**IMPORTANT**: The projections or other information generated by the TD Ameritrade Goal Planning tool (“Goal Planning”) regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results.

The return assumptions in Goal Planning are not reflective of any specific product, and do not include any fees or expenses that may be incurred by investing in specific products. The actual returns of a specific product may be more or less than the returns used in Goal Planning. It is not possible to directly invest in an index. Financial forecasts, rates of return, risk, inflation, and other assumptions may be used as the basis for illustrations. They should not be considered a guarantee of future performance or a guarantee of achieving overall financial objectives. Past performance is not a guarantee or a predictor of future results of either the indices or any particular investment.

Goal Planning results may vary with each use and over time.

**This Content Is For Self-Directed Use Only. It Is Not Intended As A Recommendation.**

**ASSUMPTIONS AND LIMITATIONS**

**Information Provided by You**

Information that you provided about your assets, liabilities, financial goals, and personal situation are key assumptions for the calculations and projections in this report. Please review the information you provided to verify the accuracy of these assumptions. If any of the assumptions are incorrect, you should notify your Financial Consultant. Even small changes in assumptions can have a substantial impact on the results shown in this report. The information provided by you should be reviewed periodically and updated when either the information or your circumstances change.

All asset, liability, and net worth information included in this report was provided by you and is not a substitute for the information contained in the official account statements provided to you by your account custodians. The current asset and liability data and values contained in those account statements should be used to update the asset and liability information included in this report, as necessary.

If you provide information concerning the potential future after-tax amounts received from the anticipated sale of an Other Asset, exercising of Stock Options grants, or proceeds from Restricted Stock grants, please understand that TD Ameritrade makes no recommendations as to if/when such transactions should be made.

If you provide information concerning potential beneficiaries and/or other estate planning considerations, please understand that such information is included for plan analysis within the tool only. Any information provided does not update the official beneficiary information you may have on file for your TD Ameritrade accounts. TD Ameritrade does not provide estate/legal advice.

**Assumptions and Limitations**

Goal Planning offers several methods of calculating results, each of which provides one outcome from a wide range of possible outcomes. All results in this report are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. All results use simplifying assumptions that do not completely or accurately reflect your specific circumstances. No plan or report has the ability to accurately predict the future. As investment returns, inflation, taxes, and other economic conditions vary from the Goal Planning assumptions, your actual results will vary (perhaps significantly) from those presented in this report.

The annual inflation rate used is 2.20%.

All Goal Planning calculations use asset class returns, not returns of actual investments. The projected return assumptions used are provided through an agreement with Morningstar Investment Management LLC, a registered investment advisor and subsidiary of Morningstar, Inc. The projected return assumptions are estimates based on average annual return for each asset class:

<table>
<thead>
<tr>
<th>Asset Class Name</th>
<th>Projected Annual Return Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Taxable</td>
</tr>
<tr>
<td>Domestic Large Cap Equities</td>
<td>5.11%</td>
</tr>
<tr>
<td>Domestic Mid Cap Equities</td>
<td>5.47%</td>
</tr>
<tr>
<td>Domestic Small Cap Equities</td>
<td>6.22%</td>
</tr>
<tr>
<td>Domestic Fixed Income</td>
<td>3.50%</td>
</tr>
<tr>
<td>Domestic High Yield</td>
<td>4.43%</td>
</tr>
<tr>
<td>International Developed Equities</td>
<td>6.38%</td>
</tr>
<tr>
<td>Emerging Market Equities</td>
<td>6.19%</td>
</tr>
<tr>
<td>International Developed Fixed Income</td>
<td>2.94%</td>
</tr>
<tr>
<td>Emerging Market Fixed Income</td>
<td>4.91%</td>
</tr>
<tr>
<td>Specialty</td>
<td>3.36%</td>
</tr>
<tr>
<td>Cash &amp; Cash Alternatives</td>
<td>2.36%</td>
</tr>
</tbody>
</table>
The portfolio returns are calculated by weighting individual return assumptions for each asset class according to your portfolio allocation. The portfolio returns may have been modified by including adjustments to the total return and the inflation rate. The portfolio returns assume reinvestment of interest and dividends at net asset value without taxes, and also assume that the portfolio has been rebalanced as required to reflect the initial allocation. No portfolio rebalancing costs, including taxes, if applicable, are deducted from the portfolio value. No portfolio allocation eliminates risk or guarantees investment results.

TD Ameritrade and Morningstar, Inc., are separate, unaffiliated companies. TD Ameritrade does not provide recommendations for any products or securities through this tool.

**Risks Inherent in Investing**

Investing in bonds (also called fixed income securities) involves interest rate risk, credit risk, and inflation risk. Interest rate risk is the possibility that bond prices will decrease because of an interest rate increase. When interest rates rise, bond prices and the values of fixed income securities fall. When interest rates fall, bond prices and the values of fixed income securities rise. Credit risk is the risk that a company will not be able to pay its debts, including the interest on its bonds. Inflation risk is the possibility that the interest paid on an investment in bonds will be lower than the inflation rate, decreasing purchasing power.

