City of Seattle
Office of City Auditor

To: Seattle City Employees' Retirement System (SCERS) Board of Administration

From: David G. Jones, City Auditor

Date: August 8, 2013

Re: Performance Audit of Seattle City Employees' Retirement System (SCERS) Retirement Benefit Calculations

This report includes the findings and recommendations of our office's performance audit of the Seattle City Employees' Retirement System (SCERS), which was conducted at the request of the SCERS Board of Administration. The audit's objectives were to determine whether: 1) retirement benefits are accurately calculated, 2) SCERS has implemented sufficient controls over the calculation process, and 3) SCERS' retirement calculation processes are efficient. Details about the audit's objectives, scope, and methodology are included in Appendix I.

SCERS' management and staff reviewed drafts of this report and were invited to provide formal written comments on it. In their comments, SCERS concurred with the audit's findings and committed to implementing the audit's recommendations. Appendix II includes SCERS' formal written comments on our report.

Results in Brief

Our audit team conducted a detailed file review for a sample of 30 SCERS members who retired between June 1, 2011 and May 31, 2012, or over ten percent of the retirements processed by SCERS during this time period.[1] In the 30 files we reviewed, we identified errors or inconsistencies in 22 files. The majority of the errors had either a very small impact or no impact on a member's final benefit. However, one error led to a misstatement of the nontaxable portion of a member's monthly retirement benefit (SCERS understated the nontaxable portion by about $70.00), and another led to an underpayment of benefits by about five dollars per month. SCERS staff are working to correct these errors and the resulting discrepancies in payments.

In addition to conducting a detailed review of a sample of retirement files, we also evaluated SCERS' benefit calculation process as a whole, assessing the methodologies, data sources, and worksheets used by SCERS staff to calculate benefit payments. We identified gaps in controls and other weaknesses that make the calculation process overly complicated and inefficient, unclear to outside reviewers or members, inconsistent or reliant on individual judgment rather than based on direction from the board or SCERS' management, and vulnerable to error and abuse. In order to address these issues, we recommend that SCERS:

- Strengthen the guidance and oversight of its calculation processes (e.g., create program rules and policy and procedure documents),
- Address limitations in the data used to calculate benefits,

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[1] Our sample of 30 files included over 10 percent of the 263 retirements processed by SCERS between June 1, 2011 and May 31, 2012. For each retiree in our sample, we reviewed all documents in the member's retirement file, including membership forms, written (i.e., non-electronic hard copies) contribution records from the 1980s and early-1990s, printed reports of earnings and contributions, and other documents. We also tested the accuracy of each element of the final retirement calculation.

- Improve its calculation worksheets, and
- Increase documentation of each member's benefit calculation, including supervisory review.

Improvements in these areas will increase the accuracy, consistency, efficiency, and transparency of retirement benefit calculations.

Additionally, we recommend that SCERS strengthen the management of the benefit calculation process overall to ensure SCERS staff have adequate oversight and support and to reduce the risk of errors, fraud, and abuse. Our audit occurred at a time of transition for SCERS, and concurrently with our audit an interim SCERS finance manager was appointed by the SCERS Board of Administration to improve multiple aspects of SCERS' operations, including its benefit calculation tools and processes. However, the majority of the weaknesses we describe in our report are long-standing issues that have been known to SCERS staff members for years, and recent improvements will be short-lived if SCERS does not commit to lasting improvements in the support and oversight of the retirement calculation function.

Audit Findings and Recommendations

Retirement Calculation Accuracy – Errors and Inconsistencies Identified, With Minimal Impact

We tested the accuracy and consistency of a sample of SCERS retirement benefit calculations for members who retired in 2011 and 2012. To ensure we reviewed files that reflected all retirement options and a range of employment histories, we selected a sample that included files for each SCERS retirement option or combination of options, for individuals who purchased service credits or combined SCERS service with service for another public entity (e.g., the State of Washington or King County), and for individuals who retired from a range of City departments and were no longer working for the City.

In total, we tested the accuracy of calculations for 30 individuals, or over 10 percent of the 263 SCERS retirements during the 12-month period between June 1, 2011 and May 31, 2012.

