# Preliminary Report on the Impact of Amending the Defined Benefit Retirement Plan to the Cash Balance Pension (CBP Select) on Older Employees

In re:
Wayne Tomlinson, Alice Ballesteros, and Gary Muckelroy, individually and on behalf of all others similarly situated, v. El Paso Corporation and El Paso Pension Plan
Civil Action No. 4-cv-02686-WDM-CBS
United States District Court
for the District of Colorado

Prepared for

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# 1. Introduction and Summary of Findings

This report is a preliminary analysis of the impact on older employees of El Paso Corporation's transition from the Defined Benefit Retirement Plan to the Cash Balance Pension (CBP) from 1997 through 2006.

- Section 1 contains the Introduction and a Summary of Findings.
- Section 2 describes the factors impacting benefits for employees during the transition between plans.
- Section 3 explains the specific mechanisms through which the transition impacted older employees.
- Section 4 provides a graphical analysis of the elevated wear-away for older employees.
- Section 5 describes the method for calculating reductions in benefits and damages for the putative class.
- Section 6 provides a conclusion.
- Section 7 lists the sources of data used in the report.
- Section 8 addresses my qualifications and compensation.

## Context of the Analysis

This is a class action under the Employee Retirement Income Security Act of 1974, as amended ("ERISA"), 29 U.S.C. § 1001 et seq., and a representative action under the Age Discrimination in Employment Act of 1964, as amended (the "ADEA"), 29 U.S.C. § 621 et seq. Plaintiffs claim that defendants have violated the ADEA and ERISA by amending a defined benefit retirement plan in a manner that freezes the benefits of older, longer-service employees during a "wear-away" period, and provides lower rates of benefit accrual to almost all employees, especially older employees.[1] I have been retained by the plaintiffs to conduct statistical analyses of the impact of age on retirement benefits for the putative class.

This analysis of wear-away and other impacts of the plan transition relies on two sources of data provided by defendants. Spreadsheets were produced, providing detailed pension records for 956 El Paso, 547 Sonat and 1,372 Coastal class members. These were augmented by a web-based "extranet" through which we had restricted access to Mercer's *BeneCalc* pension administration system. We were provided information for a subset of 737 El Paso, 509 Sonat and 1,203 Coastal employees. In addition, our access to the extranet was restricted so that batch processing functions were disabled. This meant that only reports for individual employees had to be requested one at a time. In order to compile data for all putative class members, we had to construct an automated "robot" that could submit thousands of queries to this limited system.

Routines were also devised to recalculate data and reconstruct missing data, for example, account balances for employees for whom those data were missing. The database that we were able to compile was sufficient to calculate wear-away, reductions in benefits and damages for most employees.[2] The data from these

[1]Class Action Complaint, p. 1.

[2]Information was incomplete for some employees.

sources was combined and used to calculate the wear-away period and other impacts of the plan transition using spreadsheets produced by actuary Claude Poulin.[3]

### Summary of Findings

The results of this study demonstrate that the conversion to the CBP by defendants adversely impacted older employees and resulted in substantial loss in benefits for older employees. My central findings are:

1. While all employees were negatively impacted by the change to a cash balance plan, the plan is implicitly structured in such a way that older employees are more negatively impacted by the plan conversion than are younger employees.

2. Older employees spend on average a longer time accruing no additional benefits (*wear-away* period) than do younger employees, resulting in an adverse impact on older workers.

3. Age impacts the length of the wear-away period both directly through structural features of the plans and indirectly, by means of its strong relationship with all the other factors that directly impact the length of the wear-away period.

4. When the benefits under the new plan are compared to the benefits under the old plan, older employees have larger average reductions in benefits than do younger employees.

5. El Paso could have foreseen the impacts of the plan conversion on older workers using information available at that time, and therefore could have modified the plan design in order to reduce those impacts.

6. If multivariate regression is used, the statistical significance of the effect of age on wear-away is found to be so extreme (over 35 standard deviations) that it rules out the possibility that the impact due to chance.

7. Reductions in benefits as a result of the transition are quite steep for all but the youngest employees. For example, employees who were over 50 on the date their company went to the cash benefit plan had on average a 91.5 percent reduction in benefits after five years, and still had a 77.0 percent reduction in benefits after 15 years.

8. Over 90 percent of damages were borne by older employees.

These finding provide strong evidence that older employees suffered a systematic reduction in benefits as a result of the pension plan transition that defendants implemented.

## 2. Transition to El Paso Cash Balance Plan

On January 1, 1997, El Paso converted its traditional defined benefit pension plan into a "cash balance" plan. A cash balance plan attempts to mimic the behavior of a defined contribution plan, even though it is still regulated as a type of defined benefit plan. Employees under a cash benefit plan have an "account balance"

[3]The data compiled from all these sources, and the results of all computations are included in electronic Attachment 1, (with confidential data subject to Protective Order and to be filed under seal).

which is expressed as a dollar amount. The account balance opened on January 1, 1997 with employees receiving an opening account balance having a computed relationship to the accrued traditional benefit as of that date. The cash benefit account balance can grow by additions of pay credits, which are a function of salary, age, and years of vested service, and by additions of interest credits, which are computed by multiplying an interest crediting rate, based on short-term Treasury interest rates, by the balance in the account at the time the interest credits applied.

