

**COMMUNITY FOUNDATION SONOMA COUNTY**

**INVESTMENT POLICY – INTERMEDIATE TERM POOL**

**INTRODUCTION:**

This statement of investment objectives and policies is set forth in order that:

- A. There is a clear understanding by the Board of Directors, the Investment Advisory Committee, and any appointed Investment Manager(s) or Consultants of the nature, purpose and goals of this fund.
- B. The Investment Manager(s) are given guidance regarding the execution of their duties on behalf of the fund.
- C. The Board of Directors and the Investment Advisory Committee have agreed upon a basis for evaluation of the performance of the fund's assets and any Investment Manager(s).

The intent of this statement is to establish an attitude and/or philosophy which will guide the Board of Directors, the Investment Advisory Committee, and Investment Managers toward the performance desired for the intermediate term pooled funds with investments of medium-term duration. We have defined intermediate term as 2 to 5 years. It is intended that the objectives be sufficiently specific to be meaningful, but flexible enough to be practical.

**BOARD OF DIRECTOR'S RESPONSIBILITY:**

The Board of Directors is charged with the responsibility for the investment of Fund assets. The Board of Directors shall discharge their duties solely in the interest of the Community Foundation, with the care, skill, prudence and diligence under the circumstances then prevailing, that a prudent investor, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character with like aims.

**INVESTMENT ADVISORY COMMITTEES' OBJECTIVES:**

The Board of Directors may request that the Investment Advisory Committee provide recommendations on the general investment policy of the Foundation; review any special donor fund investment requests or constraints; recommend appropriate policy for the Foundation's Intermediate Term Pool; select Investment Manager(s) or Consultants; and oversee the monitoring and reporting requirements necessary to measure investment performance. The Investment Advisory Committee should apply the same prudent investor standards as discussed above for the Board of Directors.

**INVESTMENT MANAGEMENT:**

The Board of Directors is authorized and permitted by its by-laws to engage the services of one or more investment managers or consultants who possess the necessary specialized research facilities and skilled personnel to meet these investment objectives and guidelines. The Board of Directors require any Investment Manager or Consultant so retained to be registered under the

Investment Advisors Act of 1940, and to provide to the Board of Directors, annually, a copy of their form ADV, as referenced by rule 204-3 of the Act.

Finally, the Board of Directors require any Investment Manager to adhere to the "prudent investor rule" under such federal laws as now apply, or may in the future apply, to the investment of any trust assets subject to their control.

**PURPOSE:**

The purpose of the Foundation is to provide money to improve the quality of life in Sonoma County through grants to nonprofit organization.

**INVESTMENT GOALS:**

The goal for this intermediate term pool is to provide the optimum between total return and protection of principal for expendable component funds which have an expected life of two to five years. Balances in component funds which are invested for less than this period may be subject to greater volatility of return. Such balances would have a higher exposure to erosion of principal. This pool is not intended for the investment of such shorter term funds or for endowment or quasi-endowment funds.

The Board of Directors has adopted a Total Return Concept which can offer the advantage of designing longer-term investment strategies as opposed to interest sensitive short-term policies and provide for a better balance between current income and capital appreciation.

**The Board of Directors and the Investment Advisory Committee understand that total return to the Fund may come from:**

- A. Payments to the fund from dividends,
- B. Interest payments from debt securities
- C. Growth in the value of the Fund from capital appreciation of equity securities.

Both the Board of Directors and the Investment Advisory Committee understand that a total return concept was adopted because interest rates are not necessarily predictable, nor are they necessarily in the best interests of either the equity portion of their fund or any longer term credit market instruments in the fund.

**INVESTMENT OBJECTIVES:**

**The investment objectives for Community Foundation Sonoma County's Intermediate Term Pool are:**

Over 2 to 5 years we anticipate a minimum average annual growth rate of the underlying principal (and additions) exceeding the 180-day Treasury Bill Index by 2.25%.

Both the Board of Directors and the Investment Advisory Committee desire that the principal value of the fund and the return generated by the fund be so managed as to at least offset any inflationary pressures on them.

It is believed that this is a relatively conservative approach and that the Board has taken appropriate measures to control risk allowing any Investment Manager(s) necessary tolerances to reasonably safeguard the assets subject to his control. The Board of Directors and the Investment Advisory Committee would rather set forth conservative minimum expectations than lofty goals (which may force any Investment Manager(s) to take risks inconsistent with the purpose of these assets).