Exhibit 1. Results of SCERS Retirement File Review

Type of Issue	Number of Files[2]	Impact
Error in Manual Processes – Error in the processes of manually transferring information from a member's file or calculating elements of the benefit (e.g., time loss,[3] membership date, previously-taxed contributions).	7 files	**No Impact:** Two files had errors that did not impact the members' benefits. **Impact:** Four files had errors that affected the members' benefits by less than $1.00/month. One file had an error in the amount of previously taxed contributions, thus understating by $72.88 the nontaxable portion of the monthly retirement payment.
Error in an Electronic Worksheet – Error in one of the Excel worksheets used to calculate benefits or in the Milliman Benefit Calculator.	8 files	**No Impact:** Seven files were affected by errors in the Milliman Calculator that either did not impact the benefit or were corrected by staff before benefits were finalized. **Impact:** One file had an error in an Excel worksheet that led to an under-calculation of a member's benefit by $5.07 monthly.

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[2] Several of the 30 files in our sample included multiple types of issues. In total, we identified 7 data entry or manual calculation errors (in 7 files), 8 errors in an electronic worksheet (in 8 files), 8 inconsistencies in practices (in 7 files), 16 instances of incomplete documentation (in 14 files), and 8 instances of conflicting/incomplete sources of data (in 8 files).

[3] A member has time loss for any pay periods in which he or she did not make full contributions to SCERS. Examples of reasons for time loss include taking leave without pay and working part-time.

Type of Issue	Number of Files[2]	Impact
Inconsistent Processes – SCERS staff did not follow SCERS processes when calculating time loss or highest average salary.	7 files	**No Impact:** Two files had inconsistencies that had no impact on the members' benefits. **Impact:** Four files had inconsistencies that affected the members' benefits by less than $1.00 monthly. One inconsistency led to an under-calculation of benefits by $1.11 monthly.
Insufficient Documentation – Current practices do not require SCERS staff to document factors such as the source of key information (such as final compensation) or criteria used to interpret member information (e.g., how portability documentation was interpreted).	14 files	Insufficient documentation makes it time consuming for supervisors/reviewers to verify the calculations and decisions in member files. In many cases, reviewers must reconstruct elements of the calculation (e.g., final compensation) to verify the final benefit. The lack of clear documentation also makes SCERS processes less transparent to members.
Incomplete or Conflicting Sources of Data – SCERS staff had to rely on incomplete or conflicting sources of information (usually from over 25 years ago) to determine retirement benefits.	8 files	When a file includes incomplete or conflicting sources of data, the benefit calculation process is time consuming and often requires interpretation of the available information. This issue emphasizes the importance of a strong supervisory review process.

As can be seen in Exhibit 1, we identified a total of 22 files with errors resulting from one of the following: a mistake in data entry or a manual calculation, an error in one of the Excel worksheets used to automate elements of the calculation, or an inconsistency in practices. Of the errors identified, the majority had no or very little impact on the member's final retirement benefit. However, in one file, a data entry error led to a $72.88 understatement of the nontaxable portion[4] of the monthly retirement payment; and in a second file an error in the formula of an electronic worksheet resulted in an under-calculation of benefits by $5.07 monthly.

Despite the minor impact of these errors, we identified a number of factors that make the benefit calculation process overly complicated and inefficient, unclear to outside reviewers trying to verify individual calculations, vulnerable to error and abuse, and in some cases, inconsistent or reliant on a staff member's professional judgment rather than direction from the board or SCERS' management. To address these issues, we identified four key areas of operations that should be strengthened to improve accuracy and ensure sufficient accountability, transparency, and efficiency:

- *Guidance and Oversight of Calculation Processes*—SCERS management has not developed formal program rules or policies and procedures that establish clear guidelines for calculating benefits. As a result, staff members are not always consistent in how they calculate benefits and it is difficult for the SCERS Board of Administration to ensure SCERS practices comply with the language of the Seattle Municipal Code (SMC) or the Board's internal policies.

  Recommendation 1: SCERS should establish and document all elements of the retirement benefit estimate and calculation processes. SCERS management should review the current methodology with the SCERS Board of Administration, resolve any conflicts between current practices and the Seattle Municipal Code or the Board's intentions, and create formal policy and procedure documents for staff.

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[4] SCERS reports to each retiree the portion of the monthly benefit that is not taxable because a portion of the member's contributions was already taxed as income. Because each individual's tax situation varies, we did not attempt to quantify the impact on the member of the misstatement of the nontaxable amount.

Recommendation 2: The SCERS Board of Administration should regularly review SCERS documented procedures; with the assistance from legal counsel, the Board should interpret aspects of the Seattle Municipal Code that are vague or conflicting for managers and staff; and the Board should approve SCERS formal policy and procedure documents.

With implementation of *Recommendations 1 and 2,* SCERS would clarify benefit calculation practices for SCERS staff and others who want to understand or verify benefits. Moreover, the SCERS Board of Administration would have the information necessary to determine whether practices comply with the requirements of the SMC and their intentions.

