

# PERS Funding Options

## January 2014

### Facts and Their Implications

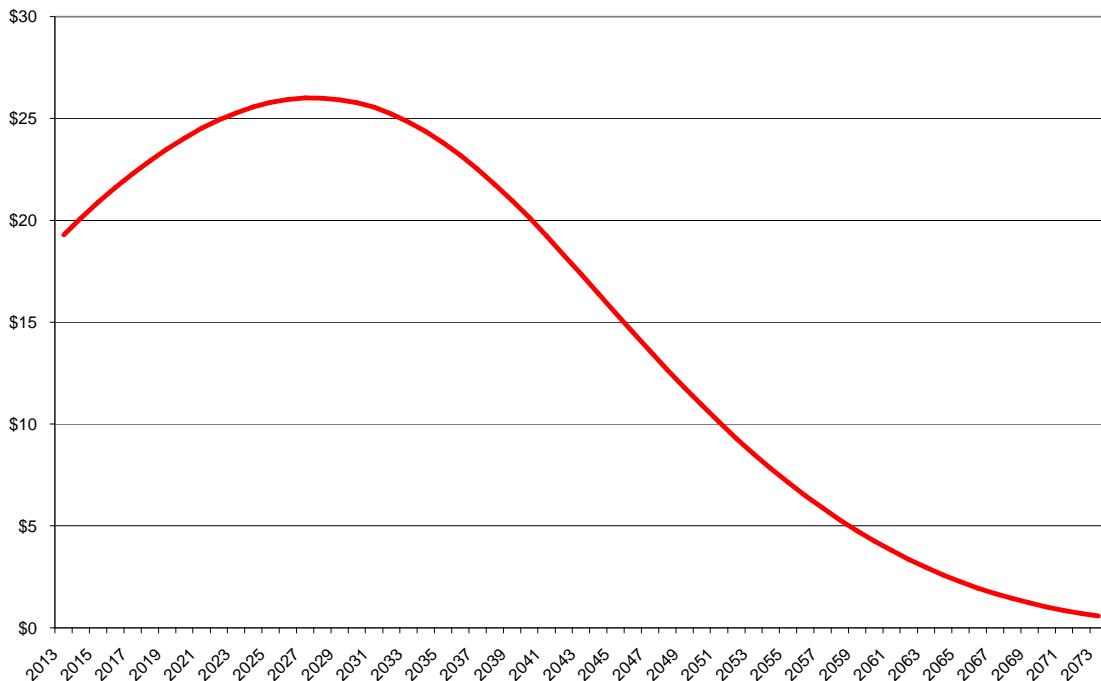
#### The accrued liability curve is identical under every funding option

Accrued liability is the expected value of pension benefits earned through a particular point in time. That value is critical to actuarial modeling efforts because a typical defined benefits retirement system strives to have assets equal to accrued liability.

Each year, employees with pension rights earn additional benefits. This causes accrued liability to trend upward. As retirees age (or die), accrued liability declines. In a retirement system open to new entrants, the upward influences outweigh the downward influences and accrued liability climbs ever-upward.

Alaska closed the Public Employees Retirement System (PERS) to new entrants in 2006. As the number of active employees with pension rights declines, the upward trend in accrued liability will slow. When there are few pension rights being accrued—and as retirees approach their life expectancy—accrued liability will turn downward and will end up at zero when all accrued benefits have been paid. The projected accrued liability curve for PERS is shown in Figure 1.

Figure 1. Accrued Liability--PERS  
(\$ billions)



Projections of accrued liability depend on inflation rates, life expectancy and several other assumptions, so the precise position of the curve is unknown. The important points are:

