by Hayden Burrus, FCAS, MAAA
and Tim Deutsch

ICCFA Magazine author spotlight

561.279.2323
hburrus@hbactuarial.com

➤Burrus is principal actuary for HB Actuarial Services, Delray Beach, Florida.

www.hbactuarial.com

➤He is a fellow of the Casualty Actuarial Society and a member of the American Academy of Actuaries.

➤He has been actively researching and speaking about this topic for more than 10 years. He wrote a three-part series on cemetery endowed care funds for ICCFA Magazine in 2001. He has spoken about the importance of endowed care adequacy analysis at numerous industry events, most recently at the 2010 ICCFA Convention.

949.951.9102
t.deutsch@orccd.com

➤Deutsch has been general manager of the Orange County Cemetery District, California, since February 2006. The three public cemeteries have burials dating back to the 1870s.

www.occemeterydistrict.com

➤Deutsch has more than 22 years of experience in the public sector, managing facilities such as cemeteries, water and wastewater systems, office buildings and oil and gas production wells.

➤He has a bachelor's degree in business administration and a master's of public administration degree, both from California State University of Long Beach. He has a special district administrators certificate from the California Special District Association.

MORE ON THIS SUBJECT

➤There will be three sessions on endowment care/trust funds at the ICCFA 2011 Convention & Expo, **March 8-11, Mandalay Bay, Las Vegas.** For more information, turn to page 64.

How much money is enough? It can be an especially difficult question when you're talking about a cemetery endowment care fund that's supposed to last forever. Orange County's Cemetery District went in search of an answer.

Endowment care long-term adequacy analysis: A case study

(Editor's note: Deutsch's comments are in blue; Burrus' in black.)

The most important business question you ask about your "perpetual" or endowment care fund is, "Do we have enough?" When you ask that question, you're asking a more difficult question than executives in most industries are accustomed to asking. You want to know if your cemetery has enough money set aside to take care of itself forever.

The best way to answer the question is to forecast endowment care fund balances for many years into the future. A detailed fund balance sheet forecast can tell you if you have enough, how likely you are to run out, and when (if ever) you are likely to run out of funds.

A significant benefit of a very long-term endowment care analysis is that you'll find out now where you are heading so you can make some changes if you don't like what you see coming 20, 50 or 100 years down the road.

Why is it important?

Over the past 10 years or so, I have interacted with numerous cemetery managers and had the chance to learn about the plans and goals they have for their businesses. The vast majority of cemetery managers have the expectation that their endowment care funds will cover their expenses for the foreseeable future. Some wrongly believe that if expenses are covered for the foreseeable future, that means their endowment funds are adequate.

The problem with this view is that solvency for the foreseeable future does not guarantee long-term (100+ years) solvency. The actions required now to guarantee long-term solvency are usually quite minor, but if you ignore the issue of long-term solvency, the changes required will become increasingly painful.

And, of course, we've all seen what happens if the long-term solvency of an endowment care fund goes unaddressed for too long. Eventually the cemetery either falls into disrepair or becomes a ward of state or local governments, a religious order or historical society.

In any event, the cemetery becomes dependent on the financial means and goodwill of others, rather than on the contributions made by the cemetery's [illegible] owners.

The Board of Trustees of the Orange County Cemetery District, which owns and operates three public cemeteries in Orange County, California, has always wondered if the district's endowment fund will be enough for future care and maintenance of the cemeteries.

The district had performed some internal studies, analyzing the current balances and future funds, but without much thought and consideration to other factors that could affect cash flow.

The board was never comfortable with the internal projections and felt the need to hire an expert in the field of perpetual care studies.

When/how often to perform an analysis

Most endowment care funds have never undergone an adequacy study. This is primarily because the analytic tools and processes required for such a study did not exist until eight to 10 years ago.

Even with the tools now available, many managers have had a difficult time jumping through all of the hoops required

The main goal of the analysis was to determine our financial stability now and in the future. We also wanted it to provide the district with a business plan, including recommendations the board could consider as to current and future fees, rates and investment policies. —*Tim Deutsch*

to perform an initial analysis. Finding the appropriate expertise and devoting enough management time to this issue are among the top roadblocks to performing an initial study.

In addition, some managers have to deal with the perception among some of their staff that an adequacy study is unnecessary: "We've gone this far without one, so we probably don't need one."