- *Data Limitations*—To calculate a member's retirement benefit, staff use data from multiple electronic and hand-written sources, including the City's payroll system, hand-written ledger cards, and physical files maintained for each SCERS member. SCERS current practices require staff to convert payroll and contribution data from these disparate sources into the information needed to calculate retirement benefits. Because the data requires interpretation or analysis before it can be used, the current process is both time consuming and vulnerable to inconsistencies and error.

  Recommendation 3: SCERS should identify the critical data needed to calculate retirement benefits and work with information technology staff to improve access to this information. This process could involve querying other data systems than are currently in use by SCERS, or creating new reports or formats in current data systems.

  Recommendation 4: SCERS management and the SCERS Board of Administration should consider implementing an approach to calculating members' service credits that simplifies both the data required and the process itself.

  Implementation of *Recommendations 3 and 4* would allow SCERS to make the benefit calculation process simpler and more transparent.

- *Improvements to Calculation Worksheets*—SCERS staff members use a series of Excel worksheets to calculate each member's retirement. However, SCERS has not implemented the controls necessary to ensure the worksheets comply with current policies and procedures, facilitate the efficient calculation of benefits, and minimize the risk of both systemic and occasional errors.

  Recommendation 5: SCERS should improve the calculation worksheets so they:
  a. Comply with current program rules and processes,
  b. Require completion of each step of the calculation process,
  c. Facilitate calculations by automating as many steps as possible, and
  d. Are protected against accidental errors or edits.

This process should include creating master copies or templates of the worksheets that are used by all staff, cannot be accidentally changed, and are based on the current methodology. SCERS management should regularly review worksheets to ensure they match current program rules and processes.

Recommendation 6: SCERS should explore possibilities to reduce the number of worksheets used for each individual calculation. One option is to coordinate the fields between the worksheets and the Milliman Benefit Calculator to reduce data entry of member data. Additionally, SCERS should consider relying on the Calculator to estimate and calculate retirement benefits. However, before this decision and regularly thereafter, SCERS should ensure the accuracy of the Calculator is fully tested.

Implementation of *Recommendation 5* would address issues specific to the worksheets, and *Recommendation 6* proposes an approach that would streamline the calculation process itself.

- *Documentation of the Calculation Process* – Currently SCERS staff are not required to document each element of retirement benefit calculations (e.g., source of information about a member's final compensation, manual calculations, or the details of time loss determinations). As a result, any time a staff member must work with a particular file, either to update an estimate, create a final calculation, or verify another staff member's work, they must repeat the entire calculation process from the very beginning.

  Recommendation 7: SCERS should implement a process through which SCERS staff document the sources of data, the details of manual calculations, any interpretations or decisions made during the calculation process, and quality reviews or supervisory review of all analysis. Documentation of supervisory review should include, at a minimum, the date and the initials of the reviewer. One option is to add "comment" fields to the calculation worksheets or to create a standard "cover sheet" document to each physical file in which staff can document their work and its review.

  Recommendation 8: SCERS should create a master record for each member that includes key member information, such as membership date, amount of buy backs, and time loss during specific periods. The master record would record data after it was researched and verified so it is accessible for future estimates or calculations. Options for implementation include an electronic record or a basic paper "cover sheet" for each physical file.

  Recommendation 9: SCERS should consider a one-time update of all member data to capture the key information described in Recommendation 8. To minimize the total work involved, such a project should be planned in coordination with plans to implement a new data system.

  Recommendations 7, 8, and 9 are aimed at improving documentation of benefit calculations in order to improve the transparency of retirement calculations and reduce the work required to update, complete, or verify benefit calculations.

Our analysis of these four key areas is described in detail in Appendix III.

Ensure Ongoing Improvements to Management of Retirement Calculation Function

Recommendations 1 through 9 each address a specific area for improvement in SCERS operations related to benefit calculations, and most emphasize the need for improved controls over a specific process or tool. However, in addition to improvements to individual controls, we recommend that SCERS strengthen the management of the benefit calculation function as a whole to ensure staff members have adequate oversight and support and to reduce the risk of errors, fraud, and abuse.

Our audit occurred at a time of transition for SCERS, and concurrently with our work an interim SCERS finance manager was appointed by the SCERS Board of Administration to improve multiple areas of SCERS' operations, including benefit calculation tools and processes. As a result of the interim finance manager's efforts, some of our recommendations are already being implemented and other improvements are underway related to member buy backs, the security and stability of the SCERS information technology system, the distribution of workload among SCERS staff, and customer service. However, these recent improvements will be short-lived if SCERS does not commit to lasting improvements to its management of the benefit calculation function.