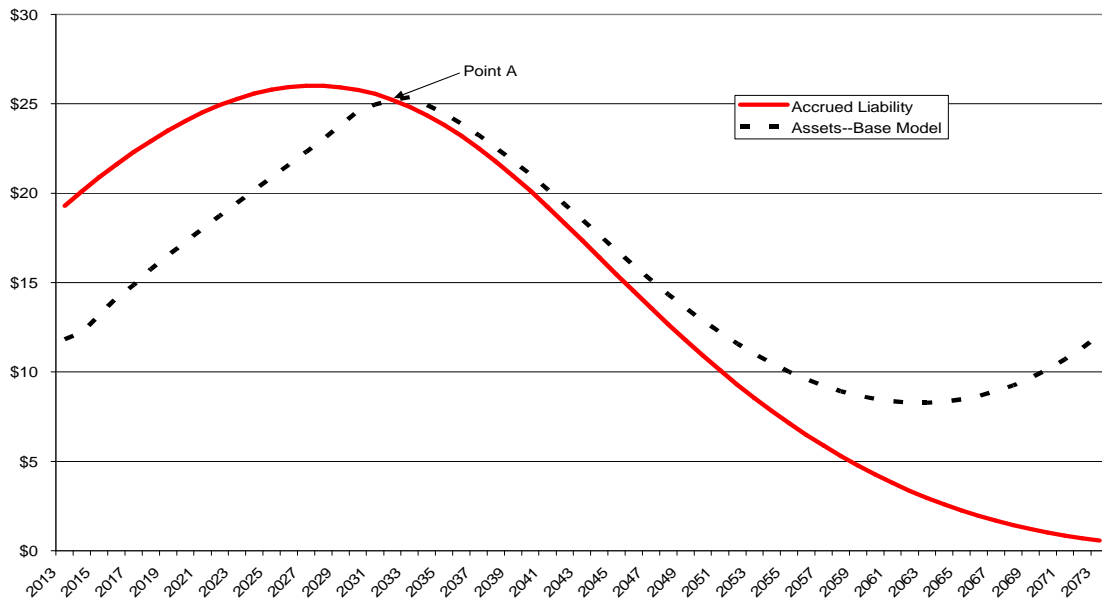
1. The general shape of the curve is predetermined because the PERS defined benefits plan is closed to new entrants.
2. We are essentially stuck with the predetermined benefits; we must pay the full cost of all future benefits regardless of which funding option is chosen because there is no practical way to reduce benefit accrual.
3. Because the amount and timing of benefits that must be paid is identical for each proposal, the question of cost is not “How does total cost compare with other proposals?” it is “Who pays, how much do they pay, and when do they pay it?”

<b>The standard actuarial approach to funding retirement systems does not necessarily apply to a closed system</b>
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The standard actuarial approach to funding a defined benefits retirement system is to set contribution rates at a level that attempts to generate assets equal to accrued liability. If there is unfunded liability (that is, if assets are less than accrued liability) contribution rates are set at a level that fills the liability gap over a 25-year period. Filling this gap is essential in an open system because accrued liability does not turn downward as in Figure 1. In an open system, assets must “chase the liability curve upward” because “catching the curve on the way down” is not an option (because the curve does not turn downward).

But PERS is closed to new entrants, so just about the time assets reach the accrued liability curve, there will be no active defined benefits employees remaining. The standard approach concludes that having no active defined benefits employees means contributions will be zero. Effectively, the standard approach assumes the trust fund must contain sufficient money—about \$25 billion—to pay all future benefits at the point when the payroll of defined benefits employees nears zero. This situation is shown as point A in Figure 2.

**Figure 2. PERS Assets Compared to Accrued Liability--  
Base Model (i.e., Current Funding Mechanism) (\$ billions)**



This assumption is false. We do not need a huge fund balance that allows us to coast for 40 years with no contributions.

In fact, the “big balance” approach will almost certainly not work. As we have seen, assumptions regarding earnings on PERS assets have been far from accurate and earnings have been far from stable. Yet the standard approach relies on meeting an annual 8% rate of return target for 40 years. If earnings were to fall below the target, the fund balance would be insufficient to pay benefits. Additional money would have to come from somewhere outside the system in order to remain solvent. There are only two practical choices for that: an assessment on employers or state assistance.

On the flip side, it is possible that returns could exceed benefit payments in future years, so that the fund balance becomes too large. Since contributions are zero at this point, there would be no way to reduce the fund balance short of earning less or increasing benefits. This situation is shown in Figure 2, which shows that annual earnings are expected to exceed annual benefit payments after about 2050.

The point of this discussion is to show that building up a trust fund balance that keeps us on a glide-path for 40 years is virtually impossible.

Building a large trust balance is also unaffordable.

## **Affordability is a key element of a retirement funding solution**

There would be little reason to address retirement system funding for at least ten years if the State could afford the anticipated level of state assistance. But the sad fact is that the state is facing massive budget deficits. State retirement assistance—payments into retirement systems on behalf of employers—will soon exceed \$1 billion annually and is a major contributor to the projected budget deficits. State assistance to PERS (in the base model) is projected to total almost \$7 billion during the next 15 years.

## **“Who pays, how much do they pay, and when do they pay it?” are the critical issues in finding an affordable solution**

The State now contributes to retirement systems on behalf of employers. Employer rates in PERS are capped at 22%. Required contribution rates are substantially higher than the caps, so the State pays a disproportionate share of retirement costs. Here’s how it works.

