,170 |
| | Prior to 7/1/1986 | 0 | 0 | 0 | 0 |

The retiree must pay for amounts in excess of the Town Credit. Town Credits are applied to the monthly premium on a pro-rated basis.

Plan of Coverage Various medical, dental and pharmaceutical plans depending on whether prior to age 65 or after age 65.

Current Premium Rates as used for Retiree Medical Liabilities

| | |
|-----------------|--|
| Under age 65 | \$8,944 per person for medical and \$1,234 for pharmaceutical. |
| Age 65 and Over | \$3,200 per person for medical and \$2,071 for pharmaceutical. |
| Dental | \$635 per person. |

Management, Confidential, and Elected Officials

Eligibility for Town Credits 10 years of credited service, receiving retirement benefits from the Town Retirement Plan, and electing to continue health insurance with the Town.

Retiree/Spouse Town Credit The annual amount payable by the Town varies based on date of retirement, age and the coverage level elected:

| <u>Retirement Dates</u> | | To age 65 | | After 65 | |
|-------------------------|------------|-----------|--------|----------|--------|
| From | To | Single | Family | Single | Family |
| 1/1/1996 | Present | 760 | 1,970 | 760 | 1,970 |
| 7/1/1985 | 12/31/1995 | 700 | 1,800 | 700 | 1,800 |
| Prior to 7/01/1985 | | 0 | 0 | 0 | 0 |

The retiree must pay for amounts in excess of the Town Credit. Town Credits are applied to the monthly premium on a pro-rated basis.

Plan of Coverage Various medical, dental and pharmaceutical plans depending on whether prior to age 65 or after age 65.

Current Premium Rates as used for Retiree Medical Liabilities

| | |
|-----------------|--|
| Under age 65 | \$8,944 per person for medical and \$1,234 for pharmaceutical. |
| Age 65 and Over | \$3,200 per person for medical and \$2,071 for pharmaceutical. |
| Dental | \$691 per person. |

Life Insurance Benefit \$7,500 for ten years following retirement.

Plan Provisions
continued**Board of Education (Certified Staff)**

| | | |
|---|--|---|
| Eligibility for Healthcare | Early or Normal Retirement with last employment at Greenwich. | |
| Retiree/Spouse | Retirees pay 100% of the cost for coverage less the Teacher's Retiree Board stipend. | |
| Plan of Coverage | Various medical, dental and pharmaceutical plans. | |
| Current Premium Rates as used for Retiree Medical Liabilities | | \$9,140 per person for combined medical and pharmaceutical. |
| | Dental | \$605 per person. |
| Life Insurance Benefit | None. | |

**Actuarial Assumptions Applicable to the Town of Greenwich
Excluding Police, Fire, Certified Staff and Self-insured Group**

| | | |
|--|---|---------------|
| Valuation Date: | July 1, 2012. | |
| Discount Rate: | 7.75% and 7.50%. | |
| Medical and Pharmacy Trend Rates: | 10%, reducing by 1% for each year to a final 5% per year rate for 2017 and later (was 5% for 2016 and later). | |
| Dental Trend Rates: | 5% per year. | |
| Aging Rates effect on Medical Costs: | <u>Sample age</u> | <u>Factor</u> |
| | 30 | .66 |
| | 35 | .73 |
| | 40 | .81 |
| | 45 | .90 |
| | 50 | 1.00 |
| | 55 | 1.11 |
| | 60 | 1.29 |
| | 65 | 1.57 |
| | 70 | 1.91 |
| | 75 | 2.32 |
| | 80 and later | 2.62 |
| Annual Medical Cost at age 50: | \$9,469 for Town employees. | |
| Salary Increase: | N/A. | |
| Disability Rates | N/A. | |
| Percentage of Actives Eligible at Retirement who continue with Medical Benefits: | 57%. | |
| Percentage of pre-65 Retirees Continuing with Medical Benefits after 65: | 100% | |
| Percentage of Actives electing Medical Coverage who elect to cover a Spouse: | Males | 41% |
| | Females | 27% |
| Age differential for Spouse of New Retiree: | Husbands 3 years older than wives. | |

Actuarial Assumptions
 Excluding Police, Fire, Certified Staff and Self-insured Group
 continued

Mortality: RP-2000 Mortality Table with separate male and female rates, with no collar adjustment, combined tables for non-annuitants and annuitants, projected to the valuation date with Scale AA.

(Previously used separate mortality for actives and retirees, consistent with those used by the prior actuary.)

Mortality Improvement: Projected to date of decrement using Scale AA (generational mortality).

(Previously no mortality improvement assumed.)

Employee Turnover: Sample rates based on age and years of service:

| <u>Age</u> | <u>0 Yrs.</u> | <u>1 Yr.</u> | <u>2-3 Yrs.</u> | <u>4 Yrs.</u> | <u>5-9 Yrs.</u> | <u>10+ Yrs.</u> |
|------------|---------------|--------------|-----------------|---------------|-----------------|-----------------|
| 25 | 15.4% | 13.1% | 16.7% | 5.8% | 11.5% | 7.7% |
| 30 | 12.2 | 10.3 | 13.2 | 4.6 | 9.1 | 6.1 |
| 35 | 7.6 | 6.4 | 8.2 | 2.8 | 5.7 | 3.8 |
| 40 | 4.9 | 4.2 | 5.3 | 1.8 | 3.7 | 2.4 |
| 45 | 4.1 | 3.5 | 4.5 | 1.6 | 3.1 | 2.1 |
| 50 | 3.7 | 3.1 | 4.0 | 1.4 | 2.8 | 1.8 |
| 55 | 3.2 | 2.7 | 3.5 | 1.2 | 2.4 | 1.6 |
| 60 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Assumed Rates of Retirement:

Sample rates:

| <u>Age</u> | <u>Unisex</u> |
|------------|---------------|
| 50 | 4.0% |
| 55 | 5.0 |
| 60 | 19.0 |
| 65 | 20.0 |
| 70 | 100.0 |

Actuarial Assumptions
Police and Fire**Actuarial Assumptions Applicable to the Town of Greenwich
Police and Fire**

Valuation Date: July 1, 2012.

Discount Rate: 7.75 and 7.50%.

Medical and Pharmacy Trend Rates: 10%, reducing by 1% for each year to a final 5% per year rate for 2017 and later (was 5% per year for 2016 and later).

Aging Rates effect on Medical Costs:

| <u>Sample age</u> | <u>Factor</u> |
|-------------------|---------------|
| 30 | .66 |
| 35 | .73 |
| 40 | .81 |
| 45 | .90 |
| 50 | 1.00 |
| 55 | 1.11 |
| 60 | 1.29 |
| 65 | 1.57 |
| 70 | 1.91 |
| 75 | 2.32 |
| 80 and later | 2.62 |

Annual Medical Cost at age 50: \$9,469.

Salary Increase for Life Insurance: 3.75%.

Disability Rates: Sample rates combined ordinary and accidental disability:

| <u>Age</u> | <u>Unisex</u> |
|------------|---------------|
| 25 | 0.336% |
| 35 | 0.546 |
| 45 | 2.550 |
| 55 | 3.138 |

Percentage of Actives Eligible at Retirement who continue with Medical Benefits: 55%.

Percentage of pre-65 Retirees Continuing with Medical Benefits after 65: 100%

Actuarial Assumptions
Police and Fire
continued

Percentage of Actives electing Medical Coverage who elect to cover a Spouse:

| | |
|---------|-----|
| Males | 30% |
| Females | 79% |

Age differential for Spouse of New Retiree:

Husbands 3 years older than wives

Mortality:

RP-2000 Mortality Table with separate male and female rates, with blue collar adjustment, combined tables for non-annuitants and annuitants, projected to the valuation date with Scale AA.

(Previously used separate mortality for actives and retirees, consistent with those used by the prior actuary.)

Mortality Improvement:

Projected to date of decrement using Scale AA (generational mortality).

(Previously no mortality improvement assumed.)

Mortality for Disabled Participants:

Sample rates:

| <u>Age</u> | <u>Unisex</u> |
|------------|---------------|
| 25 | 0.1058% |
| 35 | 0.1792 |
| 45 | 0.4635 |
| 55 | 1.1863 |
| 65 | 2.9634 |

Employee Turnover:

Sample rates:

| <u>Age</u> | <u>Unisex</u> |
|------------|---------------|
| 25 | 2.48% |
| 30 | 1.59 |
| 35 | 0.77 |
| 40 | 0.53 |
| 45 | 0.31 |
| 50 | 0.07 |
| 55 | 0.00 |

Actuarial Assumptions
Police and Fire
continued

Assumed Rates of Retirement:

Sample rates:

| <u>Service</u> | <u>New Assumptions</u> |
|----------------|------------------------|
| 20 | 42% |
| 25 | 42% |
| 30 | 14% |
| 34+ | 100% |

Actuarial Assumptions
Certified Staff**Actuarial Assumptions Applicable to the Town of Greenwich
Certified Staff**

| | | |
|--|--|---------------|
| Valuation Date: | July 1, 2012. | |
| Discount Rate: | 7.75% and 7.50%. | |
| Medical Trend Rates: | 10%, reducing by 1% for each year to a final 5% per year rate for 2017 and later (was 5% per year for 2016 and later). | |
| Dental Trend Rates: | 5% per year. | |
| Aging Rates effect on Medical Costs: | <u>Sample age</u> | <u>Factor</u> |
| | 30 | .66 |
| | 35 | .73 |
| | 40 | .81 |
| | 45 | .90 |
| | 50 | 1.00 |
| | 55 | 1.11 |
| | 60 | 1.29 |
| | 65 | 1.57 |
| | 70 | 1.91 |
| | 75 | 2.32 |
| | 80 and later | 2.62 |
| Annual Medical and Pharmacy Cost at age 50: | \$8,808. | |
| Salary Increase: | N/A. | |
| Disability: | N/A. | |
| Percentage of Actives Eligible at Retirement who continue with Medical Coverage: | 49%. | |

Actuarial Assumptions
 Certified Staff
 continued

| | | | |
|--|---|--|---------------------------|
| Percentage of non-Medicare eligible retirees who continue in pre-65 plan: | 50%. | | |
| Percentage of Actives electing Medical Coverage who elect to cover a Spouse: | Males | 25% | |
| | Females | 14% | |
| Age differential for Spouse of New Retiree: | Husbands 3 years older than wives. | | |
| Mortality: | RP-2000 Mortality Table with separate male and female rates, with no collar adjustment, combined tables for non-annuitants and annuitants, projected to the valuation date with Scale AA. | | |
| | (Previously used Connecticut State Teacher's Retirement System mortality rates.) | | |
| Mortality Improvement: | Projected to date of decrement using Scale AA (generational mortality). | | |
| | (Previously no mortality improvement assumed.) | | |
| Service-Based Withdrawal Rates: (until eligible to retire) (from CT State TRS 2008 Pension Valuation) | <u>Service</u> | <u>Male Rate</u> | <u>Female Rate</u> |
| | 0-1 | .1400 | .1200 |
| | 1-2 | .0850 | .0900 |
| | 2-3 | .0550 | .0700 |
| | 3-4 | .0450 | .0600 |
| | 4-5 | .0350 | .0550 |
| | 5-6 | .0250 | .0500 |
| | 6-7 | .0240 | .0450 |
| | 7-8 | .0230 | .0350 |
| | 8-9 | .0220 | .0300 |
| | 9-10 | .0210 | .0250 |
| | 10 + | use age-related rates until eligible to retire | |

Actuarial Assumptions
 Certified Staff
 continued

Sample Age-Based Withdrawal Rates:
 (until eligible to retire)
 (from CT State TRS 2008 Pension Valuation)

| | Male | Female |
|------------|-------------|---------------|
| <u>Age</u> | <u>Rate</u> | <u>Rate</u> |
| 25-37 | .0120 | .0350 |
| 40 | .0120 | .0230 |
| 45 | .0126 | .0140 |
| 50 | .0196 | .0125 |
| 55 | .0336 | .0160 |
| 59+ | .0400 | .0190 |

Assumed Rates of Retirement:
 (from CT State TRS 2006 Pension Valuation)

| Age | Eligible for Normal (Unreduced) Retirement (Age 60 and 20 Yrs. Serv. or 35 yrs. Serv.) | | Eligible for Early (Reduced) Retirement (Age 55 and 20 Yrs. Serv. or 25 yrs. Serv.) | |
|-------|---|--------|--|--------|
| | Male | Female | Male | Female |
| 55 | 38.5% | 30.0% | 5.0% | 7.5% |
| 56 | 38.5 | 30.0 | 7.0 | 8.5 |
| 57 | 38.5 | 30.0 | 10.0 | 9.5 |
| 58 | 38.5 | 30.0 | 11.0 | 10.0 |
| 59 | 38.5 | 30.0 | 12.0 | 10.0 |
| 60 | 22.0 | 20.0 | | |
| 61-62 | 25.3 | 22.5 | | |
| 63-64 | 27.5 | 22.5 | | |
| 65 | 36.3 | 30.0 | | |
| 66-69 | 27.5 | 30.0 | | |
| 70-79 | 100.0 | 40.0 | | |
| 80 | 100.0 | 100.0 | | |

**Actuarial Assumptions Applicable to the Town of Greenwich
Self-insured Group**

Valuation Date: July 1, 2012.