Cash alternatives typically include money market securities and U.S. treasury bills. Investing in such cash alternatives involves inflation risk. In addition, investments in money market securities may involve credit risk and a risk of principal loss. Because money market securities are neither insured nor guaranteed by the Federal Deposit Insurance Corporation or any other government agency, there is no guarantee the value of your investment will be maintained at $1.00 per share. U.S. Treasury bills are subject to market risk if sold prior to maturity. Market risk is the possibility that the value, when sold, might be less than the purchase price.

Investing in stocks involves volatility risk, market risk, business risk, and industry risk. The prices of most stocks fluctuate. Volatility risk refers to the amount of uncertainty regarding the potential for the value of a stock to fall. Market risk is the chance that the prices of all stocks will fall due to conditions in the economic environment. Business risk is the chance that a specific company's stock will fall because of issues affecting it. Industry risk is the chance that a set of factors particular to an industry group will adversely affect stock prices within the industry. (See "Asset Class—Stocks" in the Glossary section of this Important Disclosure Information for a summary of the relative potential volatility of different types of stocks.)

International investing involves additional risks including, but not limited to, changes in currency exchange rates, differences in accounting and taxation policies, and political or economic instabilities that can increase or decrease returns.

**Report Is a Snapshot and Does Not Provide Legal, Tax, or Accounting Advice**

This report provides a snapshot of your current financial position and can help you to focus on your financial resources and goals, and to create a plan of action. Because the results are calculated over many years, small changes can create large differences in future results. You should use this report to help you focus on the factors that are most important to you. This report does not provide legal, tax, or accounting advice. Before making decisions with legal, tax, or accounting ramifications, you should consult appropriate professionals for advice that is specific to your situation.

**METHODOLOGY**

Goal Planning offers several methods of calculating results, each of which provides one outcome from a wide range of possible outcomes. The methods used are: “Average Returns,” “Bad Timing,” “Class Sensitivity,” and “Monte Carlo Simulations.”

**Results Using Average Returns**

The Results Using Average Returns are calculated using one average return for your pre-retirement period and one average return for your post-retirement period. Average Returns are a simplifying assumption. In the real world, investment returns can (and often do) vary widely from year to year and vary widely from a long-term average return.

**Results with Bad Timing**

Results with Bad Timing are calculated by using low returns in one or two years, and average returns for all remaining years of the Plan. For most Plans, the worst time for low returns occurs when you begin taking substantial withdrawals from your portfolio. The Results with Bad Timing assume that you earn a low return in the year(s) you select and then an Adjusted Average Return in all other years. This Adjusted Average Return is calculated so that the average return of the Results with Bad Timing is equal to the return(s) used in calculating the Results Using Average Returns. This allows you to compare two results with the same overall average return, where one (the Results with Bad Timing) has low returns in one or two years.

The default for the first year of low returns is two standard deviations less than the average return and the default for the second year is one standard deviation less than the average return.

**Results Using Class Sensitivity**

The Results Using Class Sensitivity is calculated by using different return assumptions for one or more asset classes during the years you select. These results show how your Plan would be affected if the annual returns for one or more asset classes were different than the average returns for a specified period in your plan.

**Results Using Monte Carlo Simulations**

Monte Carlo simulations are used to show how variations in rates of return each year can affect your results. A Monte Carlo simulation calculates the results of your Plan by running it many times, each time using a different sequence of returns. Some sequences of returns will give you better results, and some will give you worse results. These multiple trials provide a range of possible results, some successful (you would have met all your goals) and some unsuccessful (you would not have met all your goals). The percentage of trials that were successful...
is the probability that your plan, with all its underlying assumptions, could be successful. In Goal Planning, this is the Probability of Success. Analogously, the percentage of trials that were unsuccessful is the Probability of Failure. The Results Using Monte Carlo Simulations indicate the likelihood that an event may occur as well as the likelihood that it may not occur. In analyzing this information, please note that the analysis does not take into account actual market conditions, which may severely affect the outcome of your goals over the long-term.

The Monte Carlo results are shown where the Probability of Success is indicated on a meter displaying three zones—the Confidence Zone, Below Confidence Zone, and Above Confidence Zone. The Monte Carlo Confidence Zone in Goal Planning defines a range of Monte Carlo Probabilities of Success that are reasonable for investors in your age group, but may or may not be right for you. You should choose a target Probability of Success that is comfortable for you, based on your goals, assets, time horizon, risk profile, and other factors unique to you.

**PRESENTATION OF RESULTS**

The Results Using Average Returns, Bad Timing, and Class Sensitivity display the results using an “Estimated % of Goal Funded” and a “Safety Margin.”