## **INVESTMENTS:**

In order to provide the plan's Investment Manager(s) the freedom to invest within the guidelines of this policy statement, the following security classifications are permissible and suitable investments for the purpose of managing the plan.

- A. **Equity Securities:** Publicly traded common and preferred stocks, convertible preferred stocks and convertible debentures. Equity securities may be chosen from the NYSE, Regional Exchanges, and the National Over the Counter Market. All assets must have readily ascertainable market values and be fully liquid and marketable.
- B. **Debt Instruments:** United States Government and Agency Obligations. Corporate Obligations must have an average A or better agency rating by one of the three major rating agencies. Maturity structure will be left to the discretion of the Investment Manager who will manage to a short and intermediate duration not to exceed three years.
- C. **Cash and Equivalents:** Cash reserves may consist of individual fixed income securities such as Commercial Paper, U. S. Treasury Bills, and other similar instruments with less than one year to maturity and/or money market funds. Cash reserves should be free from risk and instantly liquid.

If any Investment Manager wishes to use an investment vehicle not included in the above list, a written request from the manager must be approved by the Board of Directors through the Investment Advisory Committee.

## **ASSET ALLOCATION GUIDELINES:**

Asset Allocation shall remain the responsibility of The Board of Directors with the assistance of the Investment Advisory Committee. Investment Managers and Consultants will be retained to manage a portion of the assets of the Fund within the management style of the individual manager. The Board of Directors will review the Fund's strategic overall asset allocation annually and will make adjustments as needed. The Investment Manager(s), Consultants, and the Investment Advisory Committee may recommend shifts in strategic asset allocation from time to time as market conditions change.

## **ASSET ALLOCATION POLICY**

Investment decisions shall be made within the framework of the goals stated above for achieving the total rate of return while protecting principal, keeping in mind the desirability of limiting year-to-year risk of income and market value fluctuations. These goals require that the total rate of return of the portfolio be optimized, rather than maximized. The optimal portfolio mix is one that carefully equates expected rate of return with expected risk of all investment categories used in the portfolio. Addendum A, “Asset Allocation Addendum,” illustrates the results from the optimization analysis and analytical studies. In setting the optimal mix of assets for the portfolio, the Investment Advisory Committee has adopted the following strategic asset allocation policy which incorporates a diversified asset mix:

<b><u>Asset Class</u></b>	<b><u>Target Percent</u></b>
Fixed Income and Cash & Equivalents	75%
Domestic Large Cap Core Equities	15%
Domestic Small Cap. Equities	5%
International Equities	5%

Cash & equivalents in the portfolio will be managed to meet anticipated cash requirements from component funds in the pool while avoiding excessively high cash balances that would diminish potential total returns. In line with projections for this pool, cash & equivalents will ordinarily not make up more than 20% of the total portfolio nor be lower than 5% of the portfolio in any one year.

**Rebalancing Policy:** Portfolio rebalancing will be managed by the Investment Advisory Committee within the guidelines of this Investment Policy. If at the end of any calendar quarter any one class exceeds its minimum or maximum allocation as specified in the table below, all classes will be rebalanced to their strategic targets as quickly as possible.

Asset Class	Strategic Target	Allowable Deviation (%)	Percentage Range	Min/Max Allocation
Fixed Income & Cash	75%	5%	+3.75%	71.25% to 78.75%
Large Cap Equities	15%	10%	+/-1.5%	13.5% to 16.5%
Small Cap Equities	5%	15%	+/-0.75%	4.25% to 5.75%
International Equities	5%	15%	+/-0.75%	4.25% to 5.75%

The targeted strategic asset allocation is designed to provide an optimal asset mix for the portfolio which emphasizes diversification in order to lower risk and maximize total return relative to risk. It has been developed by simulating portfolio expected returns over time and examining their compatibility with above investment goals and desired spending plans of the Foundation.

The recommended strategic asset allocation policy, which is based upon future expectations of the capital markets, the correlation of the recommended asset classes and projected future spending plans, is shown in the above table as the target, or midpoint between the minimum and maximum allocations. At least annually, the Investment Advisory Committee will review the asset allocation policy to determine if established guidelines are appropriate.