Discount Rate: 7.75% and 7.50%.

Medical Trend Rates: 4% per year.

| | | |
|--------------------------------------|--------------------------|----------------------|
| Aging Rates effect on Medical Costs: | <u>Sample age</u> | <u>Factor</u> |
| | 30 | .66 |
| | 35 | .73 |
| | 40 | .81 |
| | 45 | .90 |
| | 50 | 1.00 |
| | 55 | 1.11 |
| | 60 | 1.29 |
| | 65 | 1.57 |
| | 70 | 1.91 |
| | 75 | 2.32 |
| | 80 and later | 2.62 |

Annual Medical and Pharmacy Cost at age 50: \$8,295.

| | | |
|------------|-------------------|----------------------|
| Mortality: | <u>Age</u> | <u>Unisex</u> |
| | 45 | .5103% |
| | 55 | 1.1863 |
| | 65 | 2.9634 |
| | 75 | 6.8628 |

Age-weighted Claims Cost

| <u>Age</u> | <u>Town</u> | <u>Board of Education</u> | <u>Self- Insured Group</u> | <u>Age</u> | <u>Town</u> | <u>Board of Education</u> | <u>Self- Insured Group</u> |
|------------|-------------|-------------------------------|------------------------------------|------------|-------------|-------------------------------|------------------------------------|
| 20 | \$5,776 | \$5,373 | \$5,060 | 65 | \$14,866 | \$13,829 | \$13,023 |
| 21 | 5,776 | 5,373 | 5,060 | 66 | 15,434 | 14,357 | 13,521 |
| 22 | 5,776 | 5,373 | 5,060 | 67 | 16,003 | 14,886 | 14,019 |
| 23 | 5,776 | 5,373 | 5,060 | 68 | 16,665 | 15,502 | 14,599 |
| 24 | 5,776 | 5,373 | 5,060 | 69 | 17,328 | 16,119 | 15,180 |
| 25 | 5,776 | 5,373 | 5,060 | 70 | 18,086 | 16,823 | 15,843 |
| 26 | 5,776 | 5,373 | 5,060 | 71 | 18,749 | 17,440 | 16,424 |
| 27 | 5,871 | 5,461 | 5,143 | 72 | 19,506 | 18,144 | 17,088 |
| 28 | 6,060 | 5,637 | 5,309 | 73 | 20,264 | 18,849 | 17,751 |
| 29 | 6,155 | 5,725 | 5,392 | 74 | 21,116 | 19,642 | 18,498 |
| 30 | 6,250 | 5,813 | 5,475 | 75 | 21,968 | 20,435 | 19,244 |
| 31 | 6,439 | 5,989 | 5,641 | 76 | 22,820 | 21,227 | 19,991 |
| 32 | 6,534 | 6,078 | 5,724 | 77 | 23,767 | 22,108 | 20,820 |
| 33 | 6,628 | 6,166 | 5,807 | 78 | 24,714 | 22,989 | 21,650 |
| 34 | 6,818 | 6,342 | 5,972 | 79 | 24,809 | 23,077 | 21,733 |
| 35 | 6,912 | 6,430 | 6,055 | 80 | 24,809 | 23,077 | 21,733 |
| 36 | 7,102 | 6,606 | 6,221 | 81 | 24,809 | 23,077 | 21,733 |
| 37 | 7,196 | 6,694 | 6,304 | 82 | 24,809 | 23,077 | 21,733 |
| 38 | 7,386 | 6,870 | 6,470 | 83 | 24,809 | 23,077 | 21,733 |
| 39 | 7,481 | 6,958 | 6,553 | 84 | 24,809 | 23,077 | 21,733 |
| 40 | 7,670 | 7,134 | 6,719 | 85 | 24,809 | 23,077 | 21,733 |
| 41 | 7,765 | 7,223 | 6,802 | 86 | 24,809 | 23,077 | 21,733 |
| 42 | 7,954 | 7,399 | 6,968 | 87 | 24,809 | 23,077 | 21,733 |
| 43 | 8,143 | 7,575 | 7,134 | 88 | 24,809 | 23,077 | 21,733 |
| 44 | 8,333 | 7,751 | 7,300 | 89 | 24,809 | 23,077 | 21,733 |
| 45 | 8,522 | 7,927 | 7,466 | 90 | 24,809 | 23,077 | 21,733 |
| 46 | 8,711 | 8,103 | 7,631 | 91 | 24,809 | 23,077 | 21,733 |
| 47 | 8,901 | 8,280 | 7,797 | 92 | 24,809 | 23,077 | 21,733 |
| 48 | 9,090 | 8,456 | 7,963 | 93 | 24,809 | 23,077 | 21,733 |
| 49 | 9,280 | 8,632 | 8,129 | 94 | 24,809 | 23,077 | 21,733 |
| 50 | 9,469 | 8,808 | 8,295 | 95 | 24,809 | 23,077 | 21,733 |
| 51 | 9,658 | 8,984 | 8,461 | 96 | 24,809 | 23,077 | 21,733 |
| 52 | 9,848 | 9,160 | 8,627 | 97 | 24,809 | 23,077 | 21,733 |
| 53 | 10,037 | 9,336 | 8,793 | 98 | 24,809 | 23,077 | 21,733 |
| 54 | 10,227 | 9,513 | 8,959 | 99 | 24,809 | 23,077 | 21,733 |
| 55 | 10,511 | 9,777 | 9,207 | 100 | 24,809 | 23,077 | 21,733 |
| 56 | 10,795 | 10,041 | 9,456 | | | | |
| 57 | 10,984 | 10,217 | 9,622 | | | | |
| 58 | 11,268 | 10,482 | 9,871 | | | | |
| 59 | 11,742 | 10,922 | 10,286 | | | | |
| 60 | 12,215 | 11,362 | 10,701 | | | | |
| 61 | 12,688 | 11,803 | 11,115 | | | | |
| 62 | 13,162 | 12,243 | 11,530 | | | | |
| 63 | 13,730 | 12,772 | 12,028 | | | | |
| 64 | 14,298 | 13,300 | 12,525 | | | | |

Actuarial Cost Method

Actuarial Cost Method: Entry Age Normal

The Normal Cost is the portion of the Actuarial Present Value of Future Benefits that a cost method allocates to the current plan year.

Under the Entry Age Actuarial Cost Method, the Normal Cost for plan benefits is the total of the individual Entry Age Normal Costs for active participants. The cost method derives the Normal Cost for each active participant by supporting the actuarial present value of projected benefits over the expected working lifetime as a level dollar amount.

The accrued liability is equal to the present value of future benefits that is allocated to years of service before the valuation date.

Amortization Method: 27 years, level dollar, closed

The Unfunded Accrued Liability is amortized each year over a reducing period to an ultimate period of 15 years, as a level dollar amount.

Asset Valuation Method:

The expected actuarial value is calculated each year as if the actuarial value of assets earned exactly the expected actuarial return. 20% of the difference between the expected actuarial value and the actual market value is then added (or subtracted) from the expected actuarial value. The resulting Actuarial Asset Value will be adjusted to be within the range of 80% of Market Value and 120% of Market Value (prior year corridor was 75% of Market Value of 125% of Market Value).

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The Retirement System
of the
Town of Greenwich

Actuarial Experience Study
July 1, 2005 through
June 30, 2010



Gregory M. Stump, FSA



Graham A. Schmidt, ASA

December 21, 2010

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Executive Summary

Purpose

The purpose of this Actuarial Experience Study is to review the actuarial experience of the Retirement System of the Town of Greenwich (the Plan) during the period from July 1, 2005 through June 30, 2010.

The Plan's demographic experience – observed rates of retirement, withdrawal, termination, disability, and death – is compared with the experience expected under the actuarial assumptions adopted to determine Plan actuarial liabilities and cost, and revised assumptions are recommended as appropriate.

In addition, the plan's economic assumptions are reviewed. The economic assumptions include the assumed rates of inflation, COLA increases, investment return, and active payroll growth.

The purpose of this Executive Summary is to give the reader a quick summary of the major conclusions that have been reached. Details are presented in later sections of this Report.

Prior Experience Studies

The most recent Experience Study for the Plan was conducted by EFI Actuaries in 2005, covering July 1, 2000 through June 30, 2005. Based on that study, rates of retirement, termination and disability were updated for General and Safety (Police and Fire) members. Additionally, the General member longevity pay assumptions were adjusted.

Retirement Rates

Over the past five years, actual rates of retirement among General Service and Safety members have been lower than expected. The number of Police and Fire retirements was, however, within a reasonable margin. For General Service members, the primary difference was that quite a few members have retired at ages higher than 70, whereas none were assumed to work past this age.

New sets of retirement rates are proposed for General members at ages 70-74, bringing assumptions more into line with experience. For Safety members, no changes to the current assumed retirement rates are proposed.

Termination Rates

Termination rates measure the frequency with which members terminate employment for reasons other than retirement, disability, or death.

Overall, the number of terminations among General members was significantly higher than expected. These terminations occurred primarily among those with less than twenty years of service, with much higher rates among low service members. Accordingly, new service-based rates are proposed.

The number of terminations among Safety members was well below expectations, and a similar service based pattern was identified. New rates are proposed which follow a similar service based pattern as the General rates described above.

Disability Rates

The rates disability observed during this Study among General members were higher than expected; however, no discernable progressive age pattern was noted. In the prior study, a pattern of lower rates among female members was identified. This pattern is still evident in the recent data set. Considering the foregoing, new flat rates of disability are proposed for General members, with lower rates for female members.

Among Safety members, the number of disabilities was close to that anticipated; however, many more were observed at higher service levels. A reduction in rates is proposed at lower service levels, as well as an increase at higher service levels.

Salary Increases

The current actuarial assumption for all members is that the pay of active members will increase by 3.50% per year from inflation and productivity increases. Pay is expected to increase annually for individual members by an additional 0.5% to 7.2% for merit, longevity and promotion, depending on the bargaining unit and service of the member. There is currently one set of rates for all General members, and one set for all Safety members.

An analysis of the average pay of active General members by service reveals that there are substantial differences in pay increases among the different bargaining units. New merit and longevity pay increase assumptions are thus proposed for each bargaining unit.

For Safety members, the pattern of increases is still appropriate, and no changes to the assumptions are proposed.

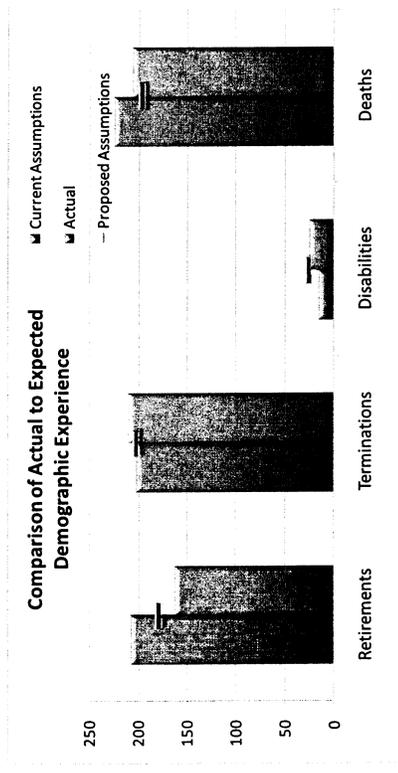
Mortality Rates

The number of deaths among service retired members, disabled members and their survivors was less than expected under the current assumptions in this Study. In addition, expectations are that mortality experience will improve in the future. Further, a recent study by the Society of Actuaries discovered that members with higher benefit amounts have lower rates of death than members with lower benefits. These three factors indicate that mortality rates should be more conservative than they are currently, with lower assumed rates of death.

Therefore, we have proposed the use of the Retired Pensioners (RP) 2000 tables, with generational improvement, and age-adjustments applied to females and to disabled members. Proposed rates of mortality among active members are 50% of the rates described above.

Summary of Demographic Experience

In this section, we look at a summary of all demographic experience. This will provide a sense of how well the current demographic assumptions predicted experience in aggregate over the years studied. It will also give an indication as to how the assumption changes proposed within this Study would have performed during the same time period.