The majority of the weaknesses we discuss in our report are long-standing issues that have been known to SCERS staff members for years. Before the recent work of the interim SCERS finance manager staff had to rely on informal tools and processes to respond to these challenges. For example, to reduce errors resulting from conflicting or confusing data sources or outdated tools, staff routed each file through a series of manual reviews. In fact, the level of effectiveness achieved with the current processes is a credit to the efforts of SCERS staff members.

However, the resulting approach is not an efficient or reliable way for SCERS to operate, and it does not provide SCERS staff with the support needed to respond to new challenges effectively (e.g., changes in labor agreements). Further, it does not adequately address the risk of fraud or abuse. Therefore, in addition to implementing the specific recommendations described in this report, we recommend that SCERS management commit to long-term improvements in the oversight and support of the retirement calculation function as a whole.

Entities such as the Government Finance Officers Association (GFOA) and the Committee of Sponsoring Organizations of the Treadway Commission (COSO) provide guidance to managers on ways to ensure an organization is effective, efficient, compliant with rules and regulations, and accountable to its stakeholders. These management techniques, or "internal controls," are the activities that help ensure an organization achieves it objectives. Although the specific controls appropriate to an organization vary with an organization's goals and challenges, a strong framework of internal controls requires regularly assessing the organization's resources, communicating and preparing for changes in operations, and addressing factors that present a risk to effectiveness, including fraud and abuse. Finally, as controls are designed and implemented, management should monitor progress and adjust their activities as needed.[5]

Recommendation 10: SCERS should strengthen the management of the retirement benefit calculation function. Improvements should include ensuring the function continues to receive the level of oversight and support currently provided by the interim SCERS finance manager and implementing the internal controls necessary for management to address new and long-term challenges and reduce the risk of errors, fraud, or abuse.

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[5] More information about creating a strong framework of internal controls, including specific steps management can take improve communication, management of resources, and address ongoing risks to effectiveness can be found on both GFOA's and COSO's websites: http://www.gfoa.org and http://www.coso.org. Documents on this topic include: *Internal Control—Integrated Framework* (2013, COSO), *Evaluating Internal Controls: A Local Manager's Guide* (2003, GFOA).

Appendix I. Audit Objectives, Scope, and Methodology

Audit Scope and Objectives:

We conducted a performance audit of the Seattle City Employees' Retirement System (SCERS) at the request of the SCERS Board of Administration. The specific audit objectives were to:

1) Determine whether SCERS staff members are accurately calculating retirement benefits,
2) Assess whether there are sufficient controls and oversight over retirement benefit calculations, and
3) Evaluate whether SCERS' retirement benefit calculation processes are efficient.

Audit Methodology:

The audit team tested the accuracy and consistency of SCERS benefit calculations by reviewing a sample of final benefit calculations for individuals who retired in 2011 and 2012. We tested calculations for 30 individuals, or over 10 percent of the 263 SCERS retirements during the 12-month period between June 1, 2011 and May 31, 2012. To ensure that we reviewed files that reflected all retirement options and a range of employment histories, we selected a sample that included files from both 2011 and 2012, for each SCERS retirement option and/or combination of options, for individuals who purchased service credits or combined SCERS service with service for another public entity (e.g., the State of Washington or King County), for employees who took furlough days in 2010, and for individuals who retired from a range of City departments and were no longer working for the City.

We also interviewed all SCERS staff members and supervisors responsible for retirement calculations; interviewed SCERS Information Technology staff; met with SCERS' actuary at Milliman, the actuarial firm that advises SCERS and developed its automated benefit calculator; talked with staff at the State's Department of Retirement Services (DRS) who coordinate benefits for members eligible to retire under both SCERS and DRS; reviewed the tools, templates, and manuals (electronic and printed) used by SCERS staff to calculate benefits; and studied the requirements related to retirement benefits in the Seattle Municipal Code (SMC) and in Washington State law.

We assessed internal controls relevant to the audit objectives through testing the accuracy and consistency of benefit calculations, testing the accuracy of electronic worksheets used to calculate retirement benefits, evaluating SCERS' oversight of benefit calculation processes and tools, reviewing available written policies and procedures, and assessing whether SCERS' practices comply with legal requirements (in the Seattle Municipal Code and Washington State Law). Implementation of the audit's recommendations will enable SCERS to strengthen their internal controls related to retirement benefit calculations.