If any Investment Manager or Consultant feels that these guidelines in any way hamper the ability to manage assets in a businesslike manner, or to meet the objectives set, that manager should communicate those concerns to the Board in writing through the Investment Advisory Committee.

**INVESTMENT RESTRICTIONS:**

The following investment restrictions will apply:

- A. No short selling.
- B. While no strict restrictions have been placed with regard to individual equities, Investment Managers should be sensitive to the "political problems" that certain industries may create.
- C. No investment shall be made in derivative securities except where they offer the most economic means of improving the risk/reward profile of the portfolio (i.e., always compare the cost of derivatives to the cost of constructing an equivalent position in traditional securities). Derivative securities shall not be used in any way that results in outright exposure to changes in the value of assets or indices that by themselves would not be purchased for the portfolio.

The use of derivative securities shall not increase portfolio risk above the level that could be achieved in the portfolio using only traditional investment securities. In particular (a) the use of derivative securities in any program or technique shall not cause overall portfolio interest rate sensitivity to exceed the investment guidelines, and (b) the use of derivative securities shall not violate either the letter or the spirit of the investment guidelines that limit exposure to market, sector, and security risks.

**INVESTMENT MANAGER(S):**

Investment Managers, Consultants, and their services will be continually evaluated. In this regard, the Board of Directors may rely on the Investment Advisory Committee to select and monitor manager(s) performance on a quarterly basis.

The objective of monitoring is not to set in opposition one Investment Manager or program against another, but rather to ensure prudent management of the funds and compliance with the Investment Objectives and Guidelines.

**MONITORING:**

Investment monitoring will be completed on annual basis evaluating the performance of the plan's assets in relation to the stated investment objectives. Quarterly reports are to be submitted for interim review by the Investment Advisory Committee. Overall Investment Manager and Consultant review will be completed after three years, and annually thereafter on a trailing three-year basis.

Relative performance measurement may be utilized to evaluate investment management in relation to the objectives, and also in relation to the capital markets and to manager(s) of similar funds with like aims.

Although the Committee may choose to schedule them more frequently, the Investment Managers, or a representative thereof, shall be available to meet with the Investment Advisory Committee a minimum of once a year and more often as the Committee deems appropriate.

Investment performance results will be measured by the independent consultant on a quarterly basis and compared with the objectives stated herein. The Investment Advisory Committee will review the performance of each Investment Manager regularly.

**The following indices may be used to discuss the evaluation with the Investment Committee and the Board of Trustees:**

- Consumer Price Index.
- Money Fund Report Average
- 90-Day Treasury Bill Rates.
- Shearson Lehman Government/Corporate Intermediate Bond Index.
- Standard & Poors 500 Stock Index.
- Russell 2000 Stock Index
- MCSI EAFE International Index
- A hybrid of the above indices, or other established representative indices, so constituted as to reasonably reflect the asset class strategy utilized by any Investment Manager(s).

**The following investment goals will apply to the investment portfolio and will be evaluated over a two (2) to five (5) year time frame. If goals are not met over the time specified a formal review process will be initiated. Active Investment managers are further subject to separate written and signed investment guidelines (Addendum B).**

**1. Domestic Equity Fund Objectives:**

To exceed the S&P 500 Index per annum on average over a 2-5 year cycle; or for Small Cap, to exceed the Russell 2000 Index.

To exceed the median style manager in a subsample of similar style managers.

To exceed the Consumer Price Index plus 5% over a full market cycle; or for Small Cap, to exceed the CPI plus 7% over a full market cycle.

**2. International Equity Fund Objectives:**

To exceed the MCSI EAFE Index per annum on average over a 2-5 year cycle.

To exceed the median International equity fund in the TUCS Universe (or sub-sample of similar style managers)

To exceed the Consumer Price Index plus 5% over a 3-5 year cycle.

**3. Fixed Income Objectives**

To exceed the Lehman Brothers Intermediate Government Corporate Index over a 2-5 year cycle.

To exceed the median fixed income fund of similar maturity and duration in the TUCS Universe.

To exceed the Consumer price Index plus 2.5% over a full market cycle.

**REVIEW MEETING:**

It is the desire of the Board of Directors that the Investment Advisory Committee meet quarterly to review investment performance and to discuss the following:

- A. Review of the ongoing investment policy and any changes thought advisable for the coming year.
- B. Develop an understanding of the asset allocation strategy and security selection tactics of any Investment Manager(s) or Consultant.
- C. Review of the current and anticipated economic environment and its effect on the Fund's assets.
- D. Address any major shifts in strategy that may have taken place since the previous meeting.
- E. Review the performance of the portfolio(s) with respect to the investment objectives and policy, and
- F. Review any specific investment that may be contrary to the philosophy of the Foundation as to social or environmental issues .