Economic Assumptions

Over the past two years, the Plan has phased in a new set of economic assumptions, with an inflation assumption of 3.5%, and a total return assumption of 8.0%. Upon review, we believe the current assumptions are within reason, although there is still room for more conservatism.

We propose a revised rate of expected COLA growth of 2.5% per year. This is derived from simulations of the future level of inflation considering the 3% annual COLA maximum.

Adjustments to Plan Costs

Some of the proposed assumptions will necessitate an upward adjustment to annual Plan costs, while others work in the opposite direction.

Should all of the recommendations in this Report be adopted, an increase in the total actuarial cost of approximately 0.8% of payroll would be applied, which amounts to about \$0.7 million for the next fiscal year.

Updated administrative tables may result from adoption of new assumptions as well. This would serve to increase costs further, by approximately 0.4% of payroll.

The actual experience of the membership and the investments, rather than the assumptions regarding such, will determine the ultimate benefits and the amount of contributions necessary to fund those benefits.

Section 1: Active Decrements

Service Retirement (General)

Current Assumption

Summary of Experience versus Current Assumptions (Ages 50-75)

| | Eligible Exposure | Actual Retirements | Expected Retirements | Actual to Expected Ratio |
|----------------------------|-------------------|--------------------|----------------------|--------------------------|
| Males | 460 | 52 | 77 | 68% |
| Females | 563 | 77 | 92 | 84% |
| Combined | 1,023 | 129 | 169 | 76% |
| Overall Actual Rate | | 12.6% | | |

| | Actual Average Age | Expected Average Age |
|-----------------|--------------------|----------------------|
| Males | 64.7 | 66.2 |
| Females | 63.7 | 65.4 |
| Combined | 64.1 | 65.8 |

- General members are eligible to retire upon reaching age 65, or age 60 with 20 years of service, or when age plus service is at least 80. Early retirement eligibility is at age 55 or 60, depending on the bargaining unit.
- There were fewer retirements than expected over the study period, indicating that some of the rates may be too high.
- The actual rates matched closely with the assumed rates at most ages less than 70; however, there were a number of members worked beyond age 70.

Proposed Assumption

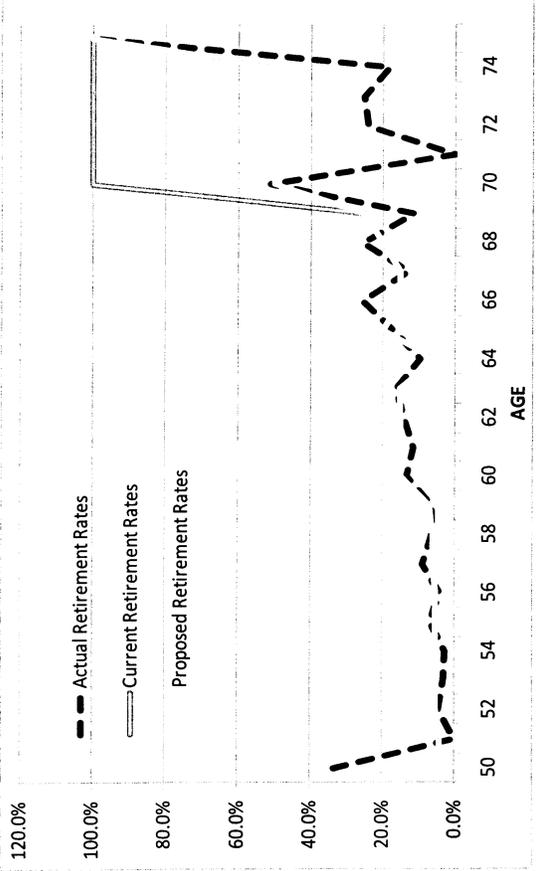
Summary of Experience versus Proposed Assumptions (Ages 50-75)

| | Eligible Exposure | Actual Retirements | Expected Retirements | Actual to Expected Ratio |
|-----------------|-------------------|--------------------|----------------------|--------------------------|
| Males | 460 | 52 | 61 | 85% |
| Females | 563 | 77 | 79 | 98% |
| Combined | 1,023 | 129 | 140 | 92% |

| | Actual Average Age | Expected Average Age |
|-----------------|--------------------|----------------------|
| Males | 64.7 | 64.8 |
| Females | 63.7 | 64.4 |
| Combined | 64.1 | 64.6 |

- The only change proposed is to change the probability of retirement at ages 70-74 from 100% to 50%, with the 100% rate applying at ages 75 and older.
- The data set included retirements from several incentives offered during the last few years, it is possible that the rates going forward may be lower. We will monitor experience as it emerges.
- The number of retirements that would have been expected using the proposed assumption is closer to, and a little higher than, the actual number experienced. This represents a reasonably conservative assumption.
- Charts 1 and 2 below show the actual rates and number of retirements versus the current and proposed assumptions.

Chart 1: Comparison of Actual and Assumed Retirement Rates, General

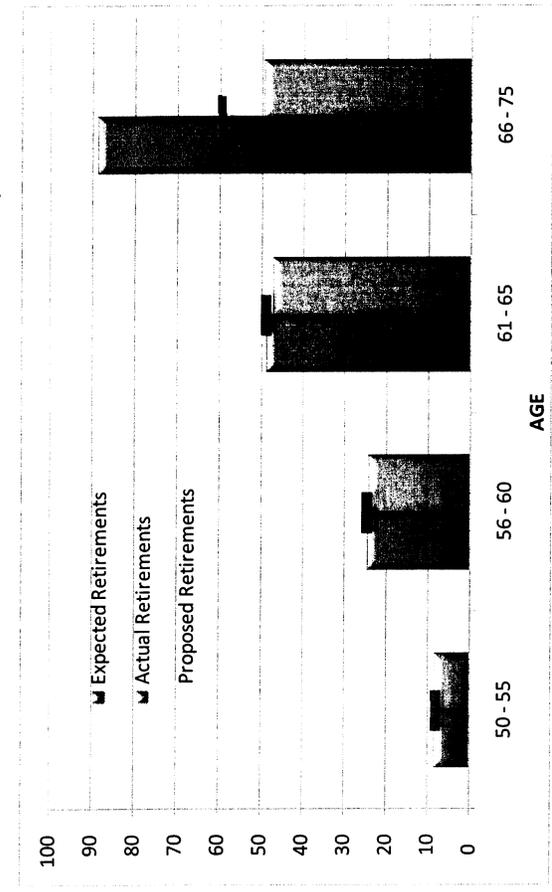


Current Retirement Assumption, General

| Age | Rate (if eligible) |
|-------|--------------------|
| 50-51 | 4.0% |
| 52-56 | 5.0% |
| 57-58 | 6.0% |
| 59 | 7.0% |
| 60-63 | 15.0% |
| 64 | 5.0% |
| 65 | 20.0% |
| 66-67 | 15.0% |
| 68 | 20.0% |
| 69 | 25.0% |
| 70+ | 100.0% |

Lower rates are assumed for early retirements at ages 60-63.

Chart 2: Comparison of Actual and Assumed Retirements, General



Proposed Retirement Assumption, General

| Age | Rate (if eligible) |
|-------|--------------------|
| 50-51 | 4.0% |
| 52-56 | 5.0% |
| 57-58 | 6.0% |
| 59 | 7.0% |
| 60-63 | 15.0% |
| 64 | 5.0% |
| 65 | 20.0% |
| 66-67 | 15.0% |
| 68 | 20.0% |
| 69 | 25.0% |
| 70-74 | 50.0% |
| 75+ | 100.0% |

Lower rates are assumed for early retirements at ages 60-63.



Service Retirement (Police and Fire)

Current Assumption

Summary of Experience versus Current Assumptions (Ages 45-65)

| | Eligible Experience | Actual Retirements | Expected Retirements | Actual to Expected Ratio |
|----------------------------|---------------------|--------------------|----------------------|--------------------------|
| Police | 260 | 25 | 26 | 96% |
| Fire | 152 | 8 | 12 | 67% |
| Combined | 412 | 33 | 38 | 86% |
| Overall Actual Rate | | 8.0% | | |

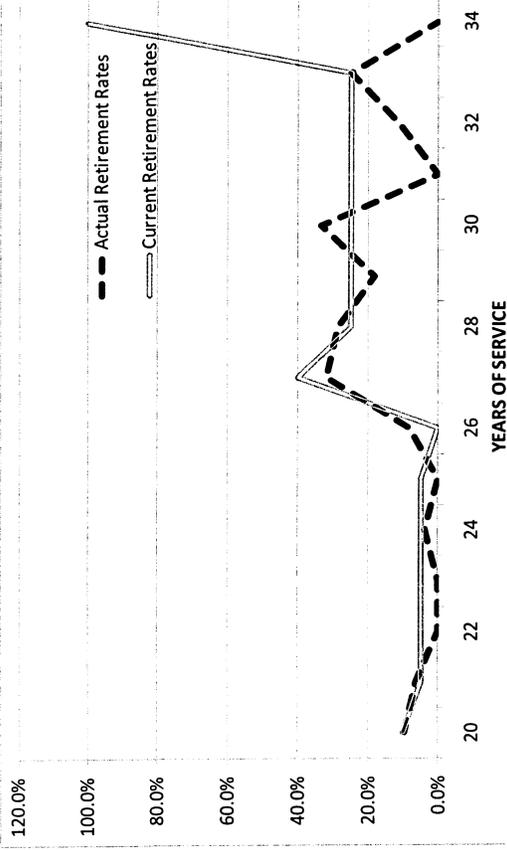
| | Actual Average Age | Expected Average Age |
|-----------------|--------------------|----------------------|
| Police | 50.8 | 49.9 |
| Fire | 50.8 | 52.0 |
| Combined | 50.8 | 50.6 |

- Police members are eligible to retire upon attaining 20 years of service or at age 55 (age 50 for Fire members) if vested with 10 years of service.
- The number of retirements in total among Safety members was close to that expected, especially among Policemen.
- The expected age of retirement was very close to the actual observed average age.

Proposed Assumption

- The 86% actual to expected ratio represents a slightly conservative assumption, in that funding is adequate to provide for a few more retirements.
- Although the number of retirements among Firemen was lower than expected, the experience is somewhat limited, and does not create a compelling case for a revision in the assumed rates.
- No changes in this assumption are proposed at this time.
- Charts 3 and 4 below show the actual and expected rates and number of retirements among Safety members.

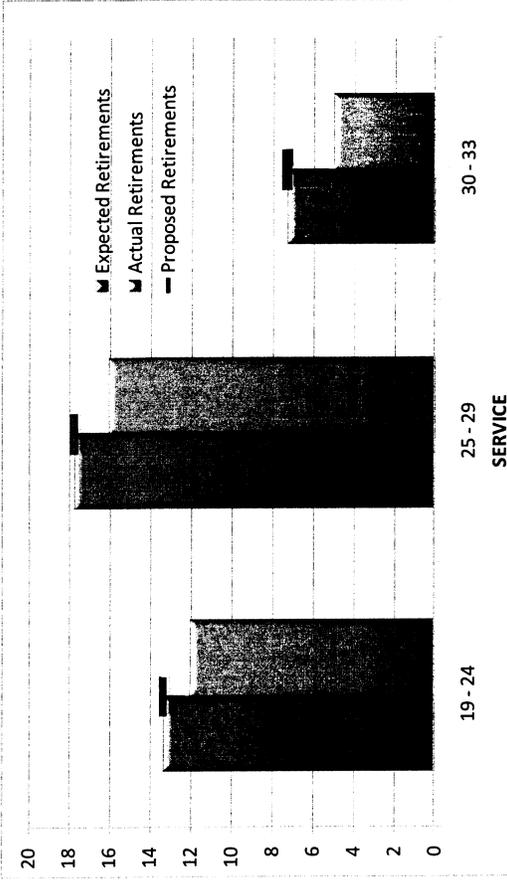
Chart 3: Comparison of Actual and Assumed Retirement Rates, Safety



Current Retirement Assumption, Safety

| Service | Rate if eligible |
|---------|------------------|
| 20 | 10.0% |
| 21-25 | 5.0% |
| 26 | 0.0% |
| 27 | 40.0% |
| 28-33 | 25.0% |
| 34+ | 100.0% |

Chart 4: Comparison of Actual and Assumed Retirement, Safety



Termination (General)

| Current Assumption | | Proposed Assumption | | | |
|--|-------------------|---------------------|-----------------------|--------------------------|--|
| Summary of Experience versus Current Assumptions | | | | | |
| | Eligible Exposure | Actual Terminations | Expected Terminations | Actual to Expected Ratio | |
| Males | 2,022 | 76 | 72 | 106% | |
| Females | 2,364 | 128 | 93 | 138% | |
| Combined | 4,386 | 204 | 165 | 123% | |
| Overall Actual Rate | | 4.7% | | | |

| | Actual Average Age | Expected Average Age |
|-----------------|--------------------|----------------------|
| Males | 43.9 | 39.6 |
| Females | 42.0 | 38.9 |
| Combined | 42.7 | 39.2 |

- Only members not eligible to retire are considered in this analysis.
- There were more terminations than expected among General members.
- There was a much stronger service correlation than age.
- The currently assumed rates for Professional Assistants are 2.5 times the remaining General population rates. Higher rates are still being observed in this population.

| Summary of Experience versus Proposed Assumptions | | | | | |
|---|-------------------|---------------------|-----------------------|--------------------------|--|
| | Eligible Exposure | Actual Terminations | Expected Terminations | Actual to Expected Ratio | |
| Males | 2,022 | 76 | 69 | 110% | |
| Females | 2,364 | 128 | 128 | 100% | |
| Combined | 4,386 | 204 | 197 | 104% | |

| | Actual Average Age | Expected Average Age |
|-----------------|--------------------|----------------------|
| Males | 43.9 | 46.1 |
| Females | 42.0 | 45.6 |
| Combined | 42.7 | 45.8 |

- New service based termination rates are proposed, with higher rates for Professional Assistants, 2.0 times the lower rates.
- Terminations can be cyclical, so it is desirable to be slightly conservative and assume fewer terminations than may be expected.
- Charts 5 through 8 show the rates and number of terminations, based on current and proposed assumptions.

