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# Oregon's Looming "TECC" Challenge: The Imminent Rise of "Total Employer Costs of Compensation" for Oregon Local Government

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# Oregon's Looming "TECC" Challenge:

## The Imminent Rise of "Total Employer Costs of Compensation" for Oregon Local Government

February 16, 2017

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## Table of Contents

I. Table of Contents.....	2
II. Executive Summary .....	3
III. Introduction and Background.....	5
IV. Defining and Measuring Total Employer Costs of Compensation (“TECC costs”) .....	6
V. What our TECC Calculator Predicts for the Imminent Rise in Local Government TECC Costs ....	7
VI. Final Thoughts .....	10
VII. Technical Appendix.....	11
1. Information about PERS Rates .....	12
2. Notes for the Text Box: Are we Saddling the Next Generation with Too Much PERS Debt? .....	15
3. Historical PERS Rates of Return.....	16
4. Detailed Discussion of PSU’s TECC Cost Projection Calculator.....	17
5. Comparison of the Relative Benefit Levels for Oregon PERS members vs. those for Comparable Employees enrolled in other states’ public retirement programs .....	21
6. Examples of Local Jurisdiction Revenue Projections .....	23
7. Annual State and Local Government Employment .....	24
VIII. Appendix B .....	25
Key Finding #1: Overall TECC costs are close to matching base salary costs for many jobs .....	25
Key Finding #2: Wide Variance Exists between Jurisdictions in TECC Costs.....	26
Key Finding #3: Year over Year Trends in TECC costs: .....	26
IX. Bibliography .....	27

## Executive Summary<sup>1</sup>

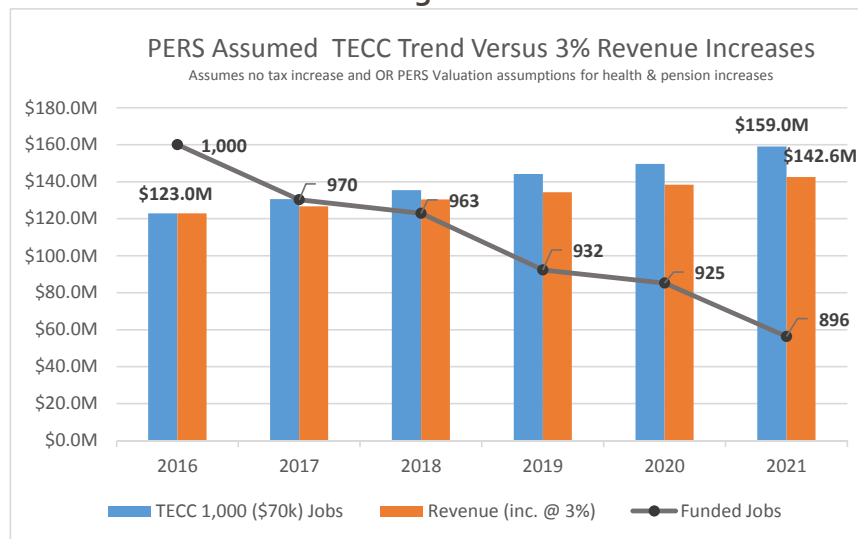
Driven largely by dramatic increases in Oregon Public Employee Retirement System (PERS) costs, Oregon’s local governments face historically unprecedented increases in their “**Total Employer Costs of Compensation,**” or “TECC costs.” Even with 3% annual growth in general fund revenues under Oregon’s strict, voter-passed property tax limits, the resulting budget squeeze could force reductions of 10% or more in the number of public employees who provide key public services – from police and fire/emergency medical protection to education, health care, and infrastructure maintenance.

With a system-wide unfunded liability of \$22 billion, PERS’ actuaries now predict base system-wide employer contribution rates for the system’s 800+ local governments will need to almost double in the next 5 years, from approximately 17% of average payroll in 2016-17 to 29% by 2021-22 (Milliman presentation to PERS Board of July 2016, p. 25, 37).<sup>2</sup>

Add in other projected TECC cost increases – e.g. “cost of living” salary hikes and rising employer-paid health insurance premiums – and research conducted by PSU’s Center for Public Service (CPS) suggests that total TECC costs for a typical local government will rise by nearly 30% in the next 5 years, for an annual compounded rate of over 5%. *Across all state and local government payrolls, this represents an additional \$500 million in average costs per year, or \$2.5 billion through 2021-22 (Milliman actuarial report, Sept. 2016, p. 20).*<sup>3</sup>

Figure 1 below illustrates what can happen when the rise of local government TECC costs far outstrips available general fund revenues. Several factors, alone or in combination, could make this picture even worse. PERS investments could fall short of achieving their assumed 7.5% annual return (Milliman, Sept., p.98); other TECC costs (e.g., for health insurance) could rise faster than projected; and/or an economic downturn could further reduce revenue growth rates.

Figure 1



<sup>1</sup> Throughout the paper, Technical Appendix, TECC Cost Projection Calculator, graphic boxes and examples produced by Bob Winthrop. Additional research provided by Julia Taylor.

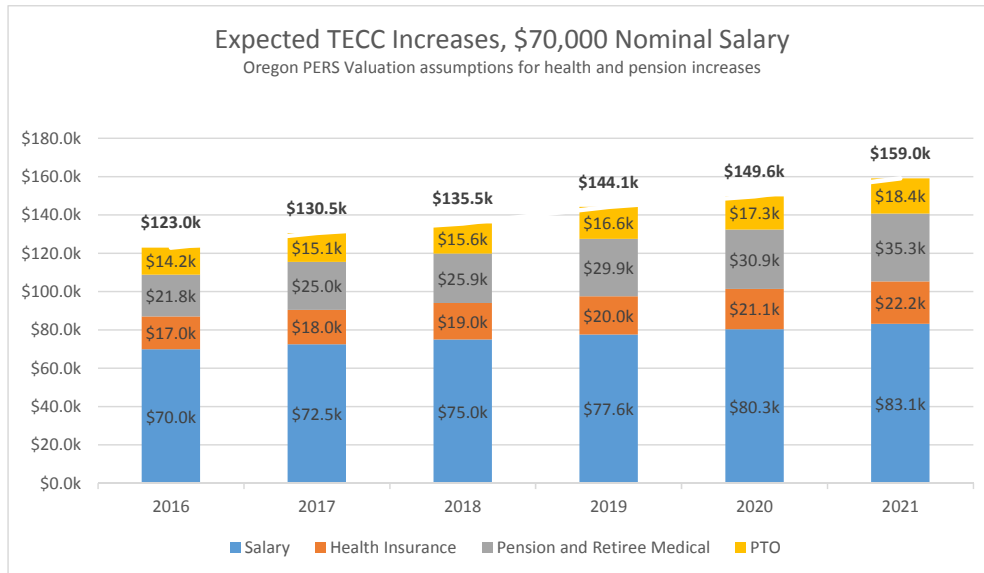
<sup>2</sup> The July, 2016 Milliman Presentation (p. 37) shows the base rate for the system-wide at 17.46% rising 3.39% in 2017 to 20.85%. Slide 25 notes two additional increases of 4 percentage points in each of the next 2 biennia. See Technical Appendix (p. 12) for why “Base” rates are used rather than “Net” rates.

Milliman, “Actuarial Valuation Oregon Public Employees Retirement System: July 29, 2016 PERS Board Meeting,” Last modified July 27, 2016. 25, 37.

<sup>3</sup> The September, 2016 Oregon PERS valuation (p. 20) puts the Combined Valuation Payroll at \$9,544.1 million as of December 2015 with an increase of 3.5% for the current FY = the payroll is \$9,878.1 million. 5% of that is \$493 million. Links to both Milliman documents can be found in the bibliography.

As Figure 2 illustrates, TECC costs during this 5-year period for a public employee with a \$70,000 average salary would rise by an estimated \$36,000. Only \$13,100 of this would be attributable to higher salary earnings. Approximately \$13,500 would be attributable to higher PERS costs; \$5,200 to increased health insurance costs, and \$4,200 in increased costs for paid time off (PTO).

**Figure 2**



An individual jurisdiction’s abilities to mitigate or even avoid cuts in personnel and service levels with additional revenue will vary widely. Some fee-based local governments – e.g. special districts that provide utility-related services, such as water – have the legal authority to raise customer rates. K-12 school districts now rely largely on state income tax receipts, which in good economic times grow faster than 3% a year. However, even with a relatively strong economy, Oregon lawmakers face a projected \$1.7 billion budget deficit for 2017-19. Oregon’s 241 cities and 36 counties, especially those outside fast-growing population centers in and around Bend and Portland, will likely be squeezed the hardest due to their reliance on constitutionally-limited growth in property tax revenues.

In any case, Oregon’s looming “TECC Challenge” is unprecedented in a number of important ways. For one, virtually every Oregon public employer pays Social Security taxes of 6.2% of payroll – and most “pick up” their employees’ required 6% PERS contributions.<sup>4</sup> By the 2021-22 fiscal year, a typical local government will pay approximately \$4,000 towards employee retirement obligations for every \$10,000 it devotes for base salaries. Some – especially in the realm of K-12 school districts – are projected to pay even more than 40% for this one TECC component alone.

<sup>4</sup> PERS reports that public employers now pay this 6% cost for 72% of PERS-covered employees. Current Oregon law allows local governments only two choices: pay the full 6%, or require employees to do so. Negotiating to split this cost is currently prohibited – and many current labor contracts

require an immediate 6% salary increase should employees be required to pay this 6% portion (“PERS by the Numbers,” Public Employees Retirement System, 2016, 14).