As part of our quality assurance process, representatives from SCERS reviewed copies of our draft report and were invited to provide formal written comments on the report. Appendix II includes their comments in response to our recommendations.

Compliance with Government Auditing Standards:

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II. Seattle City Employee's Retirement System Formal Comments

The Seattle City Employees' Retirement System offers our sincere thanks to the Office of the City Auditor for all the hard work that went into this review. We appreciate the thoughtfulness and thoroughness of this performance audit and view it as an important step in the continuing improvement of the accuracy, efficiency, and control over SCERS' retirement calculation process. Although the audit uncovered few errors, all issues that were identified are taken seriously and will be addressed.

Our comments on the specific recommendations are as follows:

Guidance and Oversight (Recommendations 1 & 2): We have begun a review of all of SCERS' policies and procedures, starting with purchases of service credit and death processing. We will work with the Board to confirm or amend these policies and procedures as necessary and will establish regular policy reviews and protocols for bringing issues to the Board for consideration. Once complete, the policies and procedures will be documented for use as a reference for staff.

Data Limitations (Recommendations 3 & 4): The first step in improving access to retirement data will be complete at the end of July as SCERS transitions its data from an RBase to an Oracle environment. This change will immediately improve data query capabilities, as well as make stability and security improvements. The next phase of the project will evaluate further enhancements to functionality and reporting capabilities to improve the efficiency of operations. The method of calculating service credit, along with all other calculations, will be examined as part of the policies and procedures review.

Calculation Worksheets (Recommendations 5 & 6): We are systematically reviewing and making improvements to calculation worksheets, starting with the templates used for withdraws and service credit purchases. All of the Auditor recommendations will be included as part of this review. SCERS will attempt to integrate existing worksheets with the Milliman calculator in an effort to increase efficiency and reduce the potential for entry error.

Calculation Process Documentation (Recommendations 7, 8 & 9): We will work to standardize the documentation expected for all calculations and member processes. We are currently reviewing the ways in which SCERS employees receive, track and document member requests and will evaluate ways to do more of this work electronically. In the near term, the master record SCERS maintains on a member will be a combination of electronic data and paper records. However, in preparation for the potential implementation of a pension administration system, SCERS will likely go through a process to cleanse and convert data into an electronic format.

Management (Recommendation 10): On June 20th the SCERS Board of Administration appointed an Interim Executive Director. The interim finance manager has been appointed as SCERS' Chief Financial Officer/Chief Operating Officer. Both the Interim ED and the CFO/COO are committed to continuing, and expanding on, the improvements being made to oversight, support, and internal controls.

Appendix III: Details of Findings Related to Guidance and Oversight, Data Limitations, Calculation Worksheets, and Documentation

Guidance and Oversight of Calculation Processes Should be Strengthened

The Seattle Municipal Code (SMC) includes a general description of the criteria to be used by SCERS staff when calculating benefits, but it does not specify the detailed calculations or methodologies they should use to interpret each member's employment history and calculate retirement benefits. In order to fill in the gaps left by the SMC, SCERS management should develop formal policies and procedures that establish clear guidelines for calculating benefits.

In the absence of formal policies and procedures, SCERS staff members rely on on-the-job training notes, assistance from more experienced or senior co-workers, and their own professional judgment when calculating retirement benefits. As a result, SCERS staff members are not always consistent in how they interpret members' employment histories or calculate elements of a member's retirement benefit. A key example of this issue is the current practice for calculating members' final compensation.

> ***Inconsistent practice for calculating a member's final compensation*** **–** Final compensation is one of the key elements used to calculate retirement benefits. However, SCERS staff do not always use the same method to calculate a member's final compensation. SCERS staff use one of two methods:
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> > Method 1: Using a report from a SCERS' database, staff average actual pay over the member's highest 4,176 hours of service. This pay includes any shift differentials or out-of-class pay rates that were earned.
> >
> > Method 2: Using the City's Payroll System, staff research the member's pay rates over the highest 24 months and the dates each rate went into effect. Staff then use an internal worksheet to average the pay rates over the number of days worked.
>
> The basis for both methods is in the SMC, which specifies that Method 1 be used for members who retire "from a temporary, interim, provisional, intermittent or part-time position." For other employees, final compensation is defined as the "average annual compensation earnable by a member during his 24 highest consecutive months" of employment.
>
> SCERS staff reported to us that there are advantages to each approach: Method 1 simplifies the calculation when a member earns shift differentials or works out of class for some pay periods, but Method 2 can be simpler to use when the highest 24 months of salary were not the most recent. For this reason, staff explained that their practice is to calculate final compensation both ways and use the higher result. However, we observed in our file review that, while both methods are used for both full-time and part-time members, staff did not always use the higher result.[6]

To ensure that SCERS staff members are consistent in how they calculate retirement benefits and that their practices comply with the SMC, SCERS management should review their methodologies with the SCERS Board of Administration and formally document all elements of retirement benefit calculations, including the process for calculating members' final compensation.