The State has about 60% of the PERS payroll. If all benefit payments were covered by employer contributions, every employer’s share of benefit costs would be proportional to payroll. That means the State would be responsible for paying about 60% of future benefit costs. Under the current funding plan, the State will pay nearly 80% of future benefit costs.

It should be no surprise that state assistance shifts costs to the State—by definition, state assistance is simply contributions that are not matched by other employers. For every option to be compared, the state share of costs goes up as state assistance increases and goes down when more costs are covered by employer contributions.

There is nothing inherently wrong with the State paying a disproportionate share of benefits. The extra amount paid by the State can be viewed as a form of municipal assistance. Relevant questions are:

1. How much assistance can the state afford?
2. What is a fair allocation of costs between the State and other employers?

Those who believe paying nearly 80% of future benefit costs is affordable to the State have no reason to look for a funding solution because they do not see a funding problem.

Those who are concerned with projected state budget deficits will be interested in comparing retirement funding options.

As options are compared, remember the following key points:

1. The total cost of every option is identical—each ensures that all future benefits are paid when due.
2. Every proposed change to the status quo is designed to enhance affordability by shifting costs from the State to employers, thereby making costs more proportional to payroll.

3. None of the options raise the employer contribution rate above 22%.
4. State costs can be reduced only by reducing state assistance in the near term (unless investment returns are extraordinarily high).
5. Reduced state assistance comes at the price of extending employer contributions beyond the mid 2030s.
6. “More affordable to the State”, “lower state assistance” and “more proportional share of costs” are essentially the same concept. Moving toward these goals necessarily means extending the period that employers must pay into the system.

In summary, every “more affordable” option shifts costs from the State to employers. Employers will see no change until the mid 2030s, when they must continue to contribute to the retirement system.

## **Developing an Exit Strategy**

### **The need for statutory guidance**

Until recently, the Government Accounting Standards Board (GASB) provided standards for retirement systems that were used for accounting reports, bond rating analysis and retirement funding decisions. Now there are separate calculations for each of those functions.

Legislators should be aware of the accounting and credit rating implications of the new GASB rules, but the real issue for legislators is that GASB rules no longer offer guidance regarding pension funding. This lack of funding guidance from GASB prompted the National Pension Funding Task Force to offer this advice to legislators:

Put funding mechanics in statute—include:

1. methods for determining contribution rates;
2. an outline of a plan to eliminate unfunded liability; and
3. a means to compare progress with the plan.

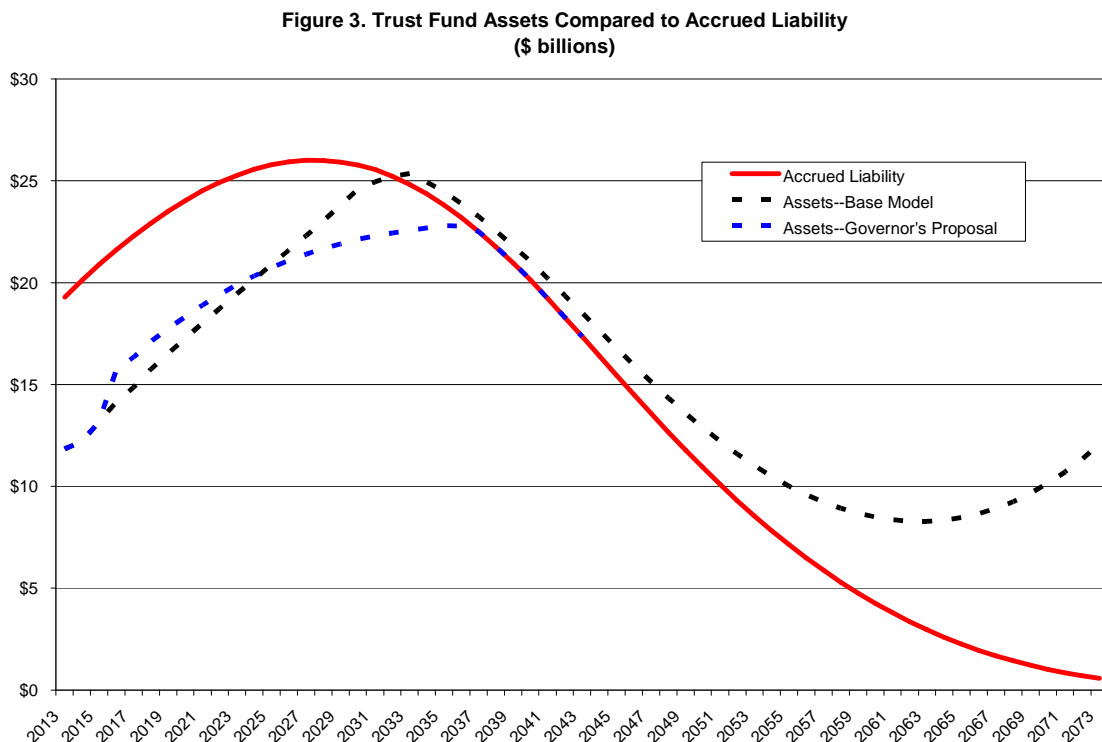
This is sound advice that should be implemented even if we continue to follow standard actuarial methods. Implementing the advice is critical if we adopt an approach other than standard actuarial computations. Both of the options discussed below are non-standard.