## Introduction and Background

In the last 30 years, Oregon's local governments have suffered two major budget shocks. The first came after Oregon voters in 1990 approved Ballot Measure 5, which constitutionally limited local property tax revenues. The second stemmed from the 2009-12 recession, which also significantly reduced property tax collections as well as state personal and corporate income tax receipts.

A third challenge looms today that threatens to have an even bigger long-term impact on Oregon local government, though this time it arises from the cost side of the public finance equation. Most of Oregon's local governments – including 36 counties, 241 cities, and 200 K-12 school districts – face unprecedented increases in their year-over-year costs for the key public sector employees who provide a wide range of vital local government services, from public safety and education to health care and roads maintenance.

These escalating costs – driven largely, though not entirely, by historically unprecedented increases in required contributions to Oregon's Public Employee Retirement System (PERS) – threaten to result in even larger reductions in local government workforces.

Data from the Oregon Office of Economic Analysis show that even after Measure 5's passage, the number of state and local government workers actually grew slightly, from approximately 198,000 in 1990 to 213,000 by 1994.<sup>5</sup> During this period, Oregon's fast-growing economy allowed state lawmakers to transfer billions in state income tax dollars to help local governments, especially schools.

Between 2009 and 2013, the number of Oregon state and local government jobs fell, but the reduction was relatively small – from 270,000 to 261,000 or just 3%<sup>6</sup>. Two key factors mitigated an otherwise more difficult situation: a significant drop in PERS employer contribution rates during the 2009-11 biennium, and large infusions of federal cash through the American Recovery and Reinvestment Act (ARRA) program.

Today's challenge is a more incremental one, but it potentially carries far more impact. By Fiscal Year 2021-22, it's possible that fast-rising costs for key public employees could lead to far larger reductions – in the neighborhood of 10% – in the local government workforce.

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<sup>5</sup> "Historical Annual and quarterly data tables, 1990-2026 (xls): Other Indicators." *Economic and Revenue Forecasts*. Retrieved Feb. 9, 2017 from: <http://www.oregon.gov/das/OEA/Pages/forecastecorev.aspx>

<sup>6</sup> Ibid

## Defining & Measuring Total Employer Costs of Compensation (“TECC”)

Beginning in 2012, the Center for Public Service – a unit of the Mark O. Hatfield School of Government at Portland State University – began gathering data and building a robust analytical framework to measure and compare public employers’ **Total Employer Costs of Compensation**, or “TECC costs.” Starting with the base salary schedule for individual jobs, this TECC framework quantifies many other direct employer costs for each job title, including employer-paid health insurance, retirement costs (e.g. employer payments to pension systems such as PERS, Social Security, and other retirement benefits); the value of paid time off; and other TECC costs including overtime, specialty pay, and other taxes and insurance.

In 2015, CPS’ TECC team – overseen by Director Phil Keisling and led by CPS Senior Fellow Bob Winthrop – received funding through PSU’s **University Venture Development Fund** to design and launch a software-enabled, subscription-based benchmarking service for participating local governments interested in capturing and tracking these costs in a more systematic fashion. In partnership with the **Oregon Local Government Personnel Institute (LGPI)**, this web-based “TECC Software-enabled Benchmarking Tool” also includes functionality to allow jurisdictions to match and compare TECC costs for similar jobs in other jurisdictions.

CPS’s TECC benchmarking tool – now used by more than 30 subscribers – helps local governments measure their past and current TECC costs for specific job titles, and allows them to then compare their TECC costs with other subscribers’ comparable job titles.<sup>7</sup> Recently, the CPS team also constructed a “TECC Cost Projection Calculator” to help local government jurisdictions to project future aggregate TECC

costs across their entire workforces based on a few key metrics and assumptions.

In applying this TECC calculator for this report, our research team draws on TECC subscriber data gathered to date and key assumptions used by PERS system actuaries to estimate future increases in local governments’ aggregate TECC costs. These key PERS assumptions and our own include the following:

- Payroll costs (salary only) will continue to grow at 3.5% annually, which includes such factors as changes in average employee tenure base on where he/she falls on the salary schedule (i.e., employee hiring and attrition, retirements, etc.); salary schedule increases; and additional employee earnings through seniority-based “step” increases
- A 3.39% increase in net base PERS employer contribution rates for 2017-18 (relative to 2016-17), followed by a projected 4 percentage point hike in 2019-20 and then a third 4 percentage point hike in 2021-22 (Milliman, July 2016, p. 25). These hikes would still not reach the level necessary for the system to achieve full funding (See sidebar, p 8).
- The continuation, by those employers who choose to do so, of the 6% “pick up” of the required employee contribution to PERS
- Employer-paid health insurance cost increases of approximately 6% a year;
- No increases in overtime costs or other TECC components such as taxes, insurance, and other benefits
- An average salary level of approximately \$70,000 a year.

<sup>7</sup> Learn more at [www.pdx.edu/cps/tecc](http://www.pdx.edu/cps/tecc)

## What our TECC Calculator Predicts for the Imminent Rise in Local Government TECC Costs

In the first fiscal year – between 2016–17 and 2017–18 – our calculator shows TECC costs rising by over 6% for a typical local government. This one-year rise also significantly masks the full extent of the long-term TECC cost problem.

Under the Oregon PERS board’s current “rate collar policy,” portions of rate increases deemed necessary to keep the system adequately funded are pushed into the future, thereby adding to the system’s unfunded liabilities. Even with a system-wide average base rate hike of 3.39% of salary in 2017–18 for PERS base employer contribution rates, this policy will push into the future another 8% of payroll rate increases – \$1.6 billion – needed to adequately address the system’s \$22 billion in unfunded liabilities.<sup>8</sup>

Had PERS employers been required to immediately pay these increased costs, base employer contribution rates for 2017–18 would have soared next year from about 17% to 29% of payroll. This would have immediately driven total

TECC costs up by more than 11% compared to the previous year.<sup>9</sup>

While the current rate collar policy postpones PERS’ full fiscal pain for local governments, it comes with a substantial price. PERS employers now face even greater “baked in” increases in their future PERS rates. At least two more rounds of 4% biennial increases will now occur *even if* PERS meets its 7.5% annual return target for its investments. Rates could go higher still – and relatively quickly – should PERS once again fail to meet its investment return target between now and December 31, 2017.<sup>10</sup>

Based on PERS’ current rate collar policy, and PERS’ other assumptions about key TECC cost components, “Total Employer Cost of Compensation” (TECC) costs in the next 5 years will rise over 29% for a typical local government. This is a compounded annual growth rate (CAGR) of over 5% for this period– and perhaps beyond.<sup>11</sup>

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<sup>8</sup> In the July 2016 Oregon PERS valuation presentation (p. 20), Combined Valuation Payroll is \$9,544.1 million as of December 2015 with an increase of 3.5% for the current FY – the total payroll is \$9,878.1 million. The collar adjustment of 8.23% multiplied by that payroll is \$1.626 billion.

<sup>9</sup> PERS’ published contribution rates often are stated in two different – and somewhat confusing – formats. The “*base* contribution” rate (collared) averaged 17.46% in 2015-17, while the “*net* contribution” rate (collared) was just 10.61%. The difference is due to a relatively small number of jurisdictions who collectively sold more than \$6 billion in “Pension Obligation bonds” (POBs) between 1995 and 2009. The bond proceeds were then deposited in PERS “side accounts,” whose earnings have been used to “buy down” those employers’ base contribution rates, resulting in lower net contribution rates.

However, PERS does not track jurisdictions’ POB repayment costs, which in recent years have been similar to these side account earnings. To ensure that PERS employer costs are compared on an apple-to-apples basis between those with and without POB side accounts, the TECC benchmarking tool adds back these POB payments as a percent of payroll. Thus, for this discussion of system-wide, year-over-year trends for all local governments, using “*base* contribution” rates is more appropriate.

<sup>10</sup> Our TECC modeling tool uses PERS’ baseline assumption that its investments will return 7.5% annually during this period – even though PERS has fallen significantly short of this during the last decade. (See sidebar, p. 9). Because of past deferred rate hikes, even stronger future earnings – e.g. 10.5% annually–would still mean PERS average base employer rates would rise from about 17% to 25% by 2019-20, before then falling by 2% in 2021-22 rather than experience yet another 4% hike.

On the other hand, PERS actuaries’ most recently published “worse case scenario” – PERS investment returns averaging just 5% instead – would cause 2021-23 rates to jump about 7% (rather than another 4%) in 2021-22. This would produce an average base contribution rate of about 32%, pushing overall TECC costs even higher.

What additional increases beyond even these might be required for 2019-21 and 2021-23 should PERS investments show flat – much less *negative* – returns for the 2-year period that closes on December 31, 2017? If PERS actuaries have even modeled such scenarios, they have not recently published those results. (Rate projections from Milliman, July 29, 2016, p. 3)

<sup>11</sup> PERS actuaries assume that overall payroll costs will grow 3.5% a year. Several components are involved here. Over a given year, employees will leave or retire and often be replaced by younger, lower-paid workers (or not at all). This



## Are We Saddling the Next Generation With Too Much PERS Debt?



As of December 31, 2015, the Oregon PERS system's "unfunded liabilities" – most of them for already retired employees – exceeded \$22 billion. To put the system back on a trajectory to 100% funding, the average system-wide employer base contribution rate would need to increase on July 1, 2017 from **17.46%** to **29.08%** of active payroll.