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[6] In our review of 30 files, we identified five instances in which SCERS staff did not use the higher result of the two methods for calculating final compensation. In these cases, the impact on the member's ultimate benefit was less than one dollar monthly.

Other aspects of the retirement benefit calculation that should be reviewed by SCERS management, approved by the Board, and clearly documented include:

- The definition of "part-time" employment for the purpose of calculating retirement benefits.
- The process for calculating time loss for employees who did not make contributions for every work day in a calendar year.
- The process for calculating a full year of credit for part-time or temporary employees.
- The practice of applying Cost of Living Adjustments (COLAs) for current year retirees.
- The use of 181 days as six months of credit.
- The practice of calculating final annual compensation by multiplying members' hourly rate by 2,088 hours, rather than the 2,080 hours worked by full-time employees most years.

Formal policies and procedures would allow SCERS management to clarify all elements of the benefit calculation for their staff and also for others who want to understand or verify benefits. Moreover, it would give members of the SCERS Board of Administration the information necessary to determine whether practices comply with the requirements of the SMC and the directions of the Board. For this reason, the Board should regularly review and approve SCERS policies and procedures.

Recommendation 1: SCERS should establish and document all elements of the retirement benefit estimate and calculation processes. SCERS management should review the current methodology with the SCERS Board of Administration, resolve any conflicts between current practices and the Seattle Municipal Code or the Board's intentions, and create formal policy and procedure documents for staff.

Recommendation 2: The SCERS Board of Administration should regularly review SCERS documented procedures; with the assistance from legal counsel, the Board should interpret aspects of the Seattle Municipal Code that are vague or conflicting for managers and staff; and the Board should approve SCERS formal policy and procedure documents.

Data Limitations Should Be Addressed

Currently, SCERS staff calculate a member's membership date, service credit (i.e., years of service), and final compensation using three main sources of data:

Payroll Data – For employment in 1992 and later, staff use data from the City's Payroll System (EV5) that has been transferred to the SCERS Retirement Database. Staff print a report from the SCERS database that lists the hours and contributions paid in each pay period since 1992. Staff then manually review this report to identify changes in compensation, pay periods without pay for a full 80 hours, or pay periods with lower than expected contributions. Staff can then verify changes in pay rate or time off without pay by querying EV5.

Ledger Cards – For employment before 1992, staff use hand-written ledger cards as the primary record of contributions. By scanning a member's contribution history, staff determine whether the member made retirement contributions for all the available pay periods in each calendar year and use this information to calculate time loss.

Physical Member Files – Some member information is documented only in members' physical files. Examples of this information includes: details about withdrawals of SCERS contributions, information about "buy backs" of contributions, and details about a member's service for another public entity.

Using payroll data and hand-written ledger cards, staff determine when a member joined SCERS and whether he or she made a SCERS contribution for each pay period between the first and final dates of membership. If the staff member identifies a pay period in which the member did not make a full contribution, they must calculate the appropriate amount of time loss. Through a series of manual calculations for each year in which a member did not make full contributions, SCERS staff convert payroll data into calendar days of time loss. Similarly, using records in the physical files maintained for each member, staff must determine whether the member purchased any time back or withdrew contributions.

Although SCERS staff have developed processes by which they can convert payroll and contribution data into the information needed to calculate retirement benefits, there are disadvantages to using these data sources:

- The data (especially from the ledger cards) frequently require significant interpretation or additional research before it can be used for retirement purposes.
- The data is time-consuming to get from the SCERS database and must be printed and manually scanned.
- The reports available to SCERS staff do not facilitate retirement calculations—they document hours paid rather than hours missed, and so staff must visually scan data for each year for gaps in compensated hours to determine whether a member had any time loss during their career.
- Staff must convert any identified time loss using a series of formulas and additional analysis or interpretation.