Chart 5: Comparison of General Termination Rates, Prof. Assts.

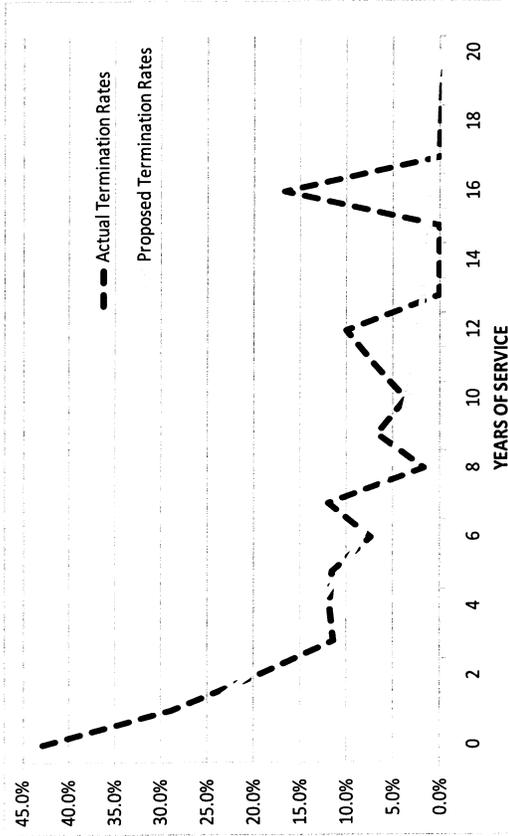


Chart 7: Comparison of General Terminations, Prof. Assts.

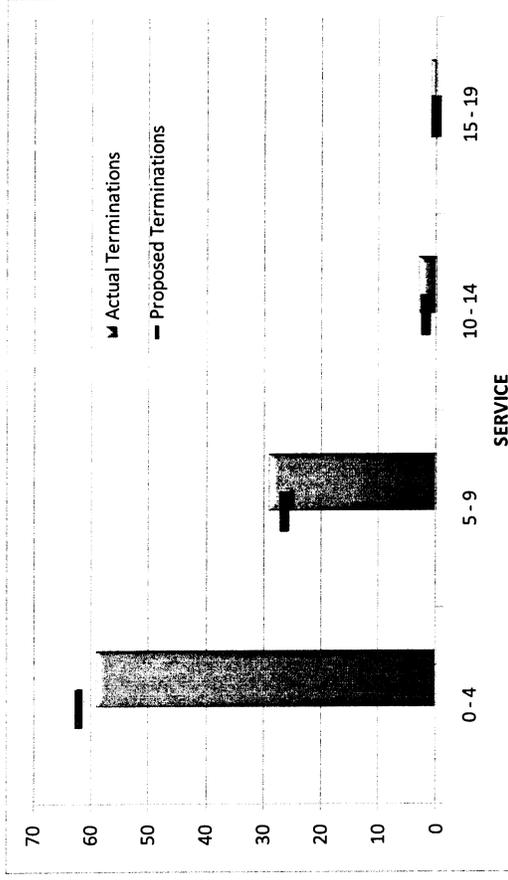


Chart 6: Comparison of General Termination Rates, All Others

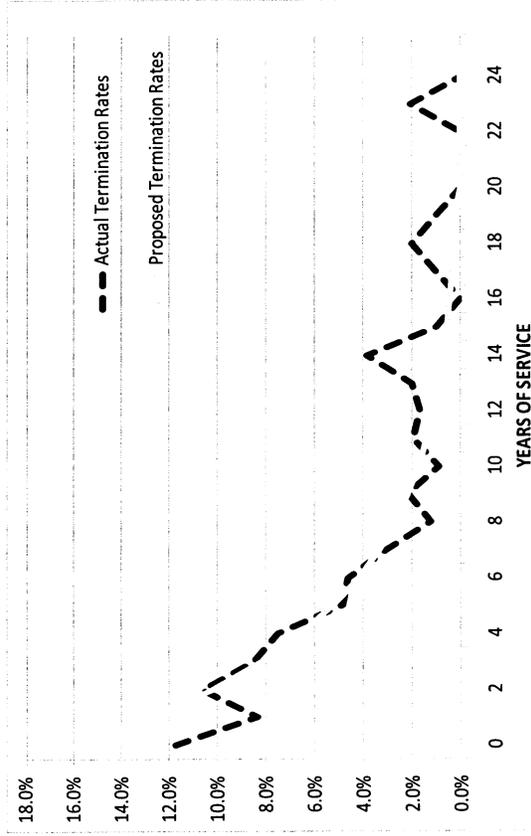
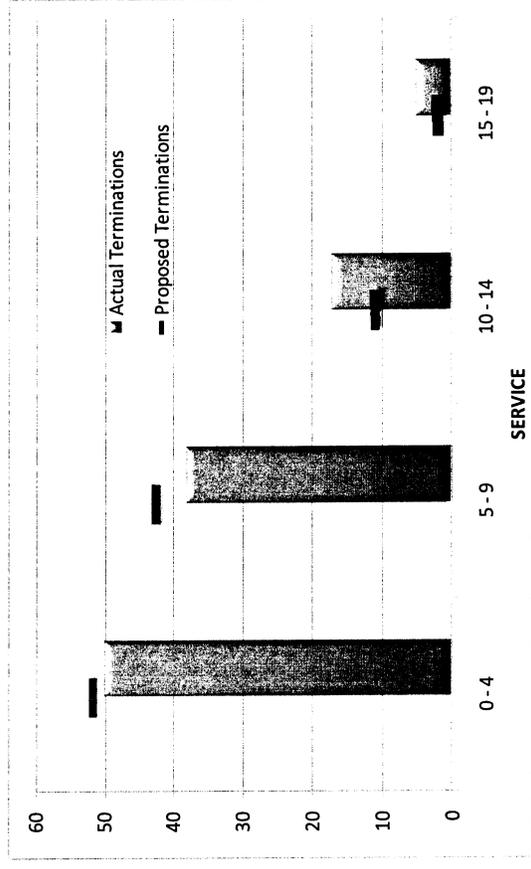


Chart 8: Comparison of General Terminations, All Others



Current Termination Assumption, General, Representative Rates

| Years of Service | Rate |
|------------------|---------|
| 25 | 0.15380 |
| 30 | 0.12170 |
| 35 | 0.07562 |
| 40 | 0.04890 |
| 45 | 0.04146 |
| 50 | 0.03682 |
| 55 | 0.03218 |

Rates for Professional Assistants are 2.5 times these rates.
 No withdrawals are assumed for participants who are eligible for retirement.

Proposed Termination Assumption, General, Representative Rates

| Years of Service | Rate |
|------------------|-------|
| 0 | 16.0% |
| 1 | 12.8% |
| 2 | 10.2% |
| 3 | 8.2% |
| 4 | 6.6% |
| 5 | 5.2% |
| 10 | 1.7% |
| 15 | 0.6% |
| 20+ | 0.0% |

Rates for Professional Assistants are 2.0 times these rates.
 No withdrawals are assumed for participants who are eligible for retirement.

Termination (Police and Fire)

Current Assumption

Summary of Experience versus Current Assumptions (Ages 20-59)

| | Eligible Employees | Actual Terminations | Expected Terminations | Actual to Expected Ratio |
|-----------------|--------------------|---------------------|-----------------------|--------------------------|
| Police | 467 | 5 | 26 | 19% |
| Fire | 350 | 1 | 11 | 9% |
| Combined | 817 | 6 | 37 | 16% |

| | Actual Average Age | Expected Average Age |
|-----------------|--------------------|----------------------|
| Police | 31.6 | 32.9 |
| Fire | 28.0 | 32.2 |
| Combined | 31.0 | 32.7 |

- Those eligible to retire are not considered in this analysis
- There were far fewer terminations than expected among Police and Fire members. This same observation was noted in the last study.
- Currently age based rates are assumed; however, a strong service correlation was observed. There were no terminations after 9 years of service.

Proposed Assumption

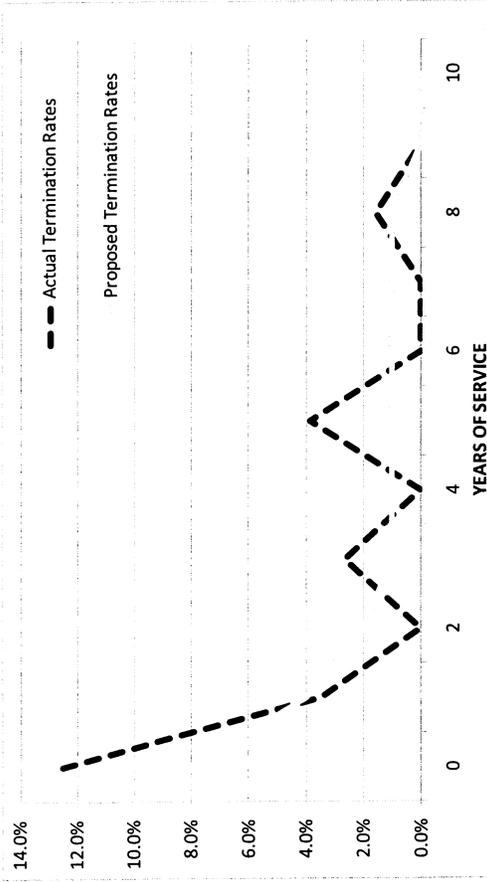
Summary of Experience versus Proposed Assumptions (ages 20-59)

| | Eligible Employees | Actual Terminations | Expected Terminations | Actual to Expected Ratio |
|-----------------|--------------------|---------------------|-----------------------|--------------------------|
| Police | 467 | 5 | 3.6 | 139% |
| Fire | 350 | 1 | 1.8 | 56% |
| Combined | 817 | 6 | 5.4 | 113% |

| | Actual Average Age | Expected Average Age |
|-----------------|--------------------|----------------------|
| Police | 31.6 | 32.2 |
| Fire | 28.0 | 33.7 |
| Combined | 31.0 | 32.7 |

- A new set of assumed rates is proposed, which are based solely on service.
- Under the proposed rates, the expected number of terminations would have been very close to the actual number over the past five years.
- Charts 9 and 10 below show the rates and number of terminations versus the proposed assumption.

Chart 9: Comparison of Safety Termination Rates, Safety

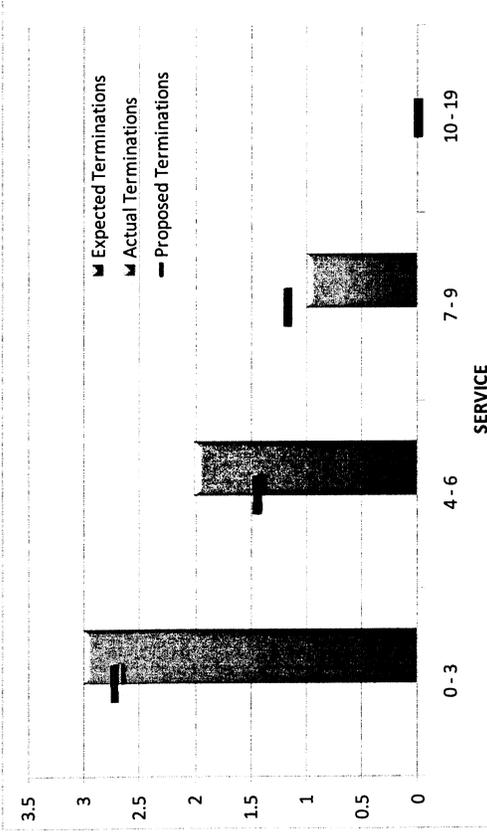


Current Termination Assumption, Safety, Representative Rates

| Age | Rate |
|-----|-------|
| 20 | 6.57% |
| 25 | 2.48% |
| 30 | 1.59% |
| 35 | 0.77% |
| 40 | 0.53% |
| 45 | 0.35% |
| 50 | 0.07% |
| 55 | 0.00% |

No withdrawals are assumed for participants who are eligible for retirement.