However, PERS' "rate collar" policy limits the 2017-19 base contribution rate to just 20.85%, pushing the remaining hike of 8.23% of payroll into the future. Even if PERS investment earnings meet their 7.5% target in the future, those obligations are now "baked in" as future rate hikes.

Put another way, PERS is **deferring over \$1.6 billion** in known pension costs that will be paid by future taxpayers. Employers and employees might prefer the money instead be available for higher salaries and/or expanded public services.

PERS actuaries do not project the gap between the true cost of funding and the collared contribution rates to close any time soon.

Note: See Technical Appendix for Sources

Meanwhile, the expected growth in general fund local government revenues – still mostly from property taxes – will likely fall far short of making up this difference. We assume a 3% annual increase in such revenues, which exceeds what many local governments are currently predicting.<sup>12</sup>

**Figure 1** in the Executive Summary illustrates what can happen when the rise of local government TECC costs far outstrips available general fund revenues.

The TECC calculator that underlies Figure 1 assumes that a local government jurisdiction has 1,000 employees, with an average nominal salary of \$70,000. Based on the data gathered to date from TECC subscribers, the annual TECC costs for such an employee are pegged at \$123,000. For the first year of the analysis – fiscal year 2016-17 – we assume that total TECC costs of \$123.0 million are balanced with the jurisdiction's available revenues for these costs.

Between the 2016–17 and 2021–22 fiscal years, our TECC calculator shows TECC costs projected to rise 29.3%, to \$159 million. This represents a compounded annual growth rate (CAGR) of 5.3%. Meanwhile, at a 3% annual growth rate, revenues will increase to only \$142.6 million. (See Technical Appendix)

How might the typical local government in this model try to close this \$16.4 million gap? It could certainly try to raise property tax revenues and/or other fees, or ask voters to approve a special levy.

But more likely, the jurisdiction would choose to gradually reduce its workforce, even if a growing population puts new demands on core public services such as police, fire, human services, and infrastructure. As our model shows, it would require the elimination of 104 employees – a 10%

will reduce overall payroll costs. However, several other factors will push in the opposite direction. These include "Cost of Living" increases, by which entire salary schedules are adjusted upward, typically by between 2-4%. In addition, many public service employees become eligible in a given year to advance upwards within their job classification to higher "steps," which also provide additional pay increases, typically in the 1-2% range. Finally, some existing workers can be promoted to new, higher-paying job classifications.

<sup>12</sup> To determine the revenue projection, we looked at the websites of the largest 12 cities in Oregon. For cities that we could find a prediction of at least 3 years of revenue, we looked at either General Fund Revenues or Total Revenues. We calculated the CAGR for this data and found that revenue CAGRs ranged from 1.5% to 4.82% with a median of 2.66% (Eugene). Therefore, we determined that 3% was an

reduction in force – to bring its personnel budget back into balance.

**Figure 2** in the Executive Summary provides a closer look at how individual components of major TECC costs are projected to increase during this 2016-21 period for a worker with a \$70,000 average salary. While TECC costs rise by \$36,000 during this period for a typical worker, just \$13,100 of that is attributable to higher salary earnings. The majority is attributable to other factors: \$13,500 because of higher PERS costs, another \$5,200 in increased health insurance, and \$4,200 in increased Paid Time Off (PTO) costs.

**Figure 3** below provides more detail, based on the assumptions found in PERS’ most recent actuarial valuation, as to how each major component of TECC ripples through the system in a given fiscal year. Some projected increases occur every year, while PERS rates are adjusted every alternating year. (Even when PERS *rates* remain stable for a given fiscal year – e.g, in 2018-2019 – PERS costs still rise 3.5% when salaries rise by that amount.)

Figure 3

	Percentage Change Results				
	2017	2018	2019	2020	2021
Salary	3.5%	3.5%	3.5%	3.5%	3.5%
Health Insurance	6.0%	5.4%	5.3%	5.4%	5.4%
Pension and Retiree Medical	14.8%	3.5%	15.5%	3.5%	14.3%
PTO	6.1%	3.8%	6.4%	3.8%	6.3%
TECC Cost	6.1%	3.8%	6.4%	3.8%	6.3%

It’s also important to note that our calculator assumes that any projected cuts would be based on existing personnel and service levels, and would not allow additional resources to meet increasing needs or growing populations, much less any new programs.

Should personnel and service cuts of this size – or larger – prove necessary to balance escalating TECC costs with available revenues, it will reinforce a trend that has emerged in recent years.

appropriate assumption to use for revenue increases. (see Technical Appendix, Page 22 for more details).

<sup>13</sup> CPS Calculations based on Oregon Office of Economic Analysis Annual Data, accessed from: <https://www.oregon.gov/das/OEA/Pages/forecastcorev.aspx>

Data from the Oregon Office of Economic Analysis shows that in 2008, there were approximately 72 local and state government employees per 1,000 Oregonians.<sup>13</sup> By 2014, this number had fallen to 67 per 1,000. While employment levels have rebounded slightly in the last few fiscal years, it’s worth noting that PERS rates during this entire period have been relatively stable (or even dropped for periods of time).<sup>14</sup>

**Is PERS’ Assumed Earning Rate Too High?**

Seventy-three percent of what PERS needs to fulfill current and future pension obligations are assumed to come from earnings on its existing assets – and their ability to achieve an average 7.5% annual return over the working lifetime and retirement of its members. However, if earnings fall short, employer contribution rates will need to climb even higher. While PERS returns over the long run, since 1980, have exceeded this level, in the last decade annualized returns have fallen significantly short.

Oregon PERS Compounded Annual Growth Rate	
Since:	CAGR
1977	10.23%
1987	9.7%
1997	7.97%
2007	5.48%

Source: CPS calculations based on PERS published data prior to 2016. Percentage required to fund and 2016 return reported in The Oregonian, February 12, 2017. See Technical Appendix

<sup>14</sup> Under PERS’s existing rate-setting policy, PERS base contribution rates fell by nearly 4% between 2008-09 and 2009-10. Amidst Oregon’s worst recession in nearly a century, the timing was one of the few pieces of good news for beleaguered local governments, who would have faced even larger budget cuts had rates even remained stable.

Actual data from several local governments illustrate these trends.

For example, the city of Gresham's 2015-16 Comprehensive Annual Financial Report (CAFR) reported 591 Full Time Equivalent (FTE) employees as of June 30, 2009. By the 2012-13 fiscal year, the count had plunged to just 519. For the most recent fiscal year ending June 30, 2016, Gresham now shows 537 FTE. This is a reduction of nearly 10% during this 7-year period, including the loss of more than 20 public safety personnel (City of Gresham 2015-16 CAFR, p. 202-203). The City of Lebanon, in rural Linn County, has experienced an even larger, 15% reduction, from 107 FTE employees in 2009 (City of Lebanon, 2008-9 CAFR, p. 283) to 91 today (City of Lebanon 2015-16 CAFR, p. 318).

## Final Thoughts

Any financial model is built on key assumptions – and such assumptions always run the risk of being proven wrong by a future that is, by definition, unpredictable.

That said, elected officials and public service managers have a broad obligation to understand key trends and plan accordingly. The value of

The TECC calculator as used in this report is based on system-wide average values for key TECC components, including PERS contribution rates, projected increases in health insurance costs and overall salaries. The specific impact, on individual local governments, will vary according to individual circumstances. For this reason, the TECC calculator was built so that any individual jurisdiction, whether or not they subscribe to the TECC Benchmarking Tool, can enter a few key metrics and assumptions for their particular circumstances– e.g., salary schedule increases, estimated health insurance cost hikes, and PERS rates – and run their own simulations. The calculator and instructions can be found here:

**Click here to link to the TECC Cost Projection Calculator -**

<https://www.pdx.edu/cps/tecc>

PSU's Total Employer Cost of Compensation (TECC) software-enabled tool is to help citizens, employees, and public officials measure and fully understand these TECC components – now and in the future.

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## Technical Appendix

By Bob Winthrop, CPS Senior Fellow, and Julia Taylor, PSU MPA Graduate Student (Local Government)

### Table of Contents for Technical Appendix

1. **Information about PERS Rates**  
A discussion of some of the factors that go into the PERS rates as calculated and reported in the valuation produced for the PERS Board every other year.
2. **Notes on the box "Are We Saddling The Next Generation With Too Much PERS Debt?"**  
Discussion of the deferment of payment on debt due to the "Collar" smoothing technique used by PERS.
3. **Historical PERS Rates of Return**
4. **Detailed Discussion of PSU's TECC Cost Projection calculator**  
This section explains how the TECC Cost Projection Calculator works, certain assumptions that were made, and shows the "drivers" for the elements of Figure 1 in the main paper.
5. **Comparison of the Relative Benefit Levels for Oregon PERS members vs. those for Comparable Employees enrolled in other states' public retirement programs**  
Exhibits from and Summary of PSU's 2012 report: Economic Value of Retirement Benefits for Archetypical Public Sector Retirees in Oregon, Washington, and Idaho.
6. **Examples of Local Jurisdiction Revenue Projections**
7. **Annual State and Local Government Employment**

## 1. Information about PERS Rates

The main source for information on Oregon Public Employee Retirement System (PERS) increases is Milliman company’s “December 31, 2015 Actuarial Valuation” (Revised July 27, 2016) presentation given to the PERS Board on July 29, 2016.