As a result of the issues listed above, the process of calculating a member's service credit and any applicable time loss is time consuming and complicated. Some of the difficulty in the calculations is unavoidable, as the data is sometimes several decades old and not stored in the City's current information technology (IT) systems. However, in some cases, SCERS management could improve staff's access to key data by working with IT staff to develop reports that contain the data needed to calculate benefits. SCERS has already initiated this work with assistance from the Department of Finance and Administrative Services' IT group, and we recommend that SCERS continue this effort to ensure staff have access to the data they need to efficiently calculate benefits.

Another option available to SCERS would be to simplify the methodology used to calculate each member's service credit. Currently, SCERS staff must convert data about hours **paid** to calendar days of **time loss**. Any time loss is then subtracted from the total calendar time between membership date and termination date. An option for simplifying the calculation process would be to (1) determine the total number of hours for which a member made contributions to SCERS, (2) divide that total by the number of hours in a year, and (3) thus calculate the member's years of credit. We propose that SCERS consider an improvement to their approach to calculating members' service credits that would both simplify their data requirements and also streamline their calculation processes.

Recommendation 3: SCERS should identify the critical data needed to calculate retirement benefits and work with information technology staff to improve access to this information. This process could involve querying other data systems than are currently in use by SCERS, or creating new reports or formats in current data systems.

Recommendation 4: SCERS management and the SCERS Board of Administration should consider implementing an approach to calculating members' service credits that simplifies both the data required and the process itself.

Improve Calculation Worksheets

SCERS staff members currently use three main types of worksheets to create retirement benefit estimates and final calculations for SCERS' members. These worksheets include:

Estimate Worksheet – Staff use a Microsoft Excel worksheet to estimate a member's final service credit, compensation, and accumulated contributions with interest.

Final Calculation Worksheets – Staff use a series of Microsoft Excel worksheets, one for each option and combination of options available to members (for a total of 39 different worksheets), to calculate a member's final monthly benefit.

Benefit Calculator – SCERS contracts with Milliman, Inc., SCERS' actuarial firm, to maintain a Retirement System Benefit Calculator, which is programmed in Excel. When creating an estimate or calculating a member's final benefit amount, staff enter information about a member's final service credit, compensation, and contribution data from the Estimate and Final Calculation Worksheets into the calculator. The calculator then produces either a report describing the estimated retirement benefit under each available option or a report detailing the member's final monthly benefit under the option that was selected.

The audit team reviewed these worksheets and identified the following control weaknesses:

Estimate and Final Calculation Worksheets:

- **SCERS management does not regularly review and update the worksheets in response to policy or process changes.** Rather, individual staff members update their copies of the worksheets on an ad hoc basis. Without regular review of the worksheets, management cannot ensure that they comply with current policies or identify systemic errors. During our review, we identified elements of the worksheets that no longer match requirements in the SMC or do not reflect current SCERS practices. For example, one version of the Estimate worksheet we received included an outdated contribution rate. SCERS staff use the Estimate worksheet to project members' total contributions with interest at the time of retirement, and so an error in the contribution rate could impact a member's estimated benefit. We found that individual staff members were effectively working around these issues with the worksheets; however, management could reduce the risk of errors or abuse by regularly reviewing and updating the worksheets.

- **Worksheet formulas are not protected against unapproved or accidental edits.** Rather, staff work from copies of the worksheets in previous retirees' files and edit the fields unique to each retiree. As a result, an error in one retiree's benefit calculation is likely to occur in a future calculation as well. Additionally, SCERS management cannot be certain that the formulas and calculations used by staff comply with those approved by management. In our review, we identified an error that resulted from an unexplained edit to a worksheet formula. The impact of the error was the under-calculation of benefits by $5.07 monthly for one member.

- **The worksheets include fields for all necessary components of benefit calculations, but they do not require staff to perform each step.** Rather, staff can skip certain elements of the calculation if they do not believe it will change the member's benefits. We did not see evidence of any impact of this weakness in controls, but improvements in this area would reduce opportunities for error.

- **The worksheets do not automate all aspects of the calculation.** Although the worksheets are in Excel and could be used to automate aspects of the benefit calculation, staff currently use the worksheets more as a record of inputs and results of manual calculations. This is less efficient and also creates more opportunities for error.

<u>**Benefit Calculator:**</u>

- **The Calculator is not coordinated with or linked to the worksheets to facilitate the transfer of data.** Staff must enter key information into both sets of worksheets and the Benefit Calculator separately, requiring the duplication of data entry and increasing the risk for data entry errors. During our file review, we identified a data entry error that led to an understatement by about $70.00 of the nontaxable portion of the monthly retirement payment.