### **The Governor’s Proposal**

The Governor’s proposal takes a step away from the standard actuarial approach: instead of letting actuarial equations determine the amount to be contributed to the system, the amount of contributions is an arbitrary amount that is less than the actuarial equations specify. The Governor proposes a deposit of \$1.88 billion to the PERS trust fund in FY15, and \$157 million annually for the next 20 years. The result is that the proposal does not chase the accrued liability curve upward to the degree that the actuaries recommend.

The proposal is simple and does what it was intended to do: it shifts costs to employers by reducing state assistance and extending the period that employers contribute to the trust fund. The State would pay about 76% of future benefit costs under this plan.

However, the step away from the standard approach is a small one. The Governor’s proposal continues to rely on the “big balance” approach to funding (see Figure 3). The plan would build assets to nearly \$23 billion, and relies heavily on earnings to pay future benefits.



For those satisfied with paying 76% of future benefits and with relying on earnings to pay benefits, the plan is an acceptable solution. It is projected to

1. reduce state assistance to just over \$5 billion during the next 20 years—a savings of nearly \$2 billion (undiscounted) over the base model and
2. extend employer contributions by about four years.

### Pay-as-you go Options

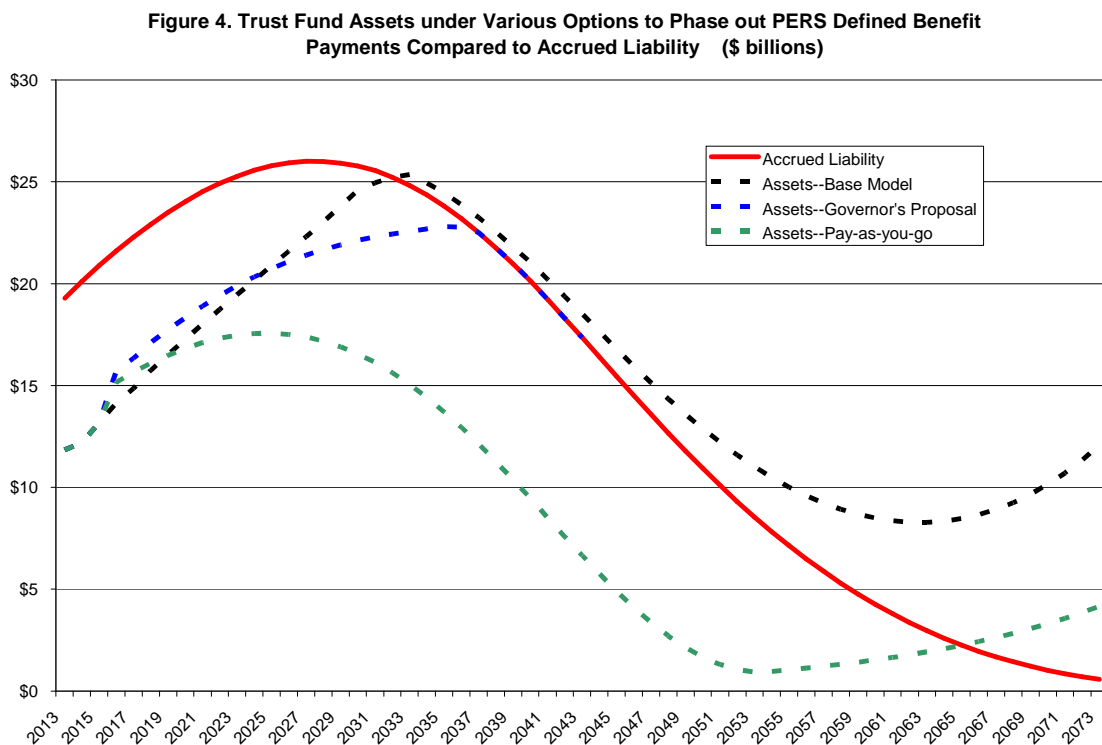
For those who want the State to pay a smaller share of future benefit costs and/or are concerned that the “big balance” approach will not provide the 40-year glide-path required for a smooth exit from PERS, a pay-as-you-go option might be attractive.