In any event, for the vast majority of cemeteries with funds that have never undergone this analysis, the time to perform one is now.

Any perpetual care adequacy analysis will forecast balance sheet items not only for the long-term, but also for the short-term. Cemetery management will be able to see how well the short-term forecasts actually hold up.

Over time, actual results will begin to deviate from forecasts. When these deviations become significant enough, you should start to explore updating your analysis with current data.

In this case study, the Orange County Cemetery District's (OCCD's) investment practices are quite conservative, so we don't expect significant deviations in the near term (up to three years) on endowment care fund balances resulting from investment or sales activity.

Also, over time, managers make decisions that directly impact the endowment care fund. Some significant items that call for an updated analysis include:

- changes in contribution rates;
- unforeseen changes in the trust fund balance;
- changes in investment practices;
- changes in inventory;
- changes in the maintenance budget; and
- large unforeseen maintenance expenses.

OCCD is considering making a number of changes that would materially impact the fund's cash flows. If the district goes forward with any of these activities, it should update its perpetual care analysis to consider the impact of these changes.

In general, an endowment care adequacy analysis should be updated at least every three to five years.

Decision to go ahead

After careful consideration of the need and desire to have an expert opinion on the district's endowment fund, the OCCD Board of Trustees approved the agreement to proceed with the analysis.

As the district's general manager, I was pleased at the board's support for performing this analysis. In our business, we need to consider not only what is best for the families now, but for friends and relatives who will be visiting in the future. We want to make sure the care and maintenance of the cemeteries will continue to be a priority and that future staff and board members will have the necessary funds.

Initial goals of analysis

The main goal of the analysis was to determine our financial stability now and in the future. We also wanted it to provide the district will a business plan, including recommendations the board could consider as to current and future fees, rates and investment policies.

Data-gathering

Data gathering is one of the most critical stages of an analysis. In this case, we spent quite a bit of time discussing what we were going to do. Many of our data discussions centered around two issues.

First, we needed to determine the portion of annual expenses that truly are "maintenance expenses" and will continue in perpetuity, meaning they will need to be covered by the endowment fund.

Second, we needed to identify all of the periodic one-time or infrequent maintenance expenses the endowment fund also would need to cover.

Teasing out actual maintenance expenses often can be a challenge, because expense data typically isn't catalogued or separated from other cemetery expenses.

For the most part, we determined the maintenance expenses by a process of subtraction. We started with the total OCCD budget. We then identified the major non-maintenance expense items as sales expense and expense related to burying the deceased.

Tim was able to subtract out the non-maintenance expense items to arrive at an estimated annual maintenance expense budget. We used this estimate and trended the budget forward for inflation.

Usually there are more one-time/infrequent expenses than initially estimated. For example, after several brainstorming sessions during which we worked on identifying these expenses, we found 22 different items.

The cost of these items, in today's dollars, ranged from $12,000 (painting a mausoleum) to $200,000 (office restructuring). The period (number of years between when these expenses are incurred) ranged from five years (asphalt repairs) to 50 years (re-drill water well).

The average annual cost of all of these infrequent expenses is approximately 5 percent of the OCCD annual maintenance budget.

In addition to calculating the maintenance expenditures, the district had to determine the rate of sales and services so that we could provide somewhat accurate information on when our space inventory would be depleted, which would affect general fund revenue as well as endowment revenue.

There was no magical way to determine the sales rate; we chose to look at our sales history for the past 10 years.

Shortly after preparing the first draft of the adequacy analysis, Tim and I identified another important aspect of the data-gathering process: identifying the actual cash flows to and from OCCD. Like many large organizations, OCCD has several accounts and funds with which to hold deposits and pay expenses.

First draft

Our first draft was more than 100 pages of detailed analysis. In my view, the most valuable contribution the first draft made was to thoroughly document my initial understanding of all cash flows affecting the endowment care fund.

Once this initial understanding was documented to Tim, he provided me with answers to all of the questions I should have asked but didn't. Among the many specific pieces of information he provided about the OCCD's cash flows was the fact that the district has decided not to touch its endowed care fund until it absolutely has to, and that it separates its assets into three distinct funds:

1. General funds (to be used first);

2. Endowed care income fund (to be used when the general funds run out); and

3. Endowed care principal fund (principal will never be used).

The first draft of the actuarial model did not consider the segregation of funds as described above. As a result, the forecasts of cash flows to the endowed care fund were not consistent with the actual cemetery policies and procedures regarding management of the three funds, and our initial conclusions were not meaningful.