To fully understand the financial impact of future projected increases in PERS contribution rates it is also important to read the valuation produced by Milliman (September 27, 2016).<sup>15</sup> For the purposes of our analysis, we relied on tables within the July 29, 2016 presentation Milliman gave to the PERS Board with the resulting values:<sup>16</sup>

<b>Uncollared Base Rate</b>				
<b>PERS Asset Pool</b>	<b>2015</b>	<b>2017</b>	<b>% Point Change</b>	<b>% Change</b>
SLGRP	17.45%	27.75%	10.30%	59.0%
School Districts	20.00%	31.63%	11.63%	58.2%
System-Wide Weighted Ave	18.18%	29.08%	10.90%	60.0%
<b>Collared Base Rate</b>				
<b>PERS Asset Pool</b>	<b>2015</b>	<b>2017</b>	<b>% Point Change</b>	<b>% Change</b>
SLGRP	16.31%	19.40%	3.09%	18.9%
School Districts	20.00%	24.15%	4.15%	20.8%
System-Wide Weighted Ave	17.46%	20.85%	3.39%	19.4%
<b>Collared Net Rate</b>				
<b>PERS Asset Pool</b>	<b>2015</b>	<b>2017</b>	<b>% Point Change</b>	<b>% Change</b>
SLGRP	10.52%	13.88%	3.36%	31.9%
School Districts	9.38%	13.89%	4.51%	48.1%
System-Wide Weighted Ave	10.61%	14.23%	3.62%	34.1%
Source: Milliman Oregon PERS Valuation Presentation				
July 27, 2016. Pages: 18, 22, 37 and 38				

The following key points are important to understanding the complicated manner in which PERS calculates and presents employer rates, and for important background to the main report:

- For valuation and rate-setting purposes, pension assets are divided among the State & Local Government Rate Pool (SLGRP), the School District Pool, and various independent employers to determine employer contribution rates. (Valuation, p. 22)
- These three asset pools are currently valued at \$27.2 billion for SLGRP, \$19.7 billion for School Districts, and \$4.7 billion for Independent Employers. (Valuation, p. 23)

<sup>15</sup> Larrabee, Matt, Scott Preppernau. (2016). *Oregon Public Employees Retirement System, TIER 1/TIER 2 and OPSRP Pension Benefits...* December 31, 2015 Actuarial Valuation. [https://www.oregon.gov/pers/docs/actuarial\\_valuation-12-31-15.pdf](https://www.oregon.gov/pers/docs/actuarial_valuation-12-31-15.pdf)

<sup>16</sup> Larrabee, Matt, Scott Preppernau. (2016). December 31, 2015 Actuarial Valuation, Oregon Public Employees Retirement System, July 29, 2016 PERS Board Meeting. Retrieved on Jan. 14, 2017 from [https://www.oregon.gov/pers/docs/actuarial\\_valuation-revised\\_7-29.pdf](https://www.oregon.gov/pers/docs/actuarial_valuation-revised_7-29.pdf)

- Each individual public employer's actual contribution rates are determined independently. In this paper, PSU uses systemwide average rates or average rates within the SLGRP and School District asset pools.
- The term "Uncollared Base Rates" represents what's calculated by PERS to be necessary to meet PERS' obligation to cover its calculated liabilities and ensure adequate funding of current and promised retirement benefits.
- "Uncollared Base Rates" are then adjusted for PERS employers by two key factors. The first is the PERS "rate collar" policy, which allows virtually all PERS employers to spread out projected rate increases across several future biennia. In the table above, for example, the rate collar policy allows school districts' average rates to rise from 20% to only 24.15% of payroll between 2016-17 and 2017-18. Without the rate collar, the rate would jump to 31.63% of payroll.
- The second factor is the impact of so-called "side accounts." In the last 20 years, more than 100 of PERS' 800 employers sold a total of approximately \$6 billion in "Pension Obligation Bonds" (POBs). POB proceeds were then invested by PERS in these side accounts; earnings are then used to partially finance PERS employers' required contributions.
- While only those individual PERS employers with side accounts see a further reduction – between their "Collared Base" rates and their "Collared Net" rates – PERS's presentations of "Collared Net Rates" applies these offsets across entire employer pools (e.g, systemwide, SLGRP and school district). For example, since nearly 100 of Oregon's 199 K-12 school districts sold over \$3 billion POBs, the table above illustrates the effect across all districts: to further reduce average "Collared Base" rates from 24.15% to an average "collared net" rate of 13.89%. However, for those individual school districts without a POB, the "Collared Net" rate will remain at 24.15%.
- PERS itself does not publish the annual costs –by individual PERS employers, across the entire system, or by SLGRP and school district rate pools – to repay the principle and interest on pension obligation bonds (POBs). So to determine the true, full cost of PERS to employers with POBs – and across larger rate pools – it is necessary to add back these POB debt service payments, as they're reported in each jurisdiction's annual financial report.
- The methodology used by PSU's "Total Employer Cost of Compensation" (TECC) tool includes these POB costs –where applicable– in order to calculate true PERS costs for each individual employer and allow valid comparisons between them. For example, an individual PERS employer's "Collared Net" rate might be only 10%, once it reduces its "Collared Base" rate by 8% due to its side account earnings. But if POB financing costs amount to the equivalent of 6% of salary, its "true" PERS employer cost is actually 16%.
- Accordingly, this report uses the "Collared Base" rates for analytical purposes to provide a more accurate picture – across the entire system– of year-over-year changes in underlying PERS rates.
- While PERS rates for 2017-19 are now locked in, PERS' estimated rates for both the 2019–21 and 2021–23 biennia are based on two key assumptions. First, that PERS' current rate-setting methodology will remain unchanged, and second, that PERS' investments perform at the assumed rate of returning 7.5% annually in the near future– even though PERS has fallen significantly short of this during the last decade.
- Even stronger earnings– e.g. 10.5% annually over this period–would still require an additional PERS employer rate hike averaging approximately 4% of payroll in 2019-21 to pay for earlier, deferred increases under the rate collar policy. Collared Base Rates would then fall by 2% in 2021-23 – from about 25% to 23% of payroll – rather than experience another 4% hike to 29%. On the other hand, PERS actuaries' current "worse case scenario" – PERS investment returns averaging just 5% instead – would

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cause those 2021-23 rates (and thus TECC costs) to jump almost 7% rather than 4% in 2021-23, to produce an average “collared base” contribution rate of almost 33%.<sup>17</sup>

- What additional increases might be required in 2019-21 and beyond should PERS investments show flat or even negative returns (viz December 31, 2015) when the next key benchmark date of December 31, 2017 arrive?

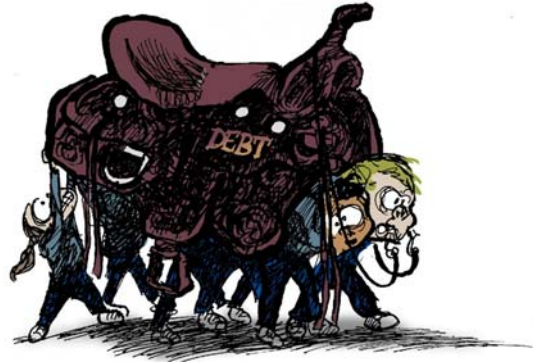
If PERS actuaries have even modeled such a scenario, they have not yet published those results. However, based on current PERS rate setting policies, flat or negative returns could trigger something known as the “double collar” rate-setting policy, resulting in even higher rates for 2019-21 and putting PERS collared base rates on a trajectory to hit 35% or more by 2021-23, boosting overall TECC costs even faster.

For jurisdictions that pay the 6% employee contribution to PERS, when combined with FICA (Social Security) costs this will mean that total employer costs for retirement alone could amount to nearly 50% of salary costs.

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<sup>17</sup> This is an estimate, based on visual inspection of slide 3 of the September 30, 2016 Milliman presentation

## 2. Notes for the Text Box: Are we Saddling the Next Generation with Too Much PERS Debt?



As of December 31, 2015, the Oregon PERS system's "unfunded liabilities" – most of them for already retired employees – exceeded \$22 billion. To return PERS to a trajectory to 100% funding, PERS has calculated that the average system-wide employer base contribution rate would need to increase on July 1, 2017 from **17.46%** to **29.08% of active payroll**.<sup>18</sup>

However, PERS' "rate collar" policy limits the 2017–19 base contribution rate to just 20.85%, pushing the remaining hike of 8.23% of payroll into the future. Even if PERS investment earnings meet their 7.5% target in the future, those obligations are now "baked in" as future rate hikes.<sup>19</sup>

Put another way, PERS is deferring over **\$1.6 billion** in currently known pension costs that will be paid by future taxpayers, regardless of how well PERS investments perform in upcoming years. Employers and employees might prefer the money instead be available for higher salaries and/or expanded public services.<sup>20</sup>

PERS actuaries do not project the gap between the true cost of funding and the collared contribution rates to close any time soon.

<sup>18</sup> See Actuarial Valuation Presentation, Page 37 for the system-wide rate. See the PERS Actuarial Valuation, Actuarial Methods and Assumptions section for the amortization period of OPSRP and Tier 1 and 2. The shortest period is the amortization of the UAL on OPSRP of 16 years (p. 105), Tier 1 and 2 UAL is 20 years (p. 96). The Normal cost, the required amount to fund the basic benefit (without any prior-service costs (i.e. UAL)) is the total working lifetime of the employees in the pension system.