Chart 10: Comparison of Safety Terminations, Safety



Proposed Termination Assumption, Safety

| Service | All Ages |
|---------|----------|
| 0 | 8.0% |
| 1 | 4.0% |
| 2 | 2.0% |
| 3-8 | 1.0% |
| 9+ | 0.0% |

No withdrawals are assumed for participants who are eligible for retirement.

Disability (General)

Current Assumption

Summary of Experience versus Current Assumptions

| | Eligible Exposure | Actual Disabilities | Expected Disabilities | Actual to Expected Ratio |
|----------------------------|-------------------|---------------------|-----------------------|--------------------------|
| Males | 2,494 | 14 | 5 | 280% |
| Females | 2,940 | 4 | 4 | 100% |
| Combined | 5,434 | 18 | 9 | 202% |
| Overall Actual Rate | | 0.3% | | |

| | Actual Average Age | Expected Average Age |
|-----------------|--------------------|----------------------|
| Males | 51.3 | 55.5 |
| Females | 56.8 | 57.0 |
| Combined | 52.5 | 56.1 |

- Members are eligible for ordinary disability after 12 years of service.
- Currently, separate rates are used for males and females, and the probability of ordinary disability is the same as duty disability. Experience of both types was combined for this analysis.
- The actual number of disabilities was much higher than expected among the male population.
- There was no distinguishable age pattern, except that no disabilities have occurred in members younger than age 35 over the past two studies. The overall rate for males was much higher than for females.

Proposed Assumption

Summary of Experience versus Proposed Assumptions

| | Eligible Exposure | Actual Disabilities | Expected Disabilities | Actual to Expected Ratio |
|-----------------|-------------------|---------------------|-----------------------|--------------------------|
| Males | 2,494 | 14 | 17 | 82% |
| Females | 2,940 | 4 | 4 | 100% |
| Combined | 5,434 | 18 | 21 | 87% |

| | Actual Average Age | Expected Average Age |
|-----------------|--------------------|----------------------|
| Males | 51.3 | 48.2 |
| Females | 56.8 | 50.5 |
| Combined | 52.5 | 48.6 |

- New, flat disability rates are proposed, bringing expectations more closely in line with experience.
- Because the actual male rates have been higher, a higher flat rate is proposed.
- No disabilities will be assumed for members younger than age 35.
- The average expected age at disability is much closer under the proposed assumptions for males.
- Chart 11 below shows the number of disabilities versus current and proposed assumptions, by age group.

Current Disability Assumption, General, Representative Rates

| AGE | Male | Female |
|-----|--------|--------|
| 25 | 0.058% | 0.029% |
| 30 | 0.036% | 0.018% |
| 35 | 0.046% | 0.023% |
| 40 | 0.006% | 0.003% |
| 45 | 0.009% | 0.004% |
| 50 | 0.151% | 0.076% |
| 55 | 0.273% | 0.137% |
| 60 | 0.539% | 0.270% |

Proposed Disability Assumption, General

Males: 0.75% per year
 Females: 0.15% per year
 No disabilities assumed for members under age 35.

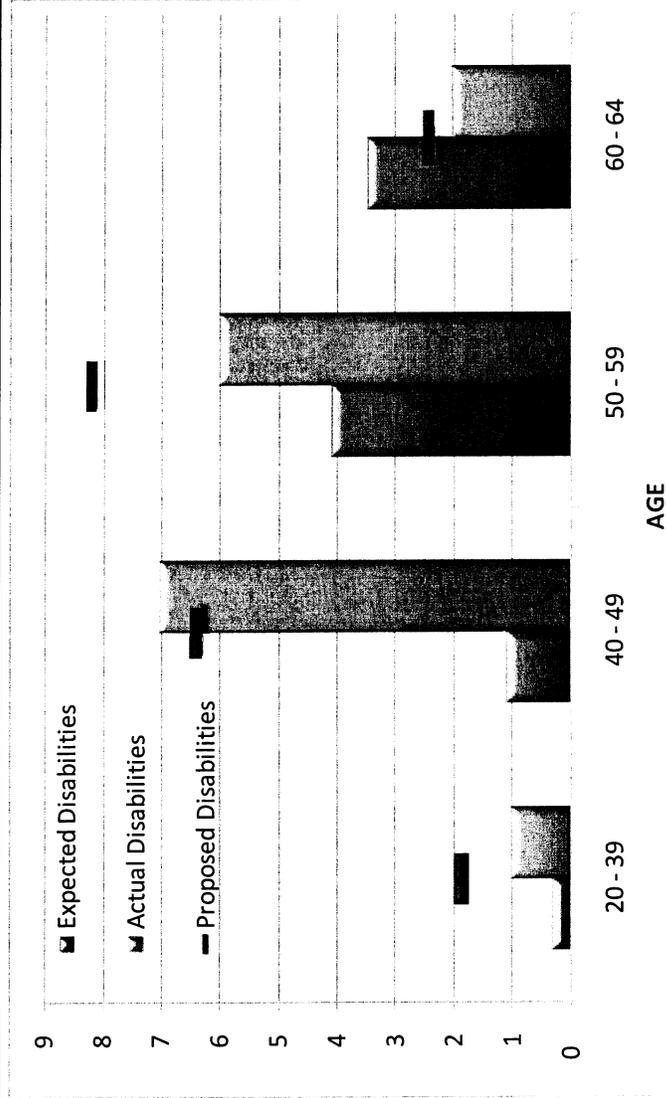


Chart 11: Comparison of General Disabilities

Disability (Police and Fire)

| Current Assumption | | Proposed Assumption | |
|--|-------------------|--------------------------|-----------------------|
| Summary of Experience versus Current Assumptions | | | |
| | Eligible Exposure | Actual Disabilities | Expected Disabilities |
| | | Actual to Expected Ratio | Expected Ratio |
| Police | 486 | 5 | 2.7 |
| Fire | 354 | 1 | 3.3 |
| Combined | 840 | 6 | 6.0 |
| Overall Rate | | 0.7% | |

| | Actual Average Age | Expected Average Age |
|-----------------|--------------------|----------------------|
| Police | 48.4 | 43.9 |
| Fire | 46.0 | 44.6 |
| Combined | 48.0 | 44.3 |

| | Eligible Exposure | Actual Disabilities | Expected Disabilities | Actual to Expected Ratio |
|-----------------|-------------------|---------------------|-----------------------|--------------------------|
| Police | 486 | 5 | 4.3 | 116% |
| Fire | 354 | 1 | 3.1 | 32% |
| Combined | 840 | 6 | 7.4 | 81% |

| | Actual Average Age | Expected Average Age |
|-----------------|--------------------|----------------------|
| Police | 48.4 | 47.3 |
| Fire | 46.0 | 47.6 |
| Combined | 48.0 | 47.4 |

- Members are eligible for ordinary disability after 12 years of service.
- Currently, the same rates are used for males and females, and the probability of duty disability is higher than the probability of ordinary disability. Experience of both types was combined for this analysis.
- There was a higher rate of disability among Policemen; however, overall experience is very limited.
- No disabilities are assumed for those eligible to retire. However, 4 of the 6 disabilities were among those with at least 20 years of service.
- While the number expected is equal to the actual number of disabilities, the service profile is much different.

- Two changes are proposed: decrease the overall rates of disability by 50%, and extend the assumption to those with at least 20 years of service.
- There is not enough experience to justify separate rates for Police and Fire.
- Under the proposed rates, the actual to expected ratio is similar to that under current rates, however, the higher service disabilities would now be captured.

Current Disability Assumption, Safety, Representative Rates

| Age | Total Rate |
|-----|------------|
| 20 | 0.29% |
| 30 | 0.42% |
| 40 | 0.71% |
| 50 | 2.75% |
| 60 | 0.00% |

No disabilities assumed after 20 years of service.

Proposed Disability Assumption, Safety, Representative Rates

| Age | Rate |
|-----|-------|
| 20 | 0.15% |
| 30 | 0.21% |
| 40 | 0.36% |
| 50 | 1.38% |
| 60 | 0.00% |

Disabilities assumed at all service levels.

Section 2: Salary Increases

INTRODUCTION

Salary increases consist of three components: Increases due to cost of living maintenance (inflation), increases related to non-inflationary pressures on base pay (such as productivity increases), and increases in individual pay due to merit, promotion, and longevity. Increases due to cost of living and non-inflationary base pay factors are addressed in a later section of this report.

Currently, there are two sets of longevity pay rates, one for the General population, and one for the Safety population. Upon review of the General assumption, the pattern has become less clear for the entire population. However, when we examine bargaining units individually or combined with one other unit, salary increase patterns become much more evident.

Each of the following pages contains a description of the current assumptions and proposed changes, as well as a graph of how the proposed rates compare to the current pay data. Only increases due to merit (promotion and longevity) are considered here. In the graphs, the average pay of the active members of the bargaining unit as of July 1, 2010 is plotted against service. A curve is then fitted to the average pay data, and this curve is used to determine a pay increase due to merit. While some units have a wide spread of salaries by each service level, we are trying to capture the average increase to be able to project future pay based benefits.

This is a *transverse* study of longevity and promotion pay increases wherein salaries are examined at one point in time (i.e., the valuation date). For a more detailed description of this type of study and its advantages, see the Methodology section at the end of this report. We also examined the data as of July 1, 2008 using transverse analysis to confirm the stability of this pattern.

GMEA and Teamsters

| Current Assumption | Proposed Assumption | | | | | | | | | | | | | | |
|--|---------------------|------------------|--------------|-------|---------|-------|-----|-------|---|------------------|------------------|--------------|-------|-----|-------|
| <table border="1"> <thead> <tr> <th>Years of Service</th> <th>Assumed Increase</th> </tr> </thead> <tbody> <tr> <td>Less than 10</td> <td>2.00%</td> </tr> <tr> <td>10 – 24</td> <td>1.00%</td> </tr> <tr> <td>25+</td> <td>0.50%</td> </tr> </tbody> </table> | Years of Service | Assumed Increase | Less than 10 | 2.00% | 10 – 24 | 1.00% | 25+ | 0.50% | <table border="1"> <thead> <tr> <th>Years of Service</th> <th>Assumed Increase</th> </tr> </thead> <tbody> <tr> <td>Less than 10</td> <td>2.00%</td> </tr> <tr> <td>10+</td> <td>0.00%</td> </tr> </tbody> </table> | Years of Service | Assumed Increase | Less than 10 | 2.00% | 10+ | 0.00% |
| Years of Service | Assumed Increase | | | | | | | | | | | | | | |
| Less than 10 | 2.00% | | | | | | | | | | | | | | |
| 10 – 24 | 1.00% | | | | | | | | | | | | | | |
| 25+ | 0.50% | | | | | | | | | | | | | | |
| Years of Service | Assumed Increase | | | | | | | | | | | | | | |
| Less than 10 | 2.00% | | | | | | | | | | | | | | |
| 10+ | 0.00% | | | | | | | | | | | | | | |
| <ul style="list-style-type: none"> While the average salaries are somewhat spread out, there is a pattern of small increases over the first 10 years, followed by a relatively level pay afterwards. | | | | | | | | | | | | | | | |

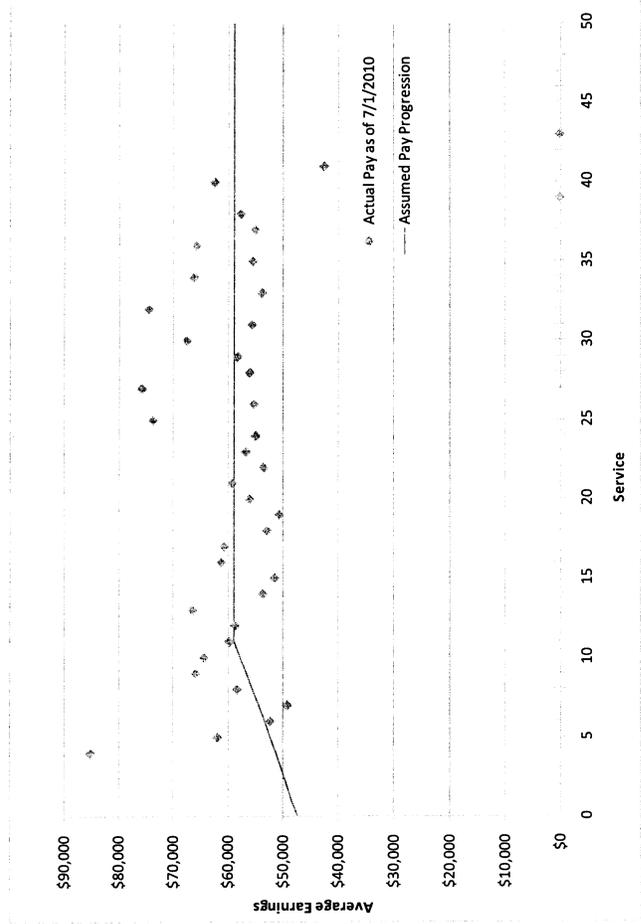


Chart 12: Average Salary by Years of Service, GMEA and Teamsters

Nurses

| Current Assumption | | Proposed Assumption | |
|--------------------|------------------|---------------------|------------------|
| Years of Service | Assumed Increase | Years of Service | Assumed Increase |
| Less than 10 | 2.00% | Less than 5 | 1.00% |
| 10 - 24 | 1.00% | 5-10 | 0.25% |
| 25+ | 0.50% | 11+ | 0.00% |

• Earlier career years show small increases for this unit, followed by a relatively level salary thereafter.