While the Board of Directors recognizes that performance for an interval as short as one year or less, is not a fair basis for the evaluation of invested assets, they do reserve the right, in the event of significantly unexpected results, to change any investment management service or program at any time.

**CONCLUSION:**

This statement of investment objectives and policy is designed to be used as a guideline to assist the Board of Directors, the Investment Advisory Committee and any Investment Manager(s) or Consultants to better understand this Fund. It should not be considered a legal document or contractual obligation; rather it should be viewed as a flexible document whose purpose is to assist all parties in the management of this Fund's assets.

By: (Officer) \_\_\_\_\_  
*for Board of Directors*

Date \_\_\_\_\_

By:(Chairperson) \_\_\_\_\_  
*for Investment Advisory Committee*

Date \_\_\_\_\_

By: \_\_\_\_\_  
*for Consultants, Grasswood Partners*

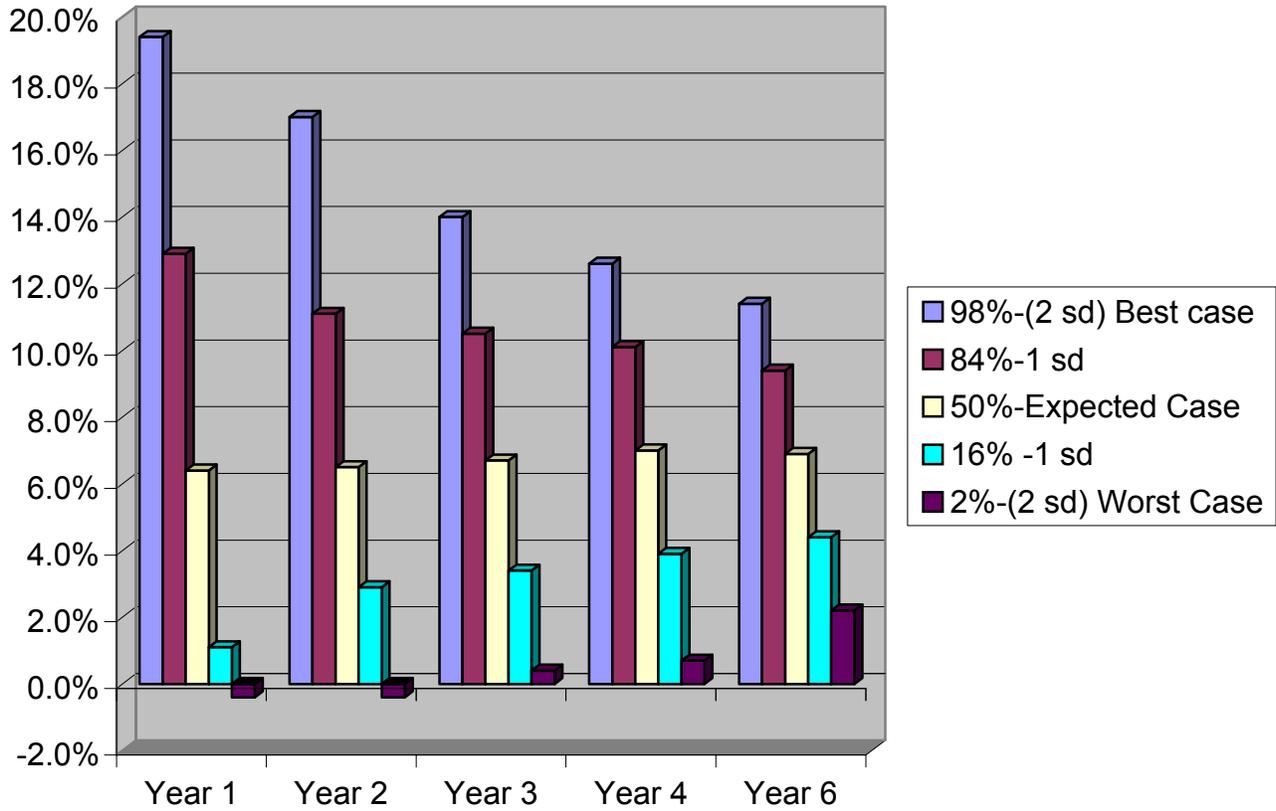