<sup>19</sup> Actuarial Valuation Presentation, p. 37

<sup>20</sup> The total PERS payroll as of December 31, 2015 as reported in the Actuarial Valuation p. 80 is \$9,544.1 million



### 3. Historical PERS Rates of Return

The table below shows PERS' calculations of annual earnings on its main fund – technically called the Oregon Public Employees Retirement Fund (OPERF) – and our calculated "Compounded Annual Growth Rates" (CAGR) by certain base years:

Oregon PERS Regular Account Earnings and Compounded Annual Growth Rate					
Year	Regular Account Earnings (%)	1977 CAGR	1987 CAGR	1997 CAGR	2007 CAGR
1977	4.79	4.79%			
1978	7.37	6.07%			
1979	12.32	8.12%			
1980	16.92	10.25%			
1981	4.37	9.05%			
1982	15.31	10.07%			
1983	18.37	11.22%			
1984	7.33	10.72%			
1985	21.7	11.89%			
1986	22.7	12.93%			
1987	9	12.57%	9.00%		
1988	16.86	12.92%	12.86%		
1989	19.74	13.43%	15.11%		
1990	-1.53	12.29%	10.70%		
1991	22.45	12.94%	12.96%		
1992	6.94	12.55%	11.93%		
1993	15.04	12.70%	12.37%		
1994	2.16	12.09%	11.04%		
1995	20.78	12.53%	12.08%		
1996	24.42	13.09%	13.26%		
1997	20.42	13.43%	13.89%	20.42%	
1998	15.43	13.52%	14.02%	17.90%	
1999	24.89	14.00%	14.82%	20.18%	
2000	0.63	13.40%	13.74%	14.97%	
2001	-7.17	12.50%	12.21%	10.15%	
2002	-8.93	11.59%	10.76%	6.71%	
2003	23.79	12.02%	11.49%	9.00%	
2004	13.8	12.08%	11.61%	9.59%	
2005	13.04	12.11%	11.69%	9.97%	
2006	15.57	12.23%	11.88%	10.52%	
2007	10.22	12.16%	11.80%	10.49%	10.22%
2008	-27.18	10.66%	9.64%	6.72%	-10.41%
2009	19.12	10.91%	10.04%	7.62%	-1.49%
2010	12.44	10.95%	10.14%	7.96%	1.82%
2011	2.21	10.69%	9.81%	7.57%	1.90%
2012	14.29	10.79%	9.98%	7.97%	3.87%
2013	15.76	10.92%	10.19%	8.42%	5.49%
2014	7.29	10.82%	10.08%	8.35%	5.71%
2015	2.21	10.59%	9.80%	8.02%	5.32%
2016*	6.9	10.50%	9.70%	7.97%	5.48%

Source:  
[https://www.oregon.gov/pers/docs/general\\_information/pers\\_by\\_the\\_numbers.pdf](https://www.oregon.gov/pers/docs/general_information/pers_by_the_numbers.pdf) , Page 15, \* 2016  
[http://www.oregonlive.com/business/index.ssf/2017/02/pers\\_9\\_myths\\_about\\_oregons\\_pub.html#incart\\_target2box\\_default\\_#incart\\_target2box\\_targeted\\_](http://www.oregonlive.com/business/index.ssf/2017/02/pers_9_myths_about_oregons_pub.html#incart_target2box_default_#incart_target2box_targeted_)

## 4. Detailed Discussion of PSU's TECC Cost Projection Calculator

The "TECC Cost Projection Calculator" ("TECC Calculator") is a tool to help project a jurisdiction's future "Total Employer Costs of Compensation" ("TECC costs") based on a few key metrics and assumptions.

The TECC calculator also helps users better understand the interaction among categories of compensation such as Payroll (Salary only), Health Insurance, Pension and Retiree Medical benefits, and Paid time off (PTO). By comparing projected TECC cost increases with projected revenue growth, users can also better understand how rising TECC costs can affect a jurisdiction's future workforce.

The calculator is organized into two worksheets. The first worksheet, called the Scenario Worksheet, has three sections: Summary Results, Input Area, and Category Results. **Values in yellow on the Scenario Worksheet refer to cells where the user can input a key metric based on their particular situation.** On the second worksheet, called the Scenario Detail Worksheet, values in yellow refer to the Scenario Worksheet, while values in grey are formulas and values in salmon color are constants.

### I. Scenario Worksheet

The **Summary Results** section shows the results of the data entered in two bar graphs. The first bar graph is Understanding TECC Costs by Category, while the second graph is Understanding TECC Trends, Revenue & Funded Jobs. Examples of these types of graphs are Figures 1 and 2 in the main paper above, respectively.

The **Input Area**, imaged below, is where the user is able to select his/her assumptions related to TECC costs and revenue growth. Inputs by cost component include:

- **2016 Payroll (Salary only)**. Users should include the expected average salary across all jobs in the jurisdiction. In the white paper, we used the value of \$70,000, but this will vary according to individual jurisdictions' circumstances. Because increases other than health insurance are generally proportional to salary, the size of the beginning average salary doesn't substantially impact the funded jobs reduced/added in the practical example in the calculator.
- **Health Insurance Costs (Employer Paid)**. Users here should enter the average annual cost of health insurance for each full time equivalent (FTE) employee that receives employer paid health insurance benefits. For example, if an employer has 100 employees and spends an aggregate of \$1.7 million in employer-paid health benefits – e.g, premium support, HSA contributions, etc – this value would be \$17,000 per FTE. (We used this particular value in our report, based on our experience with the TECC software benchmarking system and the 30 jurisdictions that are subscribers).
- **PERS Pickup (Y/N)**. This is simply a "Yes/No" question as to whether the employer pays – or doesn't pay – the 6% "employee contribution" to PERS
- **FICA (Y/N)** This is also a "Yes/No" field, as to whether the employer pays – or doesn't pay – the cost for Social Security of 6.2% of covered salary. If the employer has opted out of Social Security, only the Medicare value of 1.45% is used.
- **PERS Rate** This is the employer cost of PERS expressed as a percentage that is applied to the payroll. For jurisdictions that do *not* have Pension Obligation Bonds, or POBs (see below), the PERS "*base rate*" should be used. (For 2017-18, the system-wide base rate is 17.46%, but each individual jurisdiction will have its own average PERS rate.) If a jurisdiction does have a Pension Obligation Bond (and thus, a PERS "side account"), then the "*net rate*" should be used here.

- **Pension Obligation Bond Rate** This field is only necessary if a jurisdiction is paying debt service (principle and interest) on a Pension Obligation Bond. Users should determine the annual POB repayment costs as a percent of payroll (salary only) and enter that value here.

**Annual Paid Time Off (PTO) Days** –Users should simply estimate the average number of PTO days – holidays, vacations, and other paid leave – per employee, given the configuration of the workforce. (Do not include sick leave). It’s useful to capture an estimate of such paid days off because they often generate additional costs or impacts elsewhere – e.g., through paying overtime for a police officer working a minimum staffing shift, or reducing the amount of work that might otherwise be accomplished

The TECC Projection Calculator Tool also allows users to input assumptions for future increases in available revenue.

- **Projected Revenue Increases.** The calculator is quite sensitive to this particular assumption, and few jurisdictions routinely publish projections of this particular metric in preparing their budgets. In our report we used an assumption of 3% annual revenue growth. Some jurisdictions may be comfortable with a slightly higher number, while others will be more conservative. For most property-tax dependent local governments, revenue growth beyond about 3% annually typically requires voter-approval, new construction/remodeling, and/or increases in various fees and other taxes.
- **Jobs for Practical Implication Example** – in order to better understand the implications of how TECC cost increases and Revenue increase assumptions interact, this feature allows the user to assume the number of jobs at the average salary for the jurisdiction.

Once the appropriate values for a jurisdiction have been entered in the upper section of the TECC Projection Calculator Tool, the user can enter a “D” (for “Default”) for each of the cells in the “Assumption to Input” section. The calculator will then rely on the same assumptions that are used by PERS in its Actuarial Valuations (except for Pension Obligation bonds which are left at 0%). Alternatively, the user can enter other values, simply by first entering “I” (“input”) in one or more of these cells. The user can then enter the jurisdiction-appropriate nominal percentage increase values for each of the four key categories: Nominal Salary, Health Insurance, POB Percentage Point and PERS Percentage Point. Note: POB and PERS increases are expressed as percentage point increases on top of an existing percentage point value. Nominal Salary and Health Insurance increases are applied to a dollar base.

		Input area				
Base Values and Assumptions		Input	Default			
	2016 Payroll (Salary only)	\$ 70,000	n/a			
	Health Insurance Cost	\$ 17,000	n/a			
	PERS Pickup - Y/N	Y	Y			
	FICA - Y/N	Y	Y			
	PERS Rate	17.46%	17.46%			
	Pension Obligation Bond (POB) Rate	0.00%	0.00%			
	Annual PTO Days	30	30			
	Revenue Increase	3.00%	3.00%			
	Jobs for Practice Implication Example	1,000	100			
Assumption to input	Input (I) or Default (D)	2017	2018	2019	2020	2021
Nominal Salary Increases	D					
Health Insurance Increase	D					
POB Percentage Point Increase	D					
PERS Percentage Point Increase	D					
Default Values						
Payroll Growth (Salary only)		3.50%	3.50%	3.50%	3.50%	3.50%
Health Insurance Increases		6.00%	5.40%	5.30%	5.40%	5.40%
POB Percentage Increase		0.00%	0.00%	0.00%	0.00%	0.00%
PERS Percentage Point Increase System-wide		3.39%	0.00%	4.00%	0.00%	4.00%

The **Category Results** section of the calculator displays the resulting information for the user in three main sections:

- **Dollar Value Results** – shows the dollar value for each of the TECC categories as well as the total TECC projected costs by year.
- The **Dollar Change Results** – shows how much the value for each category changed in each year. It is year over year and not cumulative.
- The Percentage Change Results shows:
  - The percentage change for each category
  - The cumulative percentage change for each category – that is, the TECC costs for each future year divided by the TECC cost in the base year of FY 2016
  - The TECC increase as a percent of Previous Year’s Salary
  - The compounded annual growth rate of TECC costs viz the 2016 base year. That is, starting in 2016, how much would TECC need to increase each year to reach the TECC in the subject year?