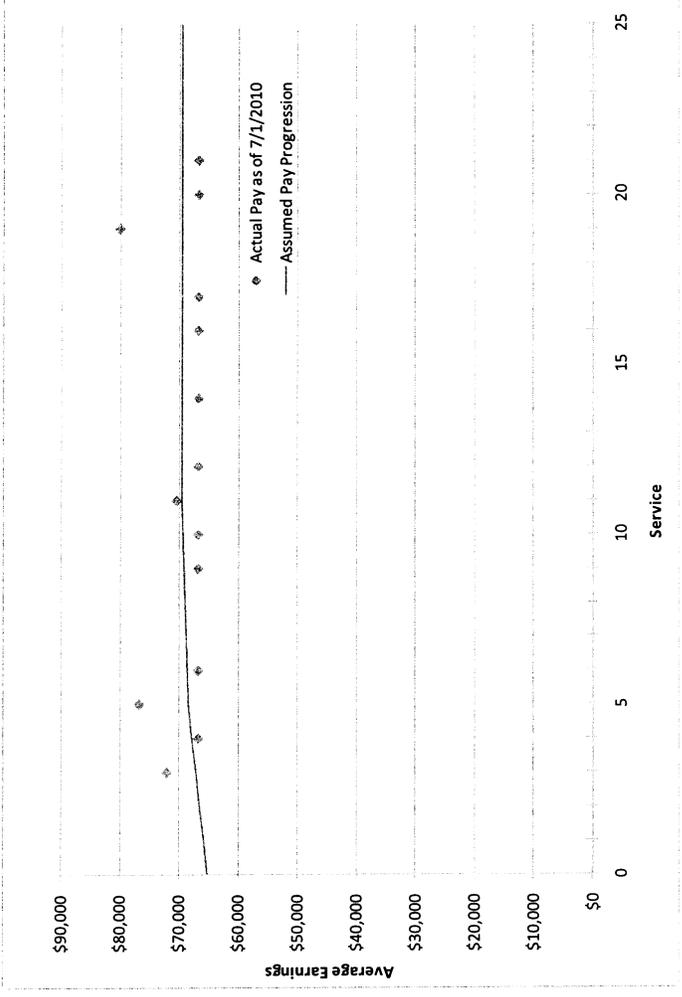


Chart 13: Average Salary by Years of Service, Nurses

LIUNA

| Current Assumption | Proposed Assumption | | | | | | | | | | | | | | | | |
|--|---------------------|------------------|--------------|-------|---------|-------|-----|-------|--|------------------|------------------|-------------|-------|------|-------|-----|-------|
| <table border="1"> <thead> <tr> <th>Years of Service</th> <th>Assumed Increase</th> </tr> </thead> <tbody> <tr> <td>Less than 10</td> <td>2.00%</td> </tr> <tr> <td>10 – 24</td> <td>1.00%</td> </tr> <tr> <td>25+</td> <td>0.50%</td> </tr> </tbody> </table> | Years of Service | Assumed Increase | Less than 10 | 2.00% | 10 – 24 | 1.00% | 25+ | 0.50% | <table border="1"> <thead> <tr> <th>Years of Service</th> <th>Assumed Increase</th> </tr> </thead> <tbody> <tr> <td>Less than 8</td> <td>1.50%</td> </tr> <tr> <td>8-24</td> <td>0.50%</td> </tr> <tr> <td>25+</td> <td>0.00%</td> </tr> </tbody> </table> | Years of Service | Assumed Increase | Less than 8 | 1.50% | 8-24 | 0.50% | 25+ | 0.00% |
| Years of Service | Assumed Increase | | | | | | | | | | | | | | | | |
| Less than 10 | 2.00% | | | | | | | | | | | | | | | | |
| 10 – 24 | 1.00% | | | | | | | | | | | | | | | | |
| 25+ | 0.50% | | | | | | | | | | | | | | | | |
| Years of Service | Assumed Increase | | | | | | | | | | | | | | | | |
| Less than 8 | 1.50% | | | | | | | | | | | | | | | | |
| 8-24 | 0.50% | | | | | | | | | | | | | | | | |
| 25+ | 0.00% | | | | | | | | | | | | | | | | |
| <ul style="list-style-type: none"> There appear to be moderate increases over the first 8 years of service, followed by a long period of small increases before leveling out after 25 years of service. | | | | | | | | | | | | | | | | | |

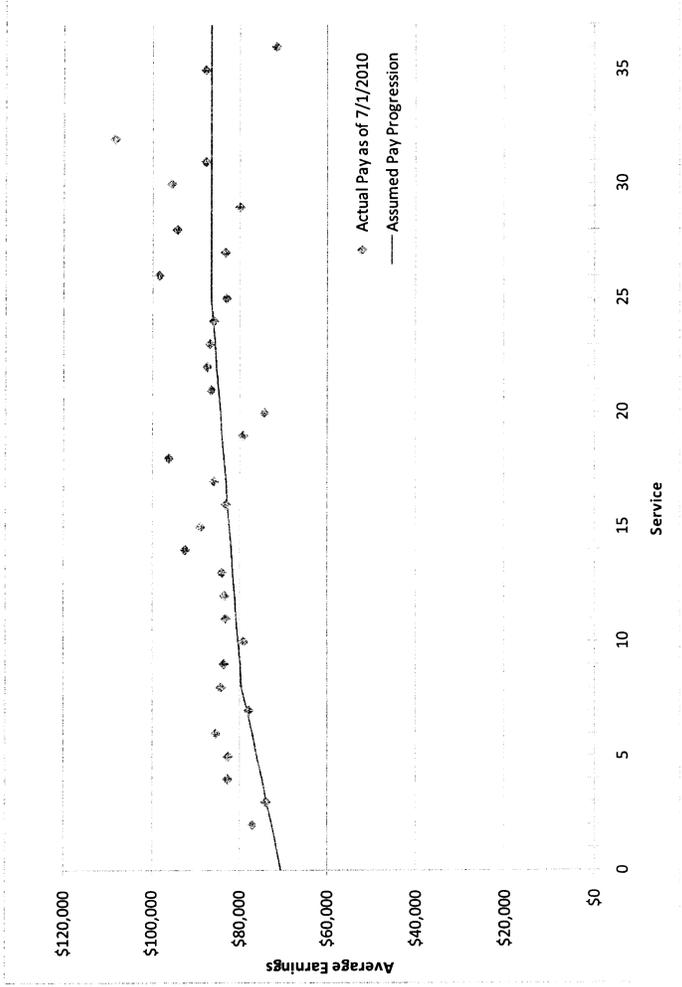


Chart 14: Average Salary by Years of Service, LIUNA

Management Confidential and Elected Officials

| Current Assumption | Proposed Assumption | | | | | | | | | | | | | | |
|--|---|------------------|--------------|-------|---------|-------|-----|-------|---|------------------|------------------|-------------|-------|----|-------|
| <table border="1"> <thead> <tr> <th>Years of Service</th> <th>Assumed Increase</th> </tr> </thead> <tbody> <tr> <td>Less than 10</td> <td>2.00%</td> </tr> <tr> <td>10 – 24</td> <td>1.00%</td> </tr> <tr> <td>25+</td> <td>0.50%</td> </tr> </tbody> </table> | Years of Service | Assumed Increase | Less than 10 | 2.00% | 10 – 24 | 1.00% | 25+ | 0.50% | <table border="1"> <thead> <tr> <th>Years of Service</th> <th>Assumed Increase</th> </tr> </thead> <tbody> <tr> <td>Less than 8</td> <td>3.00%</td> </tr> <tr> <td>8+</td> <td>0.25%</td> </tr> </tbody> </table> | Years of Service | Assumed Increase | Less than 8 | 3.00% | 8+ | 0.25% |
| Years of Service | Assumed Increase | | | | | | | | | | | | | | |
| Less than 10 | 2.00% | | | | | | | | | | | | | | |
| 10 – 24 | 1.00% | | | | | | | | | | | | | | |
| 25+ | 0.50% | | | | | | | | | | | | | | |
| Years of Service | Assumed Increase | | | | | | | | | | | | | | |
| Less than 8 | 3.00% | | | | | | | | | | | | | | |
| 8+ | 0.25% | | | | | | | | | | | | | | |
| | <ul style="list-style-type: none"> • Early career increases are seen in this unit, followed by a steady upward trend after 8 years of service. | | | | | | | | | | | | | | |

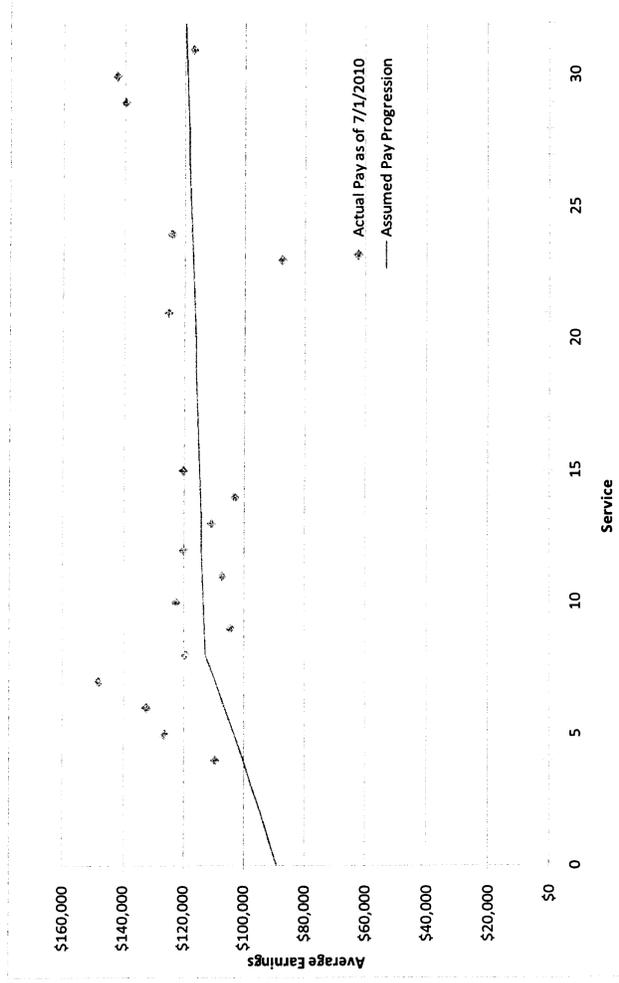


Chart 15: Average Salary by Years of Service, Management/Confidential, Elected

Professional Assistants

Current Assumption

| Years of Service | Assumed Increase |
|------------------|------------------|
| Less than 10 | 2.00% |
| 10 – 24 | 1.00% |
| 25+ | 0.50% |

Proposed Assumption

| Years of Service | Assumed Increase |
|------------------|------------------|
| Less than 5 | 5.00% |
| 5-9 | 1.00% |
| 10-14 | 0.50% |
| 15-20 | 0.25% |
| 21+ | 0.00% |

- There are steep increases evident in the early service years for this unit, followed by several stages of increase that gradually become less steep, before leveling out.