Pay-as-you-go options use the actuarial assumptions of the base model to determine accrued liability, but—as in the Governor’s proposal—do not use actuarial amortization to determine employer contributions or state assistance.

The premise of pay-as-you-go is that the goal of the retirement system is to pay all benefits when due, so that we do not need to follow the “big balance” approach that relies on future earnings to pay benefits. Under pay-as-you-go, annual benefits are paid as follows:

1. Current year contributions are used to pay benefits when due;
2. If contributions exceed benefits in any year, the surplus goes into the trust fund;
3. If contributions are insufficient to pay benefits in any year, the amount of the shortfall comes from the trust fund;
4. If the trust fund balance is insufficient to pay benefits when due, money is transferred from a reserve account to the trust fund in order to pay the required benefits and maintain a minimum trust fund balance.

The reserve account never contains employer or employee contributions; it consists of deposits made by the State plus earnings on the balance. Assets under the various options are shown in Figure 4.



By relying on employer contributions, pay-as-you go can reduce state assistance to about \$1.45 billion during the next 20 years—actually, contributing the entire amount in FY15 would eliminate state assistance in the future. The required amount of state assistance is

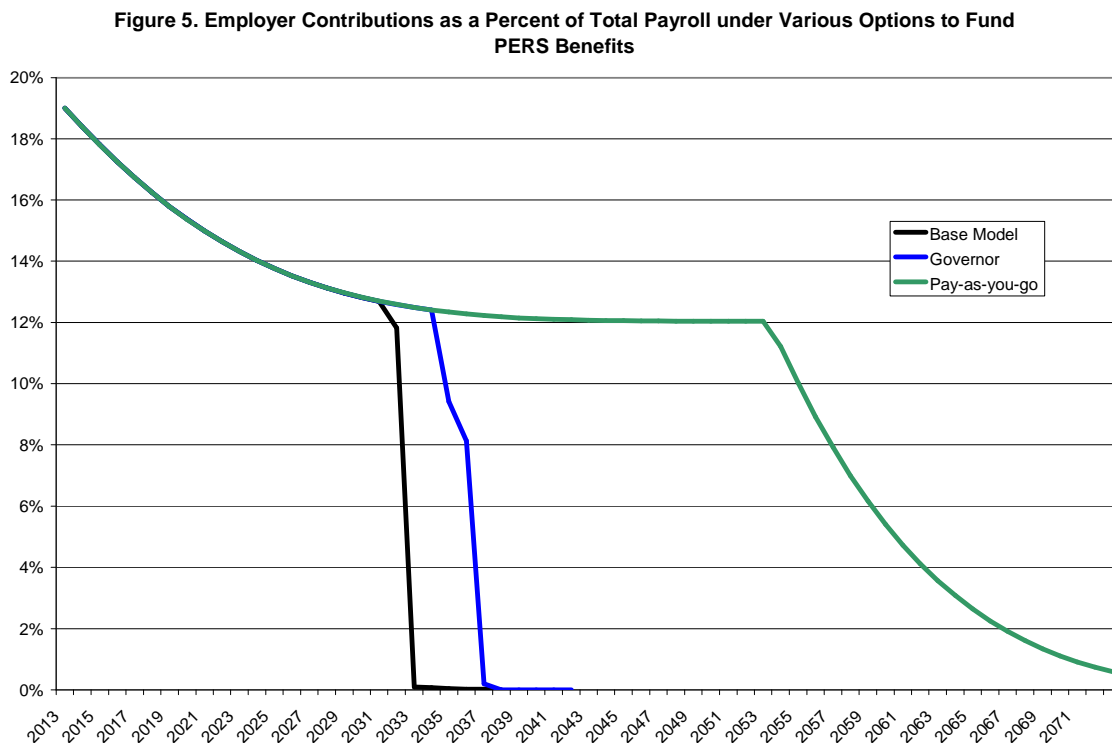
significantly lower than the (undiscounted) \$5 billion and \$7 billion under the Governor's plan and the base model, respectively.

Naturally, those State savings must be offset by employer contributions. As the name implies, employers under a pay-as-you-go approach continue making contributions until all benefits are paid. This eliminates the risk that trust fund earnings will be insufficient to pay all future benefits. It also eliminates the potential for reduced contributions if earnings are higher than anticipated.