Category Results						
Dollar Value Results						
	2016	2017	2018	2019	2020	2021
Payroll (Salary only)	\$ 70,000	\$ 72,450	\$ 74,986	\$ 77,610	\$ 80,327	\$ 83,138
Health Insurance	17,000	18,020	18,993	20,000	21,080	22,218
Pension and Retiree Medical	21,777	24,995	25,870	29,880	30,926	35,334
PTO	14,188	15,061	15,632	16,629	17,261	18,351
<b>TECC Cost</b>	<b>\$ 122,965</b>	<b>\$ 130,526</b>	<b>\$ 135,481</b>	<b>\$ 144,119</b>	<b>\$ 149,593</b>	<b>\$ 159,041</b>
Dollar Change Results						
	2016	2017	2018	2019	2020	2021
Payroll (Salary only)	n/a	\$ 2,450	\$ 2,536	\$ 2,625	\$ 2,716	\$ 2,811
Health Insurance	n/a	1,020	973	1,007	1,080	1,138
Pension and Retiree Medical	n/a	3,218	875	4,010	1,046	4,408
PTO	n/a	872	572	997	632	1,090
<b>TECC Cost</b>	<b>n/a</b>	<b>\$ 7,561</b>	<b>\$ 4,955</b>	<b>\$ 8,638</b>	<b>\$ 5,474</b>	<b>\$ 9,448</b>
Percentage Change Results						
	2016	2017	2018	2019	2020	2021
Payroll (Salary only)	n/a	3.5%	3.5%	3.5%	3.5%	3.5%
Health Insurance	n/a	6.0%	5.4%	5.3%	5.4%	5.4%
Pension and Retiree Medical	n/a	14.8%	3.5%	15.5%	3.5%	14.3%
PTO	n/a	6.1%	3.8%	6.4%	3.8%	6.3%
<b>TECC Cost</b>	<b>n/a</b>	<b>6.1%</b>	<b>3.8%</b>	<b>6.4%</b>	<b>3.8%</b>	<b>6.3%</b>
TECC Cost Cummulative Increase	n/a	6.1%	10.2%	17.2%	21.7%	29.3%
TECC Inc. as a % of Prev. Year's Salary	n/a	10.8%	6.8%	11.5%	7.1%	11.8%
TECC Compounded Annual Growth Rate	n/a	6.1%	5.0%	5.4%	5.0%	5.3%

The **Practical Example – Implication** section of the TECC calculator combines the projected TECC expense calculations with the assumed revenue estimates to project the number of jobs that might need to be reduced (or could be increased) to keep revenues and TECC expenses remaining equal.

The TECC tool assumes that TECC costs equal available revenue in the first year. The tool then determines the difference between projected TECC costs and projected revenues in subsequent years. After dividing that difference by that year's TECC costs for the average job, the calculator projects the number of funded jobs that must be reduced (or can be increased) to ensure revenues and expenses are equal.

Practical Example - Implication						
	2016	2017	2018	2019	2020	2021
TECC Cost of 1,000 Jobs	\$ 122,965,304	\$ 130,525,935	\$ 135,481,381	\$ 144,119,030	\$ 149,592,755	\$ 159,040,542
3.00% Rev. Inc. Assoc. w/ Same Jobs	\$ 122,965,304	\$ 126,654,263	\$ 130,453,891	\$ 134,367,508	\$ 138,398,533	\$ 142,550,489
Difference in \$	\$ -	\$ (3,871,671)	\$ (5,027,489)	\$ (9,751,522)	\$ (11,194,222)	\$ (16,490,053)
Funded Jobs Reduced	n/a	(29.66)	(37.11)	(67.66)	(74.83)	(103.68)
% of Jobs ReducedThe	n/a	-3.0%	-3.7%	-6.8%	-7.5%	-10.4%

## II. Scenario Detail Worksheet

The second worksheet, called the Scenario Detail Worksheet, demonstrates how each of the categories are calculated. The first section combines the Dollar Value Results and Percentage Change Results into one table.

	2016		2017		2018		2019		2020		2021	
	Cost	% Increase	Cost	% Increase	Cost	% Increase	Cost	% Increase	Cost	% Increase	Cost	
Payroll (Salary Only)	\$ 70,000	3.5%	\$ 72,450	3.5%	\$ 74,986	3.5%	\$ 77,610	3.5%	\$ 80,327	3.5%	\$ 83,138	
Health Insurance	17,000	6.0%	18,020	5.4%	18,993	5.3%	20,000	5.4%	21,080	5.4%	22,218	
Pension and Retiree Medical	21,777	14.8%	24,995	3.5%	25,870	15.5%	29,880	3.5%	30,926	14.3%	35,334	
PTO (30 days off)	\$ 14,188	6.1%	\$ 15,061	3.8%	\$ 15,632	6.4%	\$ 16,629	3.8%	\$ 17,261	6.3%	\$ 18,351	
TECC Cost	\$ 122,965	6.1%	\$ 130,526	3.8%	\$ 135,481	6.4%	\$ 144,119	3.8%	\$ 149,593	6.3%	\$ 159,041	

The second section shows the calculation of the Total Pension and Retiree Medical. It includes percentage values for FICA (Social Security and Medicare Tax) and PERS Pickup; the Pension Obligation Bond (POB) cost (if applicable, as a percent of Payroll); and the nominal PERS rate. For both the POB cost and PERS rate the column adjacent to the rate column is the percentage point increase column (as opposed to the percentage increase detailed in the first section). The percentage point increase is added to the nominal rate to determine the new nominal rate.

% pnt Inc. = percentage point increase	% pnt Inc.	% pnt Inc.	% pnt Inc.	% pnt Inc.	% pnt Inc.	% pnt Inc.	% pnt Inc.	% pnt Inc.
FICA and PERS Pickup	13.65%	13.65%	13.65%	13.65%	13.65%	13.65%	13.65%	13.65%
Pension Obligation Bonds	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
PERS Rate	17.46%	3.39%	20.85%	0.00%	20.85%	4.00%	24.85%	0.00%
Total Pension and Retiree Medical	31.11%	34.50%	34.50%	38.50%	38.50%	42.50%		

The third section includes two constant values: the compounding periods for calculating the CAGR and the annual hours for which an employee is paid. Annual Hours are used to calculate the value of Paid Time Off (PTO). PTO Hours are PTO Days multiplied by 8 hours. To calculate the value of Paid Time Off, PTO hours are then subtracted from the typical work year of 2,080 (Annual Hours) to determine the Hours worked. The TECC without PTO – or cash compensation – is then divided by the Hours worked. This provides a value for Hourly Cash Compensation, which is then multiplied by the number of Paid Time Off Hours to determine the value of Paid Time Off.

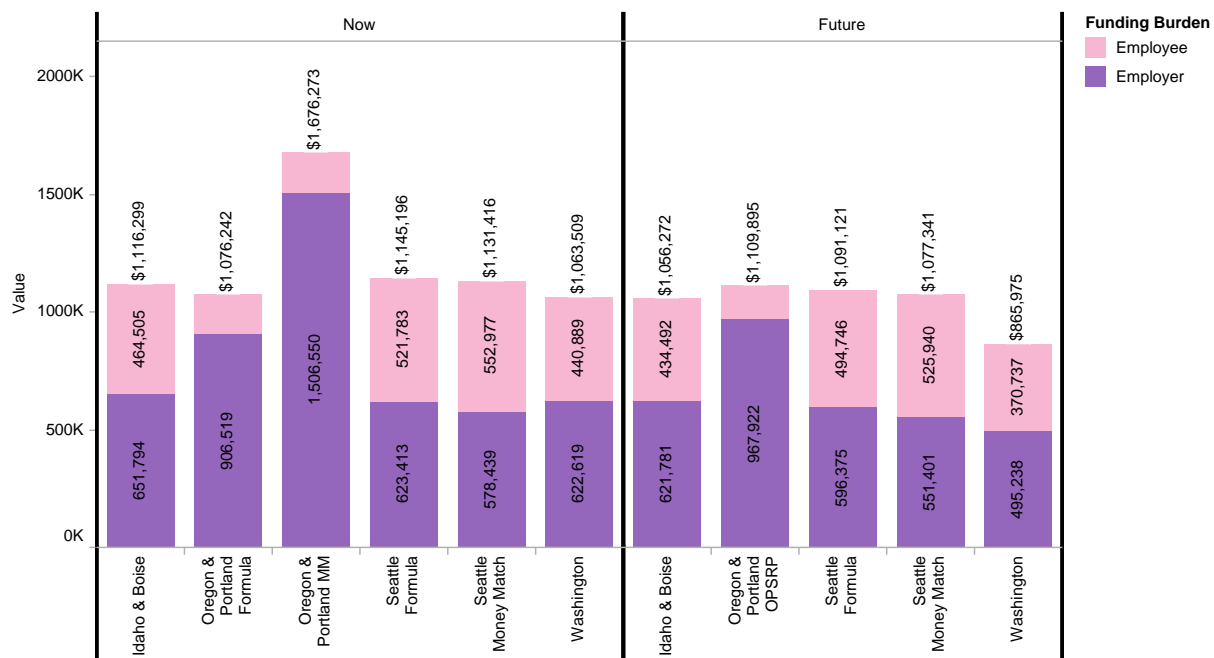
Compounding Periods for CAGR	1	2	3	4	5
Annual Hours	2,080	2,080	2,080	2,080	2,080
Paid Time Off Hours	240	240	240	240	240
Hours worked	1,840	1,840	1,840	1,840	1,840
Hourly Cash Compensation	\$ 59.12	\$ 62.75	\$ 65.14	\$ 69.29	\$ 71.92
Value of PTO	\$ 14,188	\$ 15,061	\$ 15,632	\$ 16,629	\$ 17,261

## 5. Comparison of the Relative Benefit Levels for Oregon PERS members vs. those for Comparable Employees enrolled in other states' public retirement programs

In 2013, the Center for Public Service issued a report entitled *Economic Value of Retirement Benefits for Archetypical Public Sector Retirees in Oregon, Washington, and Idaho*. This analysis took an "identical sextuplet" approach, by which it assumed that employees in these three states had identical starting dates (1983 or 2013); identical jobs and salaries; and worked long enough to retire with full pension benefits. The only substantive difference for analytical purposes was which public pension system they belonged to – either the state or the largest city in the state (Portland, Seattle, or Boise). This exhibit is for an Accountant to represent the General Service Employee.