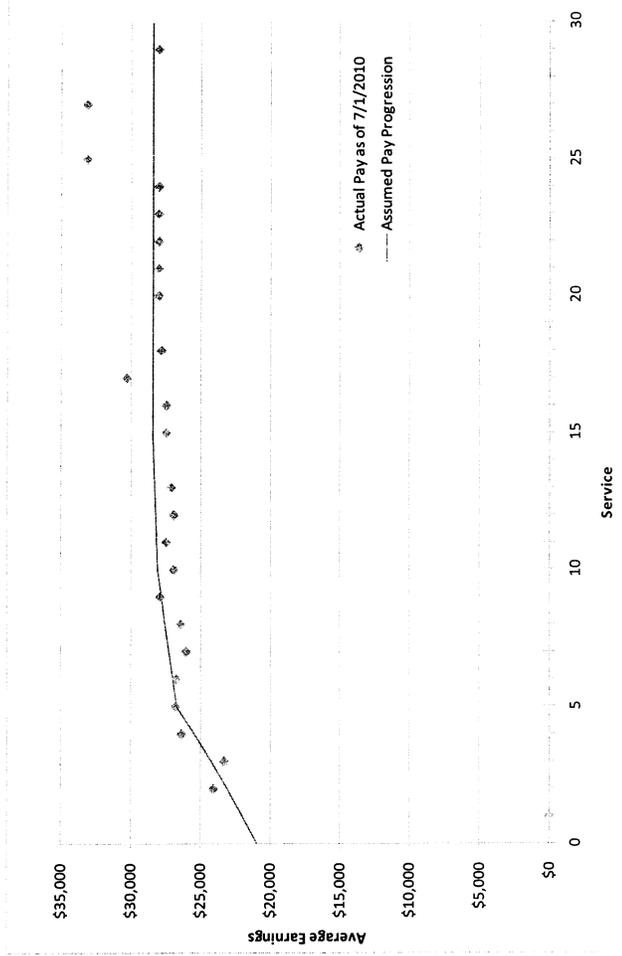


Chart 16: Average Salary by Years of Service, Professional Assistants

Table 17.17.1

| Current Assumption, Representative Rates | | Proposed Assumption |
|--|-------|---|
| 0 | 7.21% | No changes are proposed for this assumption |
| 1 | 6.25% | |
| 2 | 5.29% | |
| 5 | 2.40% | |
| 10+ | 0.48% | |

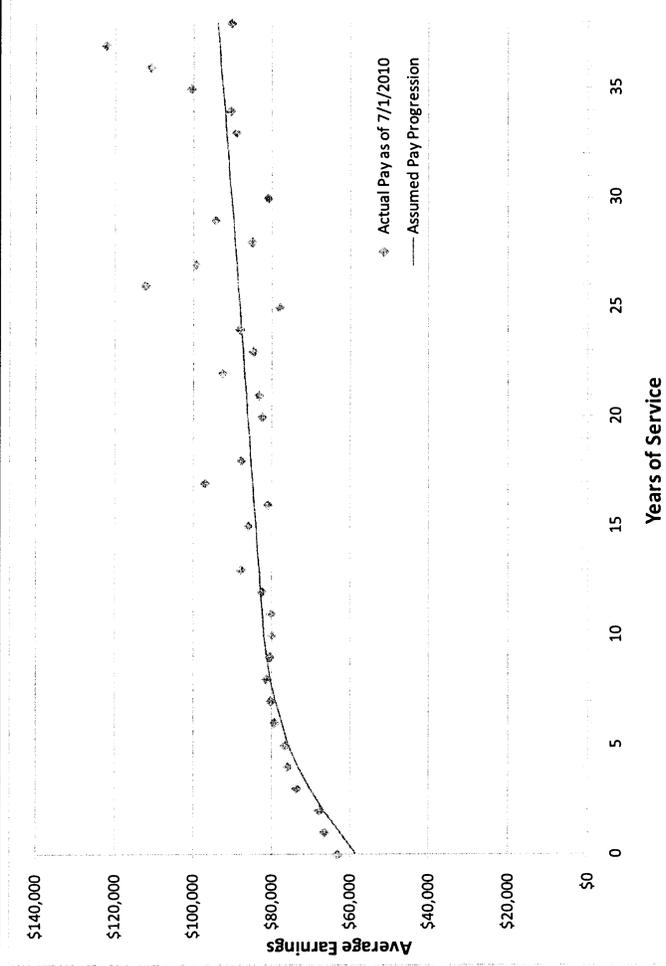


Chart 17: Average Salary by Years of Service, Police and Fire

EXHIBIT III

The Retirement System of the Town of Greenwich | 26
Actuarial Experience Study July 1, 2005 through June 30, 2010

Section 3: Mortality

Current Assumptions

Summary of Experience versus Current Assumptions

| ACTIVE | Eligible Exposure | Actual Deaths | Expected Deaths | Actual to Expected Ratio |
|-----------------|-------------------|---------------|-----------------|--------------------------|
| General (M) | 2,494 | 3 | 12.0 | 24.9% |
| General (F) | 2,944 | 6 | 12.8 | 47.0% |
| Police | 726 | 0 | 1.5 | 0.0% |
| Fire | 502 | 0 | 1.1 | 0.0% |
| Combined | 6,666 | 9 | 27.4 | 32.8% |

RETIRED & SURVIVING SPOUSES

| | Eligible Exposure | Actual Deaths | Expected Deaths | Actual to Expected Ratio | Benefit Weighted A/E Ratio |
|-----------------|-------------------|---------------|-----------------|--------------------------|----------------------------|
| General (M) | 1,177 | 63 | 63.9 | 98.6% | 102.5% |
| General (F) | 2,496 | 103 | 97.3 | 105.9% | 104.8% |
| Police | 767 | 10 | 16.4 | 60.9% | 53.9% |
| Fire | 294 | 8 | 8.0 | 100.2% | 91.6% |
| Combined | 4,734 | 184 | 185.6 | 99.1% | 94.4% |

DISABLED

| | Eligible Exposure | Actual Deaths | Expected Deaths | Actual to Expected Ratio | Benefit Weighted A/E Ratio |
|-----------------|-------------------|---------------|-----------------|--------------------------|----------------------------|
| General (M) | 161 | 8 | 5.4 | 149.3% | 94.5% |
| General (F) | 81 | 3 | 3.3 | 92.1% | 74.2% |
| Police | 88 | 1 | 1.6 | 63.7% | 48.8% |
| Fire | 41 | 1 | 1.4 | 72.5% | 85.1% |
| Combined | 371 | 13 | 11.7 | 111.1% | 79.0% |

| | | | | | |
|---------------|---------------|------------|--------------|--------------|--|
| TOTALS | 11,771 | 206 | 224.7 | 91.7% | |
|---------------|---------------|------------|--------------|--------------|--|

Proposed Assumptions

Summary of Experience versus Recommended Assumptions

| ACTIVE | Eligible Exposure | Actual Deaths | Expected Deaths | Actual to Expected Ratio |
|-----------------|-------------------|---------------|-----------------|--------------------------|
| General (M) | 2,494 | 3 | 5.0 | 60.0% |
| General (F) | 2,944 | 6 | 4.7 | 127.7% |
| Police | 726 | 0 | 0.4 | 0.0% |
| Fire | 502 | 0 | 0.3 | 0.0% |
| Combined | 6,666 | 9 | 10.4 | 86.5% |

RETIRED & SURVIVING SPOUSES

| | Eligible Exposure | Actual Deaths | Expected Deaths | Actual to Expected Ratio | Benefit Weighted A/E Ratio |
|-----------------|-------------------|---------------|-----------------|--------------------------|----------------------------|
| General (M) | 1,177 | 63 | 59.6 | 105.7% | 119.8% |
| General (F) | 2,496 | 103 | 98.2 | 104.9% | 103.2% |
| Police | 767 | 10 | 12.4 | 80.7% | 75.8% |
| Fire | 294 | 8 | 6.7 | 118.5% | 118.2% |
| Combined | 4,734 | 184 | 176.9 | 104.0% | 106.1% |

DISABLED

| | Eligible Exposure | Actual Deaths | Expected Deaths | Actual to Expected Ratio | Benefit Weighted A/E Ratio |
|-----------------|-------------------|---------------|-----------------|--------------------------|----------------------------|
| General (M) | 161 | 8 | 4.6 | 173.9% | 140.2% |
| General (F) | 81 | 3 | 2.2 | 136.4% | 84.0% |
| Police | 88 | 1 | 0.9 | 116.4% | 90.3% |
| Fire | 41 | 1 | 0.9 | 110.6% | 131.8% |
| Combined | 371 | 13 | 8.6 | 151.8% | 116.4% |

| | | | | | |
|---------------|---------------|------------|--------------|---------------|--|
| TOTALS | 11,771 | 206 | 195.9 | 105.2% | |
|---------------|---------------|------------|--------------|---------------|--|

| | |
|---|---|
| <ul style="list-style-type: none"> • The current actuarial assumption is that non-disabled active and retired members and survivors will experience mortality in accordance with the 1979 Buck Mortality Tables, with two year age setback. • Disabled members are currently assumed to experience mortality in accordance with the Mortality Table for Disabled Participants Not Receiving Social Security Benefits published by the Pension Benefit Guaranty Corporation (PBGC) for use in pension plan terminations prior to 1993. • The RP 2000 Tables are the most current ones generally used for pension funding. The Society of Actuaries also suggests a methodology for projecting mortality improvements using these tables. Using a Projection Scale AA, the RP2000 Tables are adjusted for mortality improvements since the base year of the Tables (2000). • A positive margin between the actual number of deaths and the predicted number of deaths (i.e. an actual to expected ratio greater than 100%) is desirable for two reasons: <ol style="list-style-type: none"> 1. Overall mortality has historically improved, and is expected to improve in future years. 2. The RP 2000 Tables are generally designed using benefit-weighted (rather than participant-weighted) data. This is because members with larger benefits tend to have lower mortality rates, at least at younger ages. Applying the tables on a participant basis, while accurately predicting the <i>number</i> of deaths, may underestimate the impact on liabilities. | <ul style="list-style-type: none"> • We propose the use of the RP2000 Combined Healthy Tables, with generational mortality improvements projected from 2000 to 2010 using Projection Scale AA, with the following age adjustments: <ul style="list-style-type: none"> ○ One year setback for healthy females ○ Five year set forward for disabled participants ○ Rates adjusted by 50% for active members • The proposed assumptions provide a small margin between the number of actual deaths and the number expected, especially among the retired members and beneficiaries. We will continue to monitor mortality experience, and determine if further projections may be needed in future years. • The proposed assumptions would have provided an acceptable margin on both a count-weighted and benefit-weighted basis between the actual and expected deaths over the most recent five year period. |
|---|---|

Section 4: Economic Assumptions

Introduction

Economic assumptions utilized in the development of actuarial liabilities and costs for a defined benefit plan include:

- The inflation assumption;
- The real investment return assumption;
- The real growth in pay relative to inflation; and
- COLA increases relative to inflation.

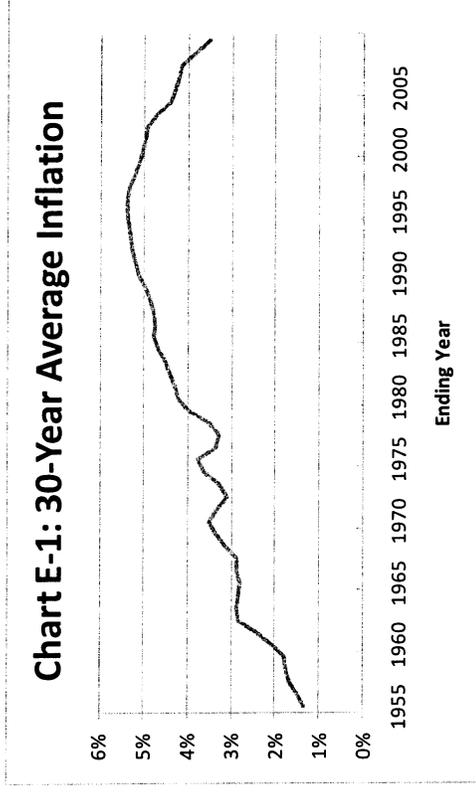
While we look to the past for indications of future economic behavior, we must also consider how the future may be expected to be different. In order to reflect the long-term nature of defined benefit plan funding in the development of these economic assumptions, it is appropriate to focus on long term trends.

Inflation

While historical trends are not entirely indicative of the future, they do often serve as a useful guide in determination of assumptions. However, there are elements of the future economic environment that may differ from the past due to structural changes. An important and fundamental case in point is the rate of inflation, which underlies each of the three elements of economic assumptions listed above.