**Estimated % of Goal Funded**

For each Goal, the “Estimated % of Goal Funded” is the sum of the assets used to fund the Goal divided by the sum of the Goal’s expenses. All values are in current dollars. A result of 100% or more does not guarantee that you will reach a Goal, nor does a result under 100% guarantee that you will not. Rather, this information is meant to identify possible shortfalls in this Plan, and is not a guarantee that a certain percentage of your Goals will be funded. The percentage reflects a projection of the total cost of the Goal that was actually funded based upon all the assumptions that are included in this Plan, and assumes that you execute all aspects of the Plan as you have indicated.

**Safety Margin**

The Safety Margin is the estimated value of your assets at the end of this plan, based on all the assumptions included in this report. Only you can determine if that Safety Margin is sufficient for your needs.

**Bear Market Loss and Bear Market Test**

The Bear Market Loss shows how a portfolio might have been affected during the worst bear market since the Great Depression. Depending on the composition of the portfolio, the worst bear market is either the "Great Recession" or the "Bond Bear Market."

The Great Recession, from November 2007 through February 2009, was the worst bear market for stocks since the Great Depression (1929-1939). In Goal Planning, the Great Recession Return is the rate of return, during the Great Recession, for a portfolio comprised of cash, bonds, stocks, and alternatives, with an asset mix equivalent to the portfolio referenced.

The Bond Bear Market, from July 1979 through February 1980, was the worst bear market for bonds since the Great Depression (1929-1939). In Goal Planning, the Bond Bear Market Return is the rate of return, for the Bond Bear Market period, for a portfolio comprised of cash, bonds, stocks, and alternatives, with an asset mix equivalent to the portfolio referenced.

The Bear Market Loss shows: 1) either the Great Recession Return or the Bond Bear Market Return, whichever is lower, and 2) the potential loss, if you had been invested in this cash-bond-stock-alternative portfolio during the period with the lower return. In general, most portfolios with a stock allocation of 20% or more have a lower Great Recession Return, and most portfolios with a combined cash and bond allocation of 80% or more have a lower Bond Bear Market Return.

The Bear Market Test, included in the Stress Tests, examines the impact on your Plan results if an identical Great Recession or Bond Bear Market, whichever would be worse, occurred this year. The Bear Market Test shows the likelihood that you could fund your Needs, Wants, and Wishes after experiencing such an event.

The Bear Market Loss and Bear Market Test use historical returns calculated from indices. These results are calculated using only four asset classes: Cash, Bonds, Stocks, and Alternatives. The indices and the resulting returns for the Great Recession and the Bond Bear Market are:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>Ibbotson U.S. 30-day Treasury Bills</td>
<td>2.31%</td>
<td>7.08%</td>
</tr>
<tr>
<td>Bond</td>
<td>Ibbotson Intermediate-Term Government Bonds—Total Return</td>
<td>15.61%</td>
<td>-8.89%</td>
</tr>
<tr>
<td>Stock</td>
<td>S&amp;P 500—Total Return</td>
<td>-50.95%</td>
<td>14.61%</td>
</tr>
<tr>
<td>Specially</td>
<td>HFRI FOF: Diversified* S&amp;P GSCI Commodity—Total Return**</td>
<td>-19.87%</td>
<td>N/A</td>
</tr>
</tbody>
</table>

*Hedge Fund Research Indices Fund of Funds
**S&P GSCI was formerly the Goldman Sachs Commodity Index

Because the Bear Market Loss and Bear Market Test use the returns from asset class indices rather than the returns of actual investments, they do not represent the performance for any specific portfolio, and are not a guarantee of minimum or maximum levels of losses or gains for any portfolio. The actual performance of your portfolio may differ substantially from those shown in the Great Recession Return, the Bond Bear Market Return, the Bear Market Loss, and the Bear Market Test.
**RISK ASSESSMENT**

The Risk Assessment highlights some—but not all—of the trade-offs you might consider when deciding how to invest your money. This approach does not provide a comprehensive, psychometrically-based, or scientifically-validated profile of your risk tolerance, loss tolerance, or risk capacity, and is provided for informational purposes only.

Based on your specific circumstances, you must decide the appropriate balance between potential risks and potential returns. Goal Planning does not and cannot adequately understand or assess the appropriate risk/return balance for you. Goal Planning requires you to select a risk score. Once selected, three important pieces of information are available to help you determine the appropriateness of your score: a cash-bond-stock portfolio, the impact of a Bear Market Loss (either the Great Recession or the Bond Bear Market, whichever is lower) on this portfolio.

Goal Planning uses your risk score to select a risk-based portfolio on the Portfolio Table page. This risk-based portfolio selection is provided for informational purposes only, and you should consider it to be a starting point for conversations with your Financial Consultant. It is your responsibility to select the Target Portfolio you want Goal Planning to use. The selection of your Target Portfolio, and other investment decisions, should be made by you, after discussions with your Financial Consultant and, if needed, other financial and/or legal professionals.

After a report is produced, you may also be able to access the tool without Financial Consultant assistance. Please understand that any modifications to information you might make to evaluate "what-if" scenarios will not be reflected in your official report, nor will they change the client personal or financial information on file with TD Ameritrade. Please contact your Financial Consultant if you need to make permanent information changes.