Date \_\_\_\_\_

By:(President & CEO) \_\_\_\_\_  
*for Community Foundation Sonoma County*

Date \_\_\_\_\_

final draft; 11/22  
*file:Investment Policy – Intermediate Pool Draft 4*

**Addendum A  
Simulation Analysis - Range of Returns  
Intermediate Term Investment Pool**



**Average Annual Returns**

Probabilities	Year 1	Year 2	Year 3	Year 4	Year 6
98%-(2 sd) Best case	19.4%	17.0%	14.0%	12.6%	11.4%
84%-1 sd	12.9%	11.1%	10.5%	10.1%	9.4%
50%-Expected Case	6.4%	6.5%	6.7%	7.0%	6.9%
16% -1 sd	1.1%	2.9%	3.4%	3.9%	4.4%
2%-(2 sd) Worst Case	-0.4%	-0.4%	0.4%	0.7%	2.2%

Note: "sd" = standard deviation

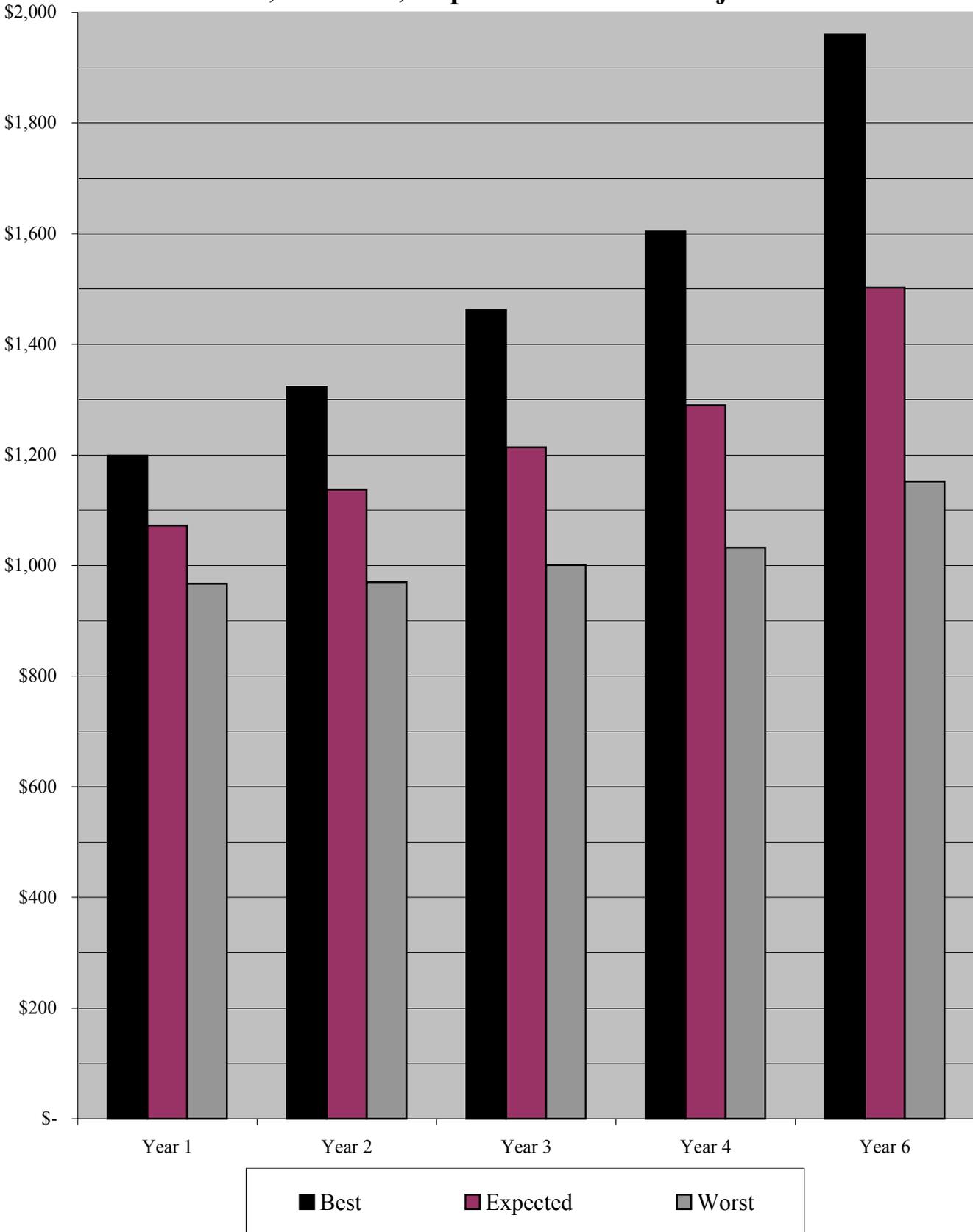
The simulated range of average annual returns for the Composite Asset Mix are shown over the projection period. The entire range of returns covering the best case to worst case outcomes are represented. There is a 98% chance of realizing a return that is greater than the simulated worst case return. And, there is a 2% chance of exceeding the simulated best case return.