At this point, a digression is required. Employers are not, and will never be, contributing 22% of payroll to the trust fund. The 22% employer contribution rate applies to the defined contribution payroll as well to the defined benefits payroll. But 10% of the defined contribution payroll goes into individual retirement accounts, leaving only 12% of the defined contribution payroll to go into the trust fund.

- When the defined contribution payroll was insignificant, the total rate was about  $(22\% \times 100\% \text{ DB}) + (12\% \times 0\% \text{ DC}) = 22\%$ .
- As we approach an even split on payroll, the total rate will fall to  $(22\% \times 50\% \text{ DB}) + (12\% \times 50\% \text{ DC}) = 17\%$ .
- When the only active employees are in the defined contribution plan, the total rate will fall to  $(22\% \times 0\% \text{ DB}) + (12\% \times 100\% \text{ DC}) = 12\%$ .

This decline in the portion of payroll that goes into the trust fund is one reason the unfunded liability is so difficult to eliminate and explains why state assistance continues to climb under the status quo. The declining contributions to the trust fund are shown in Figure 5.





As shown in Figure 5, the three options have identical employer contributions until after 2030.

- The \$7 billion of state assistance under the base model allows employer contributions to go to zero in about 2033.
- Soon after that date, the \$5 billion in state assistance under the Governor's plan would allow employer contributions to go to zero.
- The \$1.45 billion in state assistance under pay-as-you-go builds no large balance, so employer contributions continue until all benefits are paid. As soon as pension benefits fall below 12% of payroll, annual employer contribution rates drop to the level required to pay benefits.

In summary, the pay-as-you-go approach requires no “big balance.” Pay-as-you-go

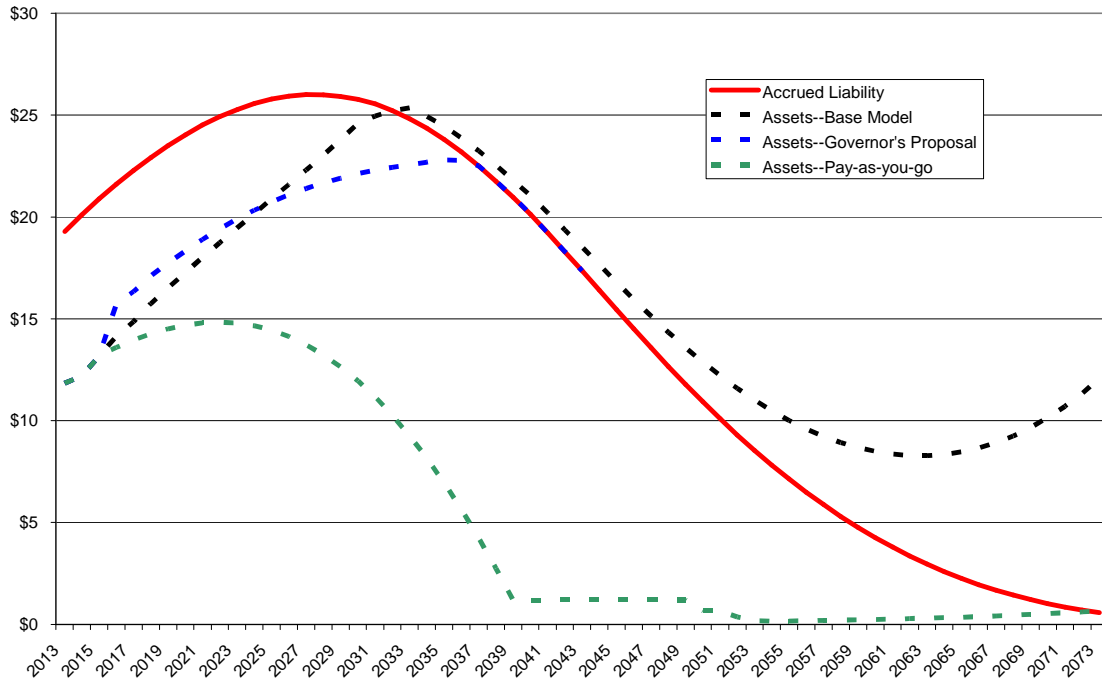
1. Is an exit strategy that does not rely on 40 years of high earnings to stay on a glide-path;
2. Has the same total cost as other plans—all benefits are paid when due;
3. Requires far less state assistance than “big balance” plans—pay-as-you-go reduces the discounted state share of benefit payments to about 67% (from 79% and 76% under the status quo and Governor's proposal, respectively); and
4. Relies on a combination of reserves and contributions to pay benefits until annual benefits payments are less than 12% of payroll. At that time, benefits can be paid with contribution rates of 12% or less.