- **SCERS does not work with Milliman to address issues with the Calculator when they are identified.** From our conversations with Milliman, we understand that they do not get regular feedback from SCERS management about the use of the Calculator or the need for improvement. Although SCERS staff had identified in 2012 an error in the service credits calculated by the Calculator, staff adjusted their inputs to the Calculator to ensure the resulting service credit was accurate rather than SCERS management resolving the issue with Milliman. The resulting approach is less efficient, creates the situation in which it appears data was incorrectly entered, and also limits the usefulness of the Calculator as a tool for verifying benefit calculations. Finally, it also prevents Milliman from ensuring that a known issue in one aspect of the Calculator does not also impact another aspect of the calculation.

- **The Calculator has not been fully tested by SCERS staff to ensure results are always accurate, and so staff calculate benefits both manually and with the Benefit Calculator.** At one time, SCERS contracted with Milliman to test the accuracy of the Benefit Calculator annually. SCERS stopped this practice when no issues were identified for many years. However, we identified two errors in the current version of the calculator, one that had been identified by SCERS and one that had not. Staff explained to us that one reason they calculate each member's benefit *both* manually and using the automated calculator is to double-check their results—this way they hope to identify any errors in the formulas of the Calculator or in their manual calculations. We applaud the additional efforts staff undertake to ensure retirement benefits are calculated correctly. However, performing each benefit calculation manually is time consuming when the Calculator is available, and so ensuring a full annual review of the Calculator could allow staff to process retirements more efficiently.

Without sufficient controls over the calculation worksheets and the Benefit Calculator, SCERS management cannot ensure the worksheets comply with current policies and procedures. Additionally, the lack of controls increases the risk of both systemic and occasional errors and reduces the efficiency with which SCERS staff can calculate benefits.

Recommendation 5: SCERS should improve the calculation worksheets so they:
   a. Comply with current program rules and processes,
   b. Require completion of each step of the calculation process,
   c. Facilitate calculations by automating as many steps as possible, and
   d. Are protected against accidental errors or edits.

This process should include creating master copies or templates of the worksheets that are used by all staff, cannot be accidentally changed, and are based on the current methodology. SCERS management should regularly review worksheets to ensure they match current program rules and processes.

Recommendation 6: SCERS should explore possibilities to reduce the number of worksheets used for each individual calculation. One option is to coordinate the fields between the worksheets and the Milliman Benefit Calculator to reduce data entry of member data. Additionally, SCERS should consider relying on the Calculator to estimate and calculate retirement benefits. However, before this decision and regularly thereafter, SCERS should ensure the accuracy of the Calculator is fully tested.

Calculation Process Should Be Clearly Documented

During our review of a sample of 30 retirement files and calculation records, the audit team found that SCERS staff do not document several elements of retirement calculations. These include:

- all sources of member data and information (e.g., final compensation),
- the details of manual calculations (e.g., calculations of time loss or total contributions with interest),
- the multiple interpretations, decisions, and criteria used in the process of calculating individual member benefits (e.g., those related to portability, buy backs, or an individual's unique employment history), and
- supervisory review of benefit calculations.

Through our meetings with SCERS staff and supervisors, we learned that staff are not trained or required to document these details in member's files. As a result, any time a staff member must work with a particular file, either to update an estimate, create a final calculation, or verify another staff member's work, they must repeat all elements of the file review and calculation process from the very beginning, thus making the process very inefficient. Additionally, the lack of documentation makes it difficult for an outside reviewer or a SCERS member to understand or verify retirement calculations.

By improving documentation at all stages of benefit estimates and calculations, SCERS would increase the transparency of retirement calculations and reduce the work required to update, complete, or verify benefit calculations.

Recommendation 7: SCERS should implement a process through which SCERS staff document the sources of data, the details of manual calculations, any interpretations or decisions made during the calculation process, and quality reviews or supervisory review of all analysis. Documentation of supervisory review should include, at a minimum, the date and the initials of the reviewer. One option is to add "comment" fields to the calculation worksheets or to create a standard "cover sheet" document to each physical file in which staff can document their work and its review.

Recommendation 8: SCERS should create a master record for each member that includes key member information, such as membership date, amount of buy backs, and time loss during specific periods. The master record would record data after it was researched and verified so it is accessible for future estimates or calculations. Options for implementation include an electronic record or a basic paper "cover sheet" for each physical file.

Recommendation 9: SCERS should consider a one-time update of all member data to capture the key information described in Recommendation 8. To minimize the total work involved, such a project should be planned in coordination with plans to implement a new data system.