**Community Foundation Sonoma County**

**Addendum A**

**Intermediate Term Investment Pool**

**Growth of \$1,000: Best, Expected & Worst Projected Scenarios**



**Community Foundation Sonoma County**

**Addendum A**

**Intermediate Term Investment Pool**

**Scenario Assumptions**

<u>Asset Class</u>	<u>Index Proxy</u>	<u>Return</u>	<u>Risk</u>	<u>Yield</u>	<u>Turnover</u>
Large Cap Stocks	S&P 500 Composite	9.00%	19.00%	1.80%	5.00%
Small Cap Stocks	FRC 2000 Index	11.00%	25.00%	1.00%	10.00%
International Stocks	MSCI EAFE Index-\$	10.50%	20.00%	1.00%	10.00%
Taxable Bonds	LEHB Aggregate Bond	5.60%	3.50%	5.60%	0.00%
Cash Equivalents	FED 3-Mo T-Bill (S)	2.50%	1.00%	4.00%	100.00%
Inflation	CPI-U All Items	2.50%			

**Addendum B**

Investment Policy Guidelines

**Pacific Income Advisors, Inc.**

**Separate Account Intermediate Pool Guidelines**

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**I. Investment Assignment**

Pacific Income Advisors, Inc. (PIA) will be given full discretion within the scope of these mutually agreed upon Investment Policy Guidelines. PIA will be responsible for reviewing these guidelines with the Investment Committee at least bi-annually to assure they remain valid and relevant. PIA shall discharge its management in a prudent manner, always keeping the best interest of Community Foundation Sonoma County clearly in mind.

**II. Investment Objectives**

The investment objectives for PIA will be for the asset value exclusive of contributions and/or withdrawals to grow over the long run and earn, through a combination of investment income and capital appreciation, a rate of return (time-weighted total return) in excess of the benchmarks established for the long term (5 years).

**Long Term Performance Objectives:** The portfolio is to exceed the Lehman Brothers Government/Corporate Intermediate Bond Index, as well as the median fixed income return in a representative performance universe.

**III. Investment Guidelines**

It is the intention of the Investment Committee to allow the Investment Manager full investment discretion within the scope of these mutually agreed upon investment guidelines. The Investment Manager must adhere to the following investment guidelines unless explicitly authorized in writing by the Investment Committee to do otherwise.

**Fixed Income Securities:** Fixed income securities may be comprised of U.S. Government Treasury and Agency Obligations, U.S. Government Agency Mortgage Pass through Securities, Collateralized Mortgage Obligations rated AAA or AA, Adjustable Rate Mortgages rated AAA or AA, Commercial Mortgage Backed Securities rated AAA or M by at least one major credit agency, Asset Backed Securities rated Baa or BBB or higher by at least one major credit rating agency, Corporate Bonds/Notes rated Baa or BBB or higher by at least one major credit rating agency, and Yankee Bonds rated Baa or BBB or higher by at least one major credit rating agency.

**Prohibited Investments:** The Investment Manager will not engage in investment transactions purchased on margin, commodities, structured notes, Interest Only CMO's, Principal Only CMO's, Inverse Floater CMO's, and Z Bonds. Furthermore, no investment transactions shall occur outside the United States and no asset of the Fund shall be held outside the jurisdiction of the United States District Courts.