### **Deposits to the Trust Fund versus Deposits to a Reserve Fund**

People with an eye for detail will notice (in Figure 4) that assets begin to rise even as accrued liability declines (except under the Governor's plan, where the quirk was overridden). The issue is that benefit payments decline by about 5% annually during the 2050s and by more than 10% annually after 2060. The decline is so rapid that earnings exceed benefit payments and assets increase when there is no need for them to do so.

One solution to “having too much money” is to deposit money into a reserve account rather than into the trust fund. That would allow unnecessary money to be recovered by the State and/or other employers. For example, Figure 6 shows that depositing \$1.45 billion into a reserve fund is sufficient to pay all benefits when due without having extra money in the trust fund. In fact, the reserve fund could return over \$3 billion (undiscounted) to the State in 2054.

**Figure 6. Trust Fund Assets under Various Options to Phase out PERS Defined Benefit Payments Compared to Accrued Liability (\$ billions)**



A reserve fund offers no cost advantage; if reserves are commingled with trust funds for investment purposes, total earnings would be identical with or without a reserve fund. The benefit of a reserve fund is that it would remove the risk associated with following a 40-year glide-path to exit the system. Money would be transferred from reserves to pay benefits as necessary, with extra reserves available to return to the State and/or all employers.

The disadvantage of a reserve fund is that it cannot be counted as part of the trust fund. This would affect calculations of official funding ratios and could affect bond ratings (if the rating agencies did not consider that Alaska was moving toward a pay-as-you-go mechanism and that traditional measures of funding adequacy were not valid measures of system health).

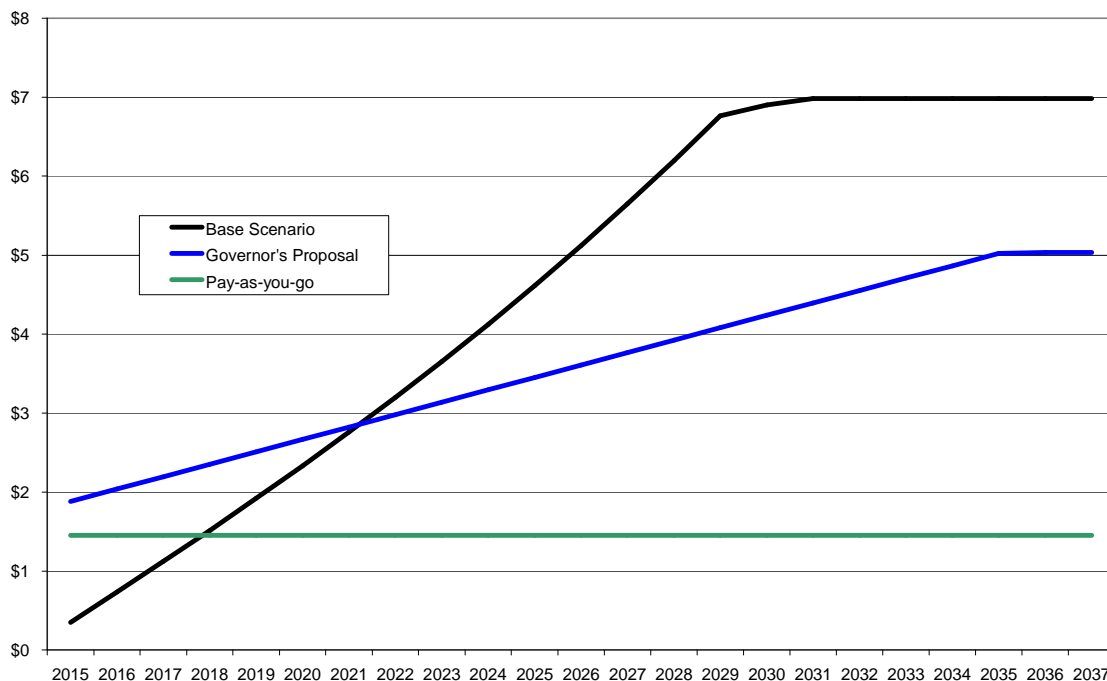
The good news here is that the “trust fund versus reserve fund” decision is not all or nothing. Instead of depositing the full amount of lump sum state assistance in either the trust fund or a reserve fund, the full advantage of a reserve fund can be achieved by depositing about one-third to reserves and two-thirds to the trust fund.

A reserve fund is simply a way to minimize the risk associated with projecting future earnings; it can be used with all of the options presented but is not a critical element of any of the options.