This graphic from page 12 of that report calculated the present value benefit of the full retirement benefit (including Social Security) for Oregon's past (Tier I) and future (OPSRP) general service retirees, when compared to similar general service retirees in Washington and Idaho. The graphic accounts for the fact that several systems (including Oregon's) allow benefits to be calculated in several different ways – i.e. by "formula" or "money match." We also calculated what share of that value came from contributions paid by the public employer – e.g. employer contributions and the employer share of FICA payroll taxes (6.2% of salary), and what share resulted from public employee contributions to their public pension and any employee share of FICA payroll taxes.

Present Value of Retirement Benefit for a General Service Employee (Accountant)  
By Employer and Employee Funded Portions  
- includes Defined Benefit, Defined Contribution, and Social Security



Calculated as a standard benefit - one lifetime - from retirement with expected death at 85 and a final average salary based on a final annual wage of \$66,000 deflated at the actuarial assumption for wage inflation for each system (3.75% Washington, Oregon, Idaho and 4% Seattle) for the FAS period for the subject plan (3 years Oregon, 5 Years Idaho, 42 months Washington, 24 months Seattle, and 12 months Portland FPDR). "Now" is for a member retiring in 2013, "Future" is for an employee that started working in 2013. Uses 30 years working life for general service employee, 25 years for Police or State Trooper employee with retirement at youngest unreduced date. Oregon "Money Match" annuitized at 8%, Seattle "2 X Match" annuitized at 7.75%. Present value calculated with a 4.00% discount rate. For Social Security assumed a 4% COLA based on the experience since 1975. Also assumed Now retirees received Social Security at 65 and Future retirees received Social Security at 67. Present value of Social Security is impacted by age at retirement and wage inflation.

The report showed that, as of 2013, Oregon PERS employees retiring after 30 years using the "money match" formula would receive a benefit with a "net present value" approximately 50% larger than

comparable retirees in the Washington and Idaho systems. In addition, our analysis showed that the costs paid by the employer for that benefit would be 62% higher in Oregon, while costs paid by the employee would be 77% less than in the two other states. This is because for the typical Oregon employee, the “employee share” of PERS is also paid by public employers, with only the 6.2% Social Security payroll tax paid by the employee. In both Washington and Idaho, the employee share is typically paid by the employee.

In terms of future benefits – in this study, for employees hired in 2013 – Oregon employees who retire under the OPSRP system would receive, after 30 years, a retirement package approximately 9% larger than the average for Washington and Idaho employees. We estimated at the time that should current patterns continue, Oregon employers would fund 58% more of that benefit than their Washington and Idaho counterparts – while employees would finance 71% less.

The table below provides additional detail:

<b>Present Value Benefit Analysis of Earlier Pension Report</b>					
<b>Present Value Benefit</b>					
<b>Assumes Employee Can Retire in 2013 after 30 Years</b>					
<b>Portion Paid By</b>					
<b>Jurisdiction</b>	<b>Employer</b>	<b>Employee</b>	<b>Total</b>	<b>% Employer</b>	<b>% Employee</b>
Idaho & Boise	\$ 651,794	\$ 464,505	\$ 1,116,299	58%	42%
Oregon and Portland Formula	\$ 906,519	\$ 169,723	\$ 1,076,242	84%	16%
Oregon & Portland Money Match	\$ 1,506,550	\$ 169,723	\$ 1,676,273	90%	10%
Seattle Formula	\$ 623,413	\$ 521,783	\$ 1,145,196	54%	46%
Seattle Money Match	\$ 578,439	\$ 552,977	\$ 1,131,416	51%	49%
Washington	\$ 622,619	\$ 440,889	\$ 1,063,508	59%	41%
Average of Washington and Idaho	\$ 619,066	\$ 495,039	\$ 1,114,105	56%	44%
Oregon MM as % of WA and ID			150%	162%	23%
<b>Present Value Benefit</b>					
<b>Assumes Employee Retires w/current benefit after 30 Years - In 2043</b>					
<b>Portion Paid By</b>					
<b>Jurisdiction</b>	<b>Employer</b>	<b>Employee</b>	<b>Total</b>	<b>% Employer</b>	<b>% Employee</b>
Idaho & Boise	\$ 621,781	\$ 434,892	\$ 1,056,673	59%	41%
Oregon and Portland OPSRP	\$ 967,922	\$ 141,973	\$ 1,109,895	87%	13%
Seattle Formula	\$ 595,375	\$ 494,746	\$ 1,090,121	55%	45%
Seattle Money Match	\$ 551,401	\$ 525,940	\$ 1,077,341	51%	49%
Washington	\$ 495,238	\$ 370,737	\$ 865,975	57%	43%
Average of Washington and Idaho	\$ 565,949	\$ 456,579	\$ 1,022,528	55%	45%
Oregon MM as % of WA and ID			109%	158%	29%

Note: References and explanations are included in the report: *Economic Value of Retirement Benefits for Archetypal Public Sector Retirees in Oregon, Washington, and Idaho* (available at: [https://www.pdx.edu/cps/sites/www.pdx.edu.cps/files/PSU%20Pension%20Study%20Final%20Version%20-%2005-21-2013%20-%2009\\_55am.pdf](https://www.pdx.edu/cps/sites/www.pdx.edu.cps/files/PSU%20Pension%20Study%20Final%20Version%20-%2005-21-2013%20-%2009_55am.pdf))

## 6. Examples of Local Jurisdiction Revenue Projections

To determine the revenue projection, we looked at the websites of the largest 12 cities in Oregon. Cities for which we could find a prediction of at least 3 years of revenue, we looked at either General Fund Revenues or Total Revenues (priority was General Fund, but total or current revenue was used when General Fund projections were not available). We also adjusted by taking out any fund balance that was included (i.e. we only looked at recurring revenues as much as possible). In one city, we used only non-dedicated recurring revenues because that city had a unique local option revenue source that was expiring during this period.

We calculated the CAGR for this data and found that revenue CAGRs ranged from 1.5% to 4.82% with a median of 2.66% (Eugene). Therefore, we determined that 3% was an appropriate assumption to use for revenue increases.

City	Revenue Type	Year(s)	Average Annual Increase Assumption
Portland <sup>21</sup>	General Fund	2016-17 – 2020-21	1.5%
Salem <sup>22</sup>	General Fund	2016-17 – 2019-20	2.47%
Eugene <sup>23</sup>	Total Revenue	2016-17 – 2020-21	2.66%
Hillsboro <sup>24</sup>	Total Revenue	2016-17 – 2020-21	4.82%
Beaverton <sup>25</sup>	General Fund	N/A	2 to 4%
Bend <sup>26</sup>	Total Revenue	2016-17 – 2018-19	4%
Corvallis <sup>27</sup>	General Fund (Non-Dedicated Reoccurring)	2016-17 – 2020-21	1.95%

<sup>21</sup> City of Portland, Oregon. *Adopted Budget City of Portland, Oregon Fiscal Year 2016-17 Volume One*. Page 52. Retrieved Feb. 2, 2017, from <https://www.portlandoregon.gov/cbo/article/583311>

<sup>22</sup> City of Salem, Oregon. *Five Year Forecast Fiscal Years 2015-16 through 2019-20*. Page 15. Retrieved Feb. 2, 2017, from <http://www.cityofsalem.net/Departments/Budget/Forecast/Five%20Year%20Forecast%20FY%202015-16%20through%202019-20.pdf>

<sup>23</sup> City of Eugene, Oregon. *FY17 Adopted Budget*. Page 14. Retrieved Feb. 2, 2017, from <https://www.eugene-or.gov/1623/Budget-Documents>

<sup>24</sup> City of Hillsboro, Oregon. *Adopted Budget 2016-17*. Page 29. Retrieved Feb. 2, 2017, from <http://www.hillsboro-oregon.gov/home/showdocument?id=10105>

<sup>25</sup> City of Beaverton, Oregon. *Adopted General Fund Revenues FY 2016-17 by Major Categories*. Page 106. Retrieved Feb. 2, 2017, from <http://www.beavertonoregon.gov/DocumentCenter/View/16066>