**Derivatives:** The Investment manager shall not use derivatives to increase portfolio risk above the level that could be achieved in the portfolio using only traditional investment securities. Moreover, the Investment Manager will not use derivatives to acquire exposure to changes in the value of assets or indexes that by themselves would not be purchased for the portfolio. Under no circumstances will the Investment manager undertake an investment that is non-covered or leveraged to the extent that it would cause portfolio duration to exceed limits specified below.

**Diversification:** Fixed income securities should be well diversified to avoid undue exposure to any single economic sector, industry, or individual security. Except for securities issued by the U.S. Government and its agencies, no more than 5% of market value assets shall be invested in securities of anyone issuing entity at the time of purchase. Furthermore, cash and equivalent securities shall not exceed 10% of the portfolio market value without prior approval from the Investment Committee.

**Quality and Marketability:** Fixed income securities, unless specifically noted otherwise, must have a rating of BBB or higher by Standard & Poor's or Baa by Moody's. Should the rating on any bond purchased subsequently be reduced below investment grade or cease to be rated, sale of the issue shall not be required except as warranted by investment considerations.

Quality and security should be emphasized over maximum return in all short-term cash investments. The Investment Manager will have discretion as to the types of securities used except that all commercial paper obligations purchased must have minimum respective ratings of P-2 by Moody's or A-2 by Standard & Poor's.

**Volatility:** It is expected that the volatility of the portfolio will be reasonably close to the volatility of the index defined in the Investment Objective section of these Investment Policy Guidelines. Maturity structure will be left to the discretion of the Investment Manger who will manage to a short and intermediate duration of not more that 3.0 years.

**IV. Statement of Acknowledgment**

As an authorized representative of PIA, provider of investment management services to Community Foundation Sonoma County, I hereby acknowledge receipt on behalf of PIA and agree on behalf of PIA to conduct the investment management services in accordance with the terms of this amendment as well as the attached Investment Policy Statement.

Date: \_\_\_\_\_

\_\_\_\_\_  
Name (printed)

\_\_\_\_\_  
Signature

***Glossary of Investment Terminology  
Modern Portfolio Theory and  
Portfolio Characteristics***

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***Alpha*** - Measures nonsystematic return or the return that cannot be attributed to the market. Thus, it can be thought of as how the manager performed if the market has had no gain or loss. In contrast, beta measures the return that is attributable to the market and is a measure of the portfolio's overall volatility.

If the market's return as measured by an index were equal to the risk-free rate, the manager's expected excess return would be alpha. A positive alpha implies that the manager has added value to the return of the portfolio over that of the market. Returns with negative alpha do not reflect any positive contribution by the manager over the performance of the market. An alpha of zero implies that a manager has provided a return that is equivalent to the market return for the manager's specific risk class.

***Asset Allocation*** – A process that determines the optimal distribution of funds among various types of assets that offer the highest probability of consistently achieving the investment objectives within the confines of a predetermined level of risk. The process often includes the use of a computer model program to assist in the processing of a myriad of data related to both the asset and liability side of the balance sheet of the fund.

***Beta*** - Measures the risk level of the manager. Beta measures the systematic risk, or the return that is attributable to market movements. In contrast, alpha measures the nonsystematic return of the portfolio, and standard deviation measures the volatility of a portfolio's returns compared to the average return of the portfolio. A beta equal to one indicates a risk level equivalent to the market. Higher betas are associated with higher risk levels, while lower betas are associated with lower risk levels.

***Downside Risk-Adjusted Return (DS RAR)*** - The return of the portfolio after being adjusted for downside risk. It is calculated by taking the return earned, measured as a fraction, minus a risk tolerance variable multiplied by the downside variance (or downside risk squared). The value of risk tolerance depends on the investor's degree of risk aversion. In M-Search, a value of 3.0 is used because it is the average risk-averse measure for the average investor (as determined by the Pension Research Institute).

***Downside Probability*** - Measures the probability of an investor's returns falling below a target mark, such as the minimum acceptable return (MAR), in a given year. It does not measure how far that return may fall.

***Duration*** - It is a weighted-average term-to-maturity of the bond's cash flows, the weights being the present value of each cash flow as a percentage of the bond's full price or, put another way, the number of years required to recover the true cost of a bond, considering the present value of all coupon and principal payments received in the future. Duration can be used to compare bonds with different issue and maturity dates, coupon rates, and yields-to-maturity. The duration of a bond is expressed as a number of years from its purchase date. In general, duration rises with maturity, falls with the frequency of coupon payments, and falls as the yield rises (the higher yield reduces the present values of the cash flows.)