In my view, even though the first-draft results were not meaningful, the process and Tim's detailed review of this draft were invaluable. The review allowed both of us to ensure that all information affecting the future of OCCD's endowment care fund would be included in the actuarial model supporting future drafts of the report.

In reviewing the first draft, the district was pleasantly surprised by the projections, which indicated a high probability that the district would not need to begin using endowment income funds for 30 to 40 years if rates and fees were increased to keep up with inflation.

It indicated that with some other subtle changes, such as a longer-term investment strategy and changes to the way the endowment fee is assessed, the district had the ability to extend the life of the endowment income fund.

The district did ask to see an analysis of some additional scenarios and what affect they would have on the numbers. For example, we wanted to see what effect it would have if the district used capital improvement funds for future maintenance (the OCCD has approximately $3 million in a designated reserve for capital expenses) and if the endowment fee were based on a fixed percentage of the price of the interment space.

Final draft and take-aways

Tim and I agreed that the final draft accurately modeled the OCCD's expected cash flows. It includes conclusions about the likely fund balances up to 100 years in the future (2010 to 2109).

There is no such thing as a "sure thing," especially when forecasting fund balances 100 years in the future, so we estimated the probability of certain things, such as fund depletion, occurring. It is up to OCCD management to decide if the probability of fund depletion in a given time frame is acceptably low.

For the OCCD, one of the more important conclusions we highlighted in the final draft is quoted below:

"Our study indicates a 63 percent likelihood of all OCCD funds running out at some time before 2109 and a 10 percent likelihood of funds running out by 2063 (essentially the same time as when inventory is depleted). We believe this risk of insolvency is unacceptably high even if the date of insolvency is not expected to occur for many years in the future.

"Because the date of insolvency is not expected for many years in the future, relatively modest changes, if they are made now, can significantly reduce the likelihood of funds running out."

The OCCD decided that a 63 percent probability of maintenance funds running out in less than 100 years was unacceptably high. As a result they decided to explore some policy changes that would affect fund balances.

Together we brainstormed what changes would be both workable and significantly helpful to the fund's long-term financial solvency. We plugged those proposed changes into the actuarial model previously built and came up with significantly more favorable conclusions, including this one quoted below:

"In this scenario, the OCCD probably does have the funding to pay all of its obligations, including perpetual care, for the 100-year time horizon in our study (55 percent chance). It is expected that the endowment care income fund balance will be $91 million at year end 2109 (the conclusion of this study)."

The discussion above shows that OCCD chose to undertake this study at an opportune time. There are no current cash-flow issues to OCCD and won't be for several decades.

However, if they make no changes to the policies governing fund cash flows, dire financial challenges will appear down the road. OCCD took the effort to identify modest, relatively painless changes to make now that will make all the difference down the road. Once these changes are implemented, we can be comfortable that even if nothing else is done, the OCCD trust fund will probably have enough money to pay all of its obligations for at least the next 100 years.

Plan of action

Since the OCCD board reviewed and accepted the results of the analysis, the district has made some changes to its investment policy. For example, longer-term securities now can be considered, especially since cash flow is not an issue and current law governs the use of the endowment principal fund. The district approved the new policy in August, with changes implemented later in the year.

The district also is performing an internal study of its current rates and fees, comparing them to private cemeteries in Orange County and public cemeteries in California. The outcome of the study may allow the district to collect more for interment space and the applicable endowment fee. Inflation needs to be taken into account.

The district also will be looking at its ongoing maintenance and operational programs to look for ways to improve efficiency, thereby decreasing expenses.

Takeaways

Perpetual care analyses require a concentrated effort from people in a variety of disciplines. While the future cannot be predicted with absolute certainty, an analysis with probabilities attached to important outcomes can help you see if your endowment care fund is headed in the right direction.

If changes to management policies affecting the balance of the fund must be made, they should be made sooner rather than later, because minor changes made early enough can significantly enhance the long-term solvency of the fund.

The district is fully aware of the need to make changes sooner rather than later and will be working toward implementing changes that will have long-lasting effects on OCCD finances in the future.

The trustees realize they need to be good stewards of cemetery operations and finances so that future boards will have the ability to properly maintain all three of the historic cemeteries forever.