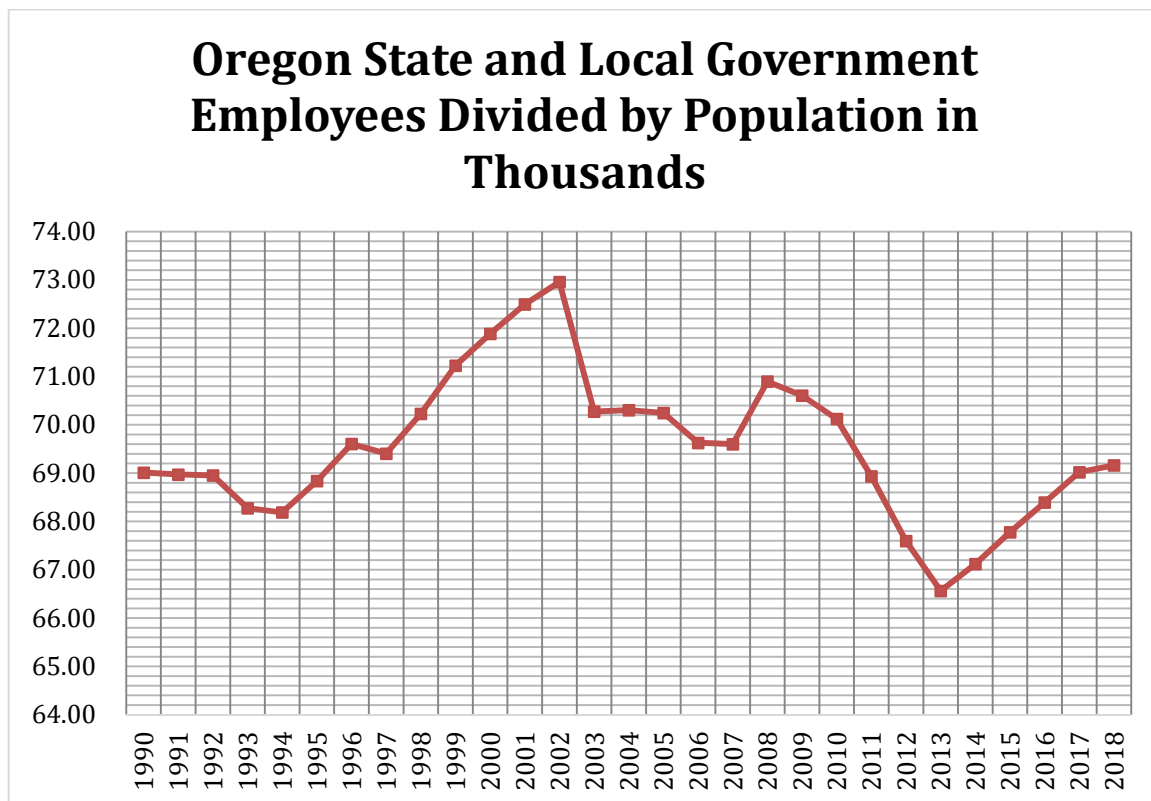
<sup>26</sup> City of Bend, Oregon. *Review of Financial Projections, Fiscal Policies and Debt Capacity and Affordability*. Page 3. Retrieved Feb. 2, 2017, from [http://bend.granicus.com/MetaViewer.php?view\\_id=2&clip\\_id=314&meta\\_id=8599](http://bend.granicus.com/MetaViewer.php?view_id=2&clip_id=314&meta_id=8599)

<sup>27</sup> City of Corvallis, Oregon. *2016-17 Adopted Budget*. Page 50. Retrieved Feb. 2, 2017, from <http://archives.corvallisoregon.gov/public/oledoc/792304/FY16-17-Adopted-Budget-Documents.pdf>



## 7. Annual State and Local Government Employment

The figures used to calculate the total number of State and Local government employees per 1,000 Oregonians were obtained from a spreadsheet produced by the Oregon Office of Economic Analysis.<sup>28</sup> The data provided included total number of state and local employees, and total population for years 1991 through to 2018 projections. To calculate the number of employees per thousand, we divided the total population by 1,000 and then divided that number by the total number of employees. The number of employees during this time period ranged from 66.56 to 72.96 employees per thousand.



<sup>28</sup> Office of Economic Analysis. (n.d.) "Historical Annual and quarterly data tables, 1990-2026 (xls): Other Indicators." *Economic and Revenue Forecasts*. Retrieved Feb. 9, 2017 from: <http://www.oregon.gov/das/OEA/Pages/forecastecorev.aspx>

## Appendix B

### The “Total Employer Cost of Compensation” (TECC) Software-Enabled Benchmarking Tool Some General Findings and Key Trends (February 2017)

The projected rise in “Total Employer Cost of Compensation,” or TECC costs for the next 5 years is grounded in key findings that have emerged from the work that PSU’s Center for Public Service has done since 2012 to identify and calculate these costs using a common yardstick.

In September 2012, CPS issued a report – “Total Employer Cost of Compensation Study (Phase 2.0)” – that extensively documented TECC costs obtained from 10 participating counties, 11 cities, and the state of Oregon’s Department of Administrative Services. The team was led by Bob Winthrop – a CPS Senior Fellow with more than 20 years’ experience in finance and budget analysis – and drew on the expertise and advice of faculty, graduate students, and local government managers.

[https://www.pdx.edu/cps/sites/www.pdx.edu.cps/files/Phase\\_2.0\\_Report\\_09.19.10am\\_finalreport.pdf](https://www.pdx.edu/cps/sites/www.pdx.edu.cps/files/Phase_2.0_Report_09.19.10am_finalreport.pdf)

In response to the report, local government participants encouraged CPS to follow up on the work in two major ways. First, to software-enable the data collection process, to make it far easier to obtain and validate key data; second, to develop a “job matching” approach that would better allow jurisdictions to compare TECC costs for comparable jobs, regardless of individual job titles.

In 2013, CPS was able to obtain funding through the state’s University Venture Development Fund (UVDF) program to build a software-enabled, web-based tool to collect and analyze TECC data. Working in partnership with the Local Government Personnel Institute (LGPI), the team also developed a framework that allows particular jobs – regardless of job title – to be deemed “comparable” based on minimum requirements, key characteristics, and job duties.

In June 2016, CPS had collected enough self-reported data from among its 30 subscribers to produce its first comprehensive “TECC Comparable Report,” which under terms of its software licensing agreement, is shared among TECC subscribers. An anonymized summary of this work was also developed, and posted on the TECC website.

<http://tecc.research.pdx.edu/?q=sample-comparable-report-2016-pdf>

Below is a brief discussion of some of the key takeaways of the Center’s TECC work to date.

#### Key Finding #1: Overall TECC costs are close to matching base salary costs for many jobs

For jobs that carry “mid-range” base salaries of \$40,000 to \$60,000, total TECC costs are now typically 190-200% of salary, once all the key components are captured and calculated (e.g. FICA taxes; PERS costs; employer-paid health care; paid time-off, other insurance; and overtime and specialty pay).

Higher paying jobs – e.g., the \$70,000 salary used in our model – will have TECC costs that are lower than a percent of base salary. This is attributable to the fact that health insurance costs tend to be the same,

regardless of the level of pay for a particular job. Even so, TECC costs for jobs in this range were on average 165% of salary.<sup>29</sup>

## Key Finding #2: Wide Variance Exists between Jurisdictions in TECC Costs.

The costs of some key TECC components – e.g., employer paid health insurance and paid time off – vary widely, jurisdiction to jurisdiction, for the same “matched jobs,” with similar duties. Here are just a few examples that are illustrated in the summary report:

TECC related health care costs (for patrol officers at the 10-year tenure level – aka police, sheriff’s deputies, etc. – ranged from a low of \$11,195 to a high of \$23,318.

The calculated value of Paid Time Off” – which includes paid holidays and vacations (but not sick leave) – also varies widely, from a low of \$8,603 to a high of \$20,074 among those TECC subscribers that matched a job to the 10-year tenure level for a standard “patrol officer” position.

For accounting positions, these costs ranged from a low of \$6,907 to \$13,017.

TECC Costs for the 10-year Accounting position with respect to Retirement benefits – including Social Security, PERS employer contributions, and any “employee pick” up by the employer – ranged from a low of \$6,194 to a high of \$13,306

The highest TECC cost for a job was \$279,925 for a General Manager Employee; the lowest TECC cost was \$45,567 for a Tax Clerk.

While all jurisdictions provided employer-paid health insurance, many provided additional types of health-related benefits. Nine jurisdictions provided an employer-financed VEBA, while 3 provided a Health Retirement Account (HRA), and 4 provided a Health Savings Account (Has).

The percentage of Salary accrued for Retirement was highest at the 30-year level at 35.62% of salary. The lowest was for entry level employees at 12.33% of salary.

## Key Finding #3: Year over Year Trends in TECC costs:

During the three fiscal years for which TECC data has now been collected and validated – 2013-14 to 2015-16 – PERS costs have remained relatively stable. This helped many jurisdictions keep the rise in their year-over-year TECC costs – for a given position, at a particular tenure level – within a range of 2-3%. However, some positions experienced increases of 4-5% in annual TECC costs, mostly due to rises in non-salary TECC costs such as health care and paid time off.

Because the TECC software tool is based on archetypical jobs – that is, the same job title, at key tenure levels – it does *not* capture overall rises in all salary costs, since many jurisdictions’ employees are also “moving up” through salary schedules to receive additional pay due to seniority. (PERS estimates those overall increases – at 3.5% annually, before adding any increases in PERS, employer paid health insurance, or other non-salary components of TECC.

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<sup>29</sup> This and other data can be found by accessing the “Sample Spring 2016 Comparable Report” at <http://tecc.research.pdx.edu/?q=sample-comparable-report-2016-pdf>

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