***EAFE World Index (ND)*** - Consists of all of the developed markets in the world. ND stands for Dollar Denominated.

***Growth Managers*** - Equity managers who attempt to invest in companies with above average growth prospects. Generally, growth managers invest in:

- Companies which have exhibited above average growth in the past, and/or
- Companies which may not have experienced historical above average growth but are expected to do so in the future

Growth managers are generally willing to pay higher market multiples for the superior growth rates and profitability they anticipate. As a result, stocks in growth portfolios will tend to have high price/earnings ratios and will generally pay little-to-no dividends.

**Modern Portfolio Theory** - The quantification of the relationship between risk and return and the assumption that investors must be compensated for assuming risk. Portfolio theory departs from traditional security analysis in shifting emphasis from analyzing the characteristics of individual investments to determining the statistical relationships among the individual securities that comprise the overall portfolio. The portfolio theory approach has four basic steps: *security valuation*- describing a universe of assets in terms of expected return and expected risk; *asset allocation decision*-determining how assets are to be distributed among classes of investment, such as stocks or bonds; *portfolio optimization*-reconciling risk and return in selecting the securities to be included, such as determining which portfolio of stocks offers the best return for a given level of expected risk; and *performance measurement*-dividing each stock's performance (risk) into market-related (systematic) and industry/security-related (residual) classifications.

**R-Squared Statistic** - A statistic that measures the reliability of alpha and beta in explaining the return of a manager as a linear function of the market. It is produced by regression analysis.

If you were searching for a manager with a particular style, for example a growth manager, you would expect that manager to have an R-Squared that is high relative to a growth index if the manager has a diversified portfolio. If the manager's return is explained perfectly, the R-Squared would equal 100, while an R-Squared of zero would indicate that no relationship exists between the manager and the linear function. Higher R-Squared values indicate more reliable alpha and beta statistics and are useful in assessing a manager's investment style.

**Sharpe Ratio** – Risk is measured using the standard deviation of the returns in the portfolio. The Sharpe Ratio relates the difference between the portfolio return and the risk-free rate to the standard deviation of that difference for a given time period.

**Standard Deviation** - A gauge of risk that measures the spread of the difference of returns from their average. The more a portfolio's returns vary from its average, the higher the standard deviation. It is important to note that higher than average returns affect the standard deviation just as lower than average returns. Thus, it is not a measure of downside risk. Since it measures total variation of return, standard deviation is a measure of total risk, unlike beta, which measures market risk. In statistical terms, standard deviation is the square root of the variance, which is a measure of dispersion.

**Style Analysis** - A concept developed by Nobel Laureate William Sharpe, returns-based style analysis is a type of a multi-factor style analysis in which the multiple factors are the returns of benchmark indexes. It is a method of evaluating a portfolio's style and "determining a fund's exposure to changes in the returns of its benchmark indexes."

A quadratic optimizer is used to determine the minimum variance between a manager's set of returns and a composite of index returns. Taking the square root of the variance yields the standard deviation of the differences, or tracking error. Therefore, the weightings in the composite are adjusted such that the minimal tracking error is found for the model.

**Tracking Error** – A measure of how closely a manager's returns track the returns of a benchmark. The benchmark may be either a single index or the optimal blend of indexes. The tracking error is the annualized standard deviation of the differences between the manager's and the benchmark's quarterly returns. If a manager tracks a benchmark closely, then tracking error will be low. If a manager tracks a benchmark perfectly, then tracking error will be zero.

**Value Managers** - Equity managers who generally base their investment decisions on a stock's current market value. Often referred to as "price-driven" investors, these managers look for undervalued stocks, focusing on issues with low price/earnings ratios and/or above-average dividend yields as indicators of value.

**Worst Quarter** - The smallest single quarterly return reported by a manager during the specified time period. While a single quarter is a very brief period to evaluate, this measure of extremes may be used to gauge risk, especially against similar managers or the market.

**Worst 4 Quarters** - The smallest return experienced over any four consecutive quarters. The four consecutive quarters do not necessarily correspond with calendar years. Often an investor examines the worst performance over a year, which is usually a calendar year. This item allows you to base a criterion on the worst four quarters, which is a valuable measure of risk in the portfolio.