## Comparing Costs under Various Options

If the amount of state assistance required for a smooth exit were the only concern, Figure 7 shows that the pay-as-you-go option—with its single payment of \$1.45 billion—is the obvious choice. The Governor’s plan has a larger first year deposit and requires additional deposits for 20 years, bringing total state assistance to \$5 billion. The base scenario has no extra deposit, but higher annual levels of state assistance bring the total to \$7 billion.

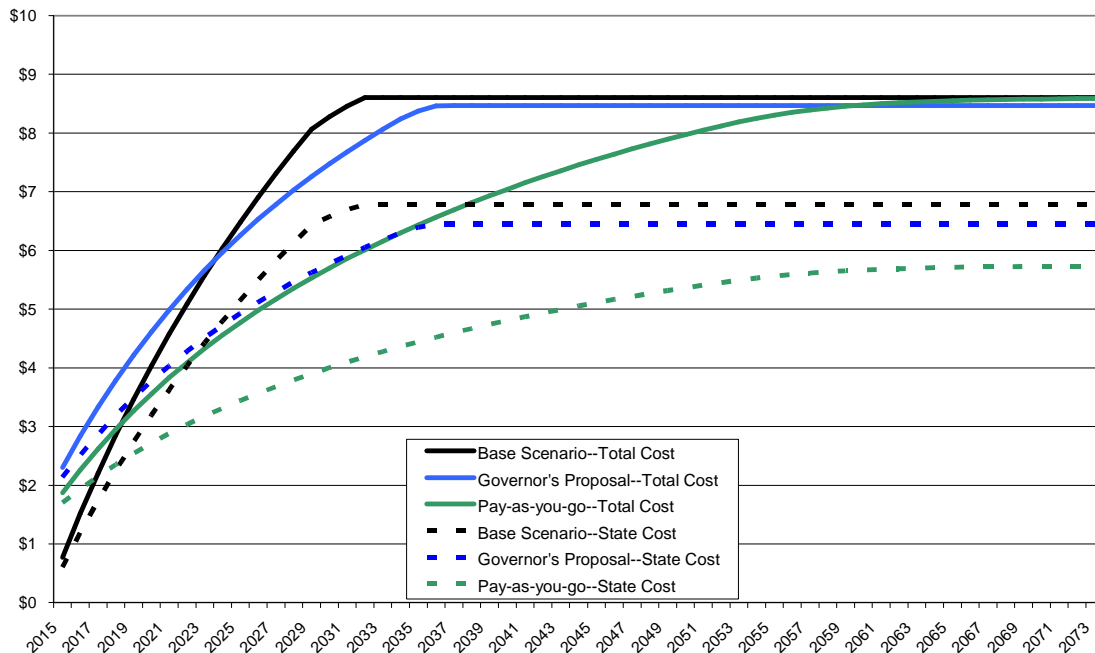
**Figure 7. Cumulative State Assistance to PERS under Various Exit Strategies**  
(\$ billions)



But state assistance is not the only concern. We know that the total cost of benefits will be the same under all options and that all options pay benefits when due. The obvious implication of lower state assistance is that a larger share of costs will be paid by employers (including the State). Further, we know that payments are required at different times under different options.

Having multiple payers making payments of differing amounts at differing times complicates a comparative analysis. As shown in Figure 8, cash flows can be discounted to obtain net present values under each option. Unfortunately, conclusions based on net present values are highly dependent on the discount rate applied. For example, Figure 8 uses a discount rate of 8%—the same rate as the assumed rate of return on investments. At an 8% discount rate, pay-as-you-go is about \$1 billion less expensive to the State than the other options. At low discount rates, pay-as-you-go is the most expensive option.

**Figure 8. Net Present Value of Options to Phase out PERS Defined Benefit Payments  
8% Discount Rate  
(\$ billions)**



There is such a thing as over-analyzing the options. For example, most people know that paying cash for a home is the least expensive purchase option, but borrowers are typically looking for the most affordable option, not the least expensive option. A 30-year term is the most popular mortgage despite significantly higher costs than shorter-term options. The popularity of 30-year mortgages isn't because borrowers are ignorant, it is because affordability is the key factor in determining how they wish to pay a debt. The same concept may apply to finding an exit strategy for retirement funding.

Pay-as-you-go options:

1. require far less state assistance than other options—they are more affordable;
2. minimize risk associated with investment returns—if targets are not achieved under “big balance” plans, the likely result is additional state assistance; and
3. minimize concerns about liquidity—in the absence of contributions, cash requirements to pay benefits would make achieving 8% investment returns difficult. Lower investment returns would require a larger balance to remain on the 40-year glide-path to a smooth exit.