Chart E-1 below shows the average rate of inflation over 30-year periods, with the earliest such period ending in 1955 and the latest ending in 2008. We note in the chart that inflation seemed to be increasing steadily until the 1990's when it leveled off and began

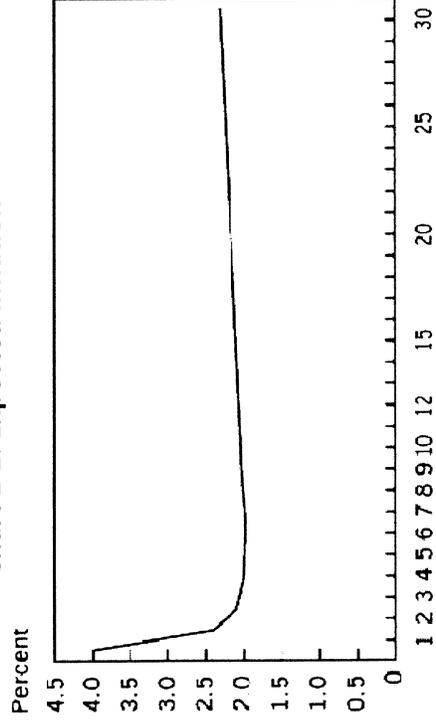
to decrease. Examination of Chart E-1 may lead to an assumption that inflation is likely to be quite high, perhaps as high as 4%.



However, there are a number of reasons to believe that future inflation levels will not be as high as Chart E-1 would seem to suggest.

- An important reason for the high rate of inflation in the averages above is the nine-year period 1973-81 when inflation averaged 9.2% per year.
- The years 1973-81 featured unprecedented levels of household formation. The demand for new houses, cars, office space and equipment caused by the maturation of the post-war baby boom may have largely been responsible for the inflation during these years. Since 1982, increases have been in the range 0.1% to 4.6% with one exception (6.1% in 1990), averaging 3.0% per year.

- The population of the United States is aging, which implies a greater likelihood of low inflation in the future. This has been observed in other countries with aging populations, such as Japan.
- The Federal Open Market Committee has policies in place to control inflation, making future levels more likely to remain relatively low.
- Financial markets offer evidence of what investors expect inflation to be in future years. Various securities, such as Treasury inflation-protected securities (TIPS), provide the necessary data for these analyses. As an example, a recent publication by the Federal Reserve Bank of Cleveland attempts to incorporate some of this market data, as shown Chart E-2.

Chart E-2: Expected Inflation

Horizon

(Source: Joseph G. Haubrich, Cleveland Federal Reserve website. As of September 1, 2009),
(<http://www.clevelandfed.org/research/commentary/2009/0809.cfm#back2in2>)

An assumption of 2.50% may appear to match well with current market and professional expectations. However, the predictions of future inflation by experts are not unanimous. Some commentators note that the large current and expected future deficits increase the likelihood of higher levels of inflation in the future. The current assumption of 3.50% is within a reasonable range.

Investment Return

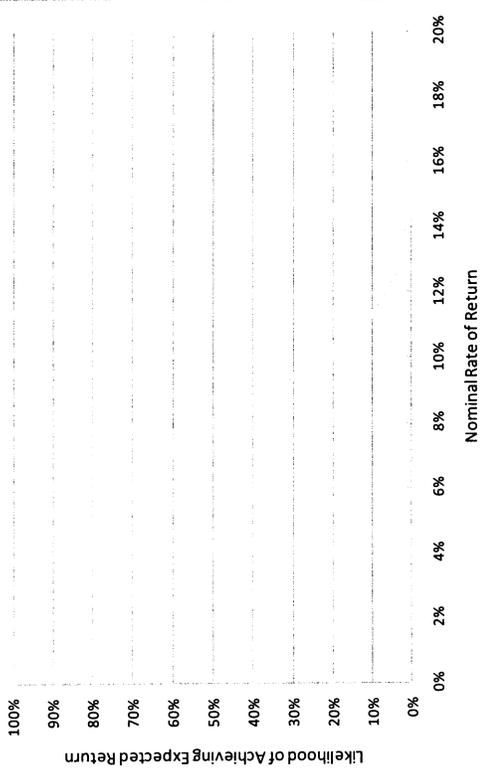
The investment return assumption depends on the anticipated average level of inflation and the anticipated average *real rate of return*. The real rate of return is the investment return in excess of underlying inflation. The expected average real rate of return is heavily dependent on asset mix: The portion of assets in stocks, bonds, and cash.

In the Chart E-3 below, we have simulated the return derived using an asset mix similar to the Town's current allocation. The projected returns are derived by simulation, using the following algorithm:

1. The expected returns, standard deviation and correlation matrix for each asset class were set.
2. The expected returns for each class were modified to adjust for the difference in the inflation assumption underlying the assumed asset class returns versus that used for Plan funding.
3. 10,000 simulation trials for repeated ten year periods were run, and the mean geometric return was computed for each of them.
4. Given the distribution of returns, we have created a chart that shows the likelihood of the geometric mean return for a specific trial exceeding a specified assumption over a ten year

period, after adjusting for administrative expenses.

Chart E-3: Likelihood of Achieving Expected Return (10 Years)



The mean return from this simulation was 8.03%, for a real return of 4.53%. Note that the curve crosses the 50% likelihood threshold near 8.0%, meaning that chances are around 50/50 that an 8.0% return would be achieved over a ten year period. A lower return assumption would represent a more conservative position, and would result in a higher likelihood of achieving the expected return.

Payroll Growth

Components of the payroll growth assumptions are:

- Inflation, and

- Other payroll growth not offset by salary reduction caused by replacement of terminating employees by new entrants (open groups).

Such increases are often attributed to productivity gains. Other factors contributing to non-inflationary base salary increases include growth in the active workforce, bargaining pressures, competition among local employers, and workforce demographic issues.

The inflationary component is the assumed CPI. In general we recommend that long range gains due to productivity, the collective bargaining process or other pressures should be assumed to be zero or minimal. While productivity tends to increase in many sectors of the economy, any long-term assumption of salary growth beyond inflation carries with it an assumed improvement in *relative* standard of living. Therefore, the current assumption of 0% is reasonable.

Accordingly, EFI recommends maintaining a payroll growth assumption equal to the assumed increase in CPI.

COLA Growth

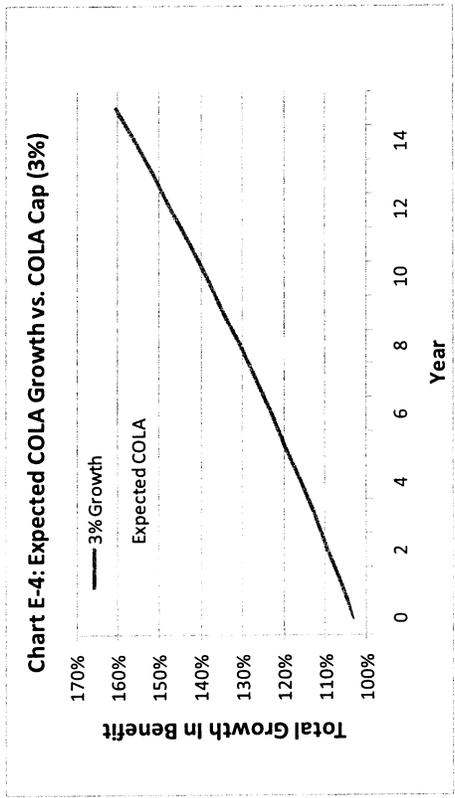
Some members of the Plan are eligible to receive automatic Cost of Living Adjustments (COLAs); based on the growth in the New York Area Consumer Price Index (CPI) (NY-NJ-CT-PA), and reflecting a 3% maximum on the annual COLA increase.

It is necessary to determine an assumed rate of COLA growth, reflecting both inflation (i.e. the growth in the CPI) and the interaction of the CPI with the 3% COLA cap. It is assumed that the COLA will grow by 3.0% per year; however, we have produced



statistical simulations of inflation, similar to our modeling of the investment return assumption, and then modeled how the COLA maximum interacts with the changes in CPI.

Chart E-4 below demonstrates that the expected growth in the COLA is expected to be below the cap, even if the expected average increase in the CPI is higher than the cap itself (3.00% in this example). This occurs because when there are years in which inflation is below the cap the shortfall is not made up in future years.



Based on a 3.50% recommended inflation assumption, we recommend an assumed COLA growth rate of 2.50% per year, which represents a reduction from the 3.00% currently used, but is still reasonably conservative.

Appendix: Methodology



Purposes of the Experience Study

The first goal of this Experience Study is to review the recent past demographic experience of the Plan. We seek to understand the behavior of the participating members so that we can recommend actuarial assumptions concerning future demographic experience.

The second goal of this Study is to recommend economic assumptions to be used in computing liabilities and costs. These economic assumptions include the expected rate of return on Plan assets and the anticipated rate of increase in the Consumer Price Index (CPI). These assumptions are determined based on the investment strategy adopted by the Plan and on the past behavior of the capital markets and the CPI, and on future expectations.

Once adopted, the assumptions recommended by this Study will be used to determine future liabilities and costs and for purposes of evaluating prospective changes in benefits, eligibility conditions, and other aspects of the Plan's operations.

Importance of Reliable Assumptions

The liabilities and costs calculated in actuarial valuations and cost studies are based on a projection of future conditions. The actuary makes assumptions concerning the rates of retirement, withdrawal, termination, disability, and death among plan members. In addition, the actuary must project future earnings on plan assets, inflation, and growth in the pay of active members.

The actuary sets assumptions based on future expectations. In setting demographic assumptions, such as rates of retirement, the past experience of the covered group of employees is often the best predictor of future behavior. When establishing economic

assumptions, such as the expected return on plan assets, the historical behavior of the investment markets can serve as a guide.

Actuarial funding methods are designed so that, if the actuarial assumptions are met, plan costs will generally be a level percentage of member pay from year to year. If actual economic or demographic experience varies from that assumed, plan costs will rise or fall accordingly. Therefore, it is worth the effort to make our best estimate of future conditions so that the plan costs computed by the actuary will be as stable and predictable as possible.

Methodology (Demographic Assumptions)

One purpose of this Study is to compute the probability of death, disability, retirement, withdrawal, or termination leading to a vested benefit at each age for active members and the probability of death at each age for inactive members.

To this end, we proceed as follows:

- We count the number of members leaving for each cause during the term of the Study. This is the number of decrements.
- We count the number of members who could have left for each cause during the Study. This is the exposure.
- When the exposure is sufficient, we divide the number of decrements by the exposure at each combination of age and service for an employee group to determine the probability of leaving due to the cause in question.
- Where feasible, experience has been examined separately by gender, as well as for General and Safety members. In some cases, experience has been combined when male and female

experience is similar or when there is insufficient data to produce reliable rates by sex.

When there is insufficient exposure to derive statistically reliable rates by age and service, we may combine exposures and decrements for groups of ages and service. Alternatively, we may compare the total number of actual decrements with the total number of decrements predicted by a standard actuarial table, and adopt a table that predicts decrements, in total, reasonably close to those that have been observed.

Where the rate of decrement is low and the underlying causes of the decrement in question are not expected to change significantly with time, we may combine the most recent experience with data from prior experience studies.

For the study of the merit (longevity and promotion) components of individual pay increases, we generally choose to use a *transverse* study. A reliable way to assess average increases in pay due to merit is to analyze average pay versus service for the current active members of a plan. With a homogeneous group of any size at all, the pattern of promotions and longevity increases during the career of an average employee is typically visible in this analysis. With this type of study, the data is reviewed as of a particular point in time (the valuation date). In contrast, *longitudinal* studies, which use changes in pay collected over several years, are often unreliable due to the effects of inflation, collective bargaining, and management decisions during the term of the study.

Methodology (Economic Assumptions)

The Plan's economic assumptions are critically important in computing actuarial liabilities and costs. A careful determination of these assumptions requires an analysis of the past performance of the capital markets and the Plan's future investment outlook.

To this end, we proceed as follows:

- Based on a detailed analysis of recent past history and reasonable expectations for the future, a long term projection of the rate of inflation is determined.
- Based on the Plans' investment strategy and historical rates of return on various asset classes, the long term *real* rate of return on assets is projected. This is the return on assets in excess of inflation.
- The projected rate of inflation is combined with the assumption concerning merit pay increases to project future members' pay.
- The projected rate of inflation is combined with a model of the COLA provisions to project future growth in retiree benefits.
- The rate of inflation is combined with the estimated real return on assets to determine the overall return on assets.

Any estimate of future inflation and asset returns is difficult. Over time, there will be actuarial gains and losses as experience deviates from our assumptions. As past and recent capital market experience has shown that these gains and losses can have a substantial impact on cost volatility.