Rather than switching immediately from the traditional pension plan to the cash benefit plan, El Paso implemented a five-year transition period during which both plans grew in value. During the transition period, a person who was retiring would receive the benefit from the more valuable of the two plans. At the end of the transition period, on January 1, 2002, the benefit in the traditional pension plan was "frozen." Employees retiring after that time would still receive the benefit derived from the more valuable of the two plans, but the traditional benefit would cease to gain value, while the cash balance plan account value continued to grow. For many employees, however, the value of the cash balance plan value was substantially lower than the value of the frozen benefit, such that the cash benefit plan account value would not be used in computing the actual benefit. This greater-of transition occurs over a period of years during which the value of the actual retirement benefit ceased to grow at all. This phenomenon is called "wear-away." Generally speaking, the duration of the wear-away period will increase as a function of the size of the gap between the cash account value and the value of the frozen benefit. This phenomenon could be avoided by using an "A plus B" transition in which the cash balance credits are added to the frozen benefits.

The Sonat and Coastal companies were acquired by El Paso in 1999 and 2001, respectively. Prior to their acquisition by El Paso, these companies also had traditional defined benefit plans with benefit computation methods similar to El Paso's. These employees were also converted to El Paso's cash benefit plan after five-year transition periods.

## 3. Plan Transition Impact on Older Employees

The transition from a traditional defined benefit plan to a cash balance plan is generally a move by the plan sponsor to reduce their costs. If that is the case, it can be expected that employees as a group will have reduced benefits when such a transition occurs. In the case of the El Paso Pension Plan, the burden of these negative impacts are borne disproportionately by older workers.

### Design of the Transition Resulted in Systematic Impact on Older Employees

El Paso's transition to a cash balance plan disproportionately impacted older workers in a number of ways. These impacts were built into the very structure of the new plan. These impacts are detailed in Mr. Poulin's declaration and summarized more briefly here:

- A given nominal pay credit is more valuable for a younger employee than for an older employee, due to the interest credits that will be associated with it over the life of the employee.[4]

- Exclusion of early retirement benefits from the opening cash balance account increases the gap between the opening balance and the frozen benefit, increasing the length of the wear-away period. This effect is greater for older people, who are more likely to be old enough to have early retirement benefits included in their frozen benefit.[5]

[4]Claude Poulin Declaration, §20-22

[5]Claude Poulin Declaration, §36

- El Paso applied a pre-retirement mortality discount in the computation of the opening account balance. While the proportional impact is similar for older and younger workers, it reduces the opening account balances by a larger absolute amount for older workers, increasing the length of the wear-away period.[6]

- The benefits accrued under the prior formula during the five year transition period are not included in the opening account balance. This creates a larger gap between the value of the frozen benefit and the value of the cash balance account on the date when the prior pension benefit is frozen, thus increasing the length of the wear-away period. The size of this gap is larger with older workers, because the prior pension plan allows their increases in salary to multiply over all of their years of service.[7]

- Drops in interest rates after the plan conversion have a greater impact on older people. [8]

The fact that these disproportionate impacts are built into the structure of the plan indicates that they were not random, nor would they have been unexpected. At any time prior to implementing the new plan, an analyst with the details of the plan and a few basic assumptions could have estimated the impacts on El Paso employees and recognized that the impact is borne primarily by older workers.

## 4. Wear-Away Duration Strongly Associated with Age

### Calculation of Wear-Away

The plaintiffs have retained actuary Claude Poulin, who has made a detailed analysis of the former and new benefit plans sponsored by El Paso.[9] Mr. Poulin produced nine spreadsheet calculators that were used in our analyses: three spreadsheets for each company, El Paso, Sonat and Coastal.[10] Each spreadsheet computed values for a different analysis: (1) length of wear-away; (2) reduction in benefits from the plan transition; and (3) resulting damages.

In most instances of putative employment discrimination, the only way to determine whether employment decisions have a discriminatory impact is through observing the impact on employees. This case is different. The impact of the plan transition is *predetermined* and can be *calculated* from the age, service, prior plan benefit and salary. Therefore, we can evaluate the *systematic impact resulting from the design of the plan transition*. In other words, we know from its construction that the plan transition was not age neutral. The impact was known by defendants in advance of implementation. The monetary losses to the putative class could be calculated in advance, resulting in a substantial reduction in liabilities on defendants' books.

### Wear-Away Increases with Age

Using Mr. Poulin's spreadsheets, we report the wear-away period computed using the current annuity

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[6]Claude Poulin Declaration, §37

[7]Claude Poulin Declaration, §38

[8]Claude Poulin Declaration, §39-40

[9]Declaration of Claude Poulin.

[10]Wear-away, benefit reduction and damage calculation spreadsheets produced by Claude Poulin.

purchase rates. This wear-away period is the number of years during which the cash balance account, expressed as a monthly age 65 benefit, is less than the now frozen monthly age 65 benefit under the prior plan. The existence and length of wear-away can be calculated from four values for each employee: age, vested service, cash plan balance, and the frozen benefit value of the prior plan[11]. El Paso's payroll and pension data demonstrate convincingly that the duration of the wear-away period is strongly associated with age. During the wear-away period, employees are accruing no additional benefits. Older employees spend on average a longer time accruing no additional benefits than do younger employees, resulting in an adverse impact on older workers.

Chart 1 compares the average wear-away duration for employees 40 and over to younger employees. This chart shows the strong relationship between age and length of wear-away, and the sizeable impact on older employees. The plan transition resulted in employees 40 and over waiting on average over eight years while they earned no additional benefits, versus less than 2 years on average for employees under 40. An "adverse impact ratio" is often used to quantify the severity of adverse impact. In this case, we can compute the ratio of the mean years of wear-away for older employees relative to younger employees. The average wear-away for older employees was 8.2 years, versus 1.9 for younger employees, giving an adverse impact ratio of 421%, far exceeding ratios often associated with findings of discriminatory impact.

**Chart 1: Duration of Wear-Away By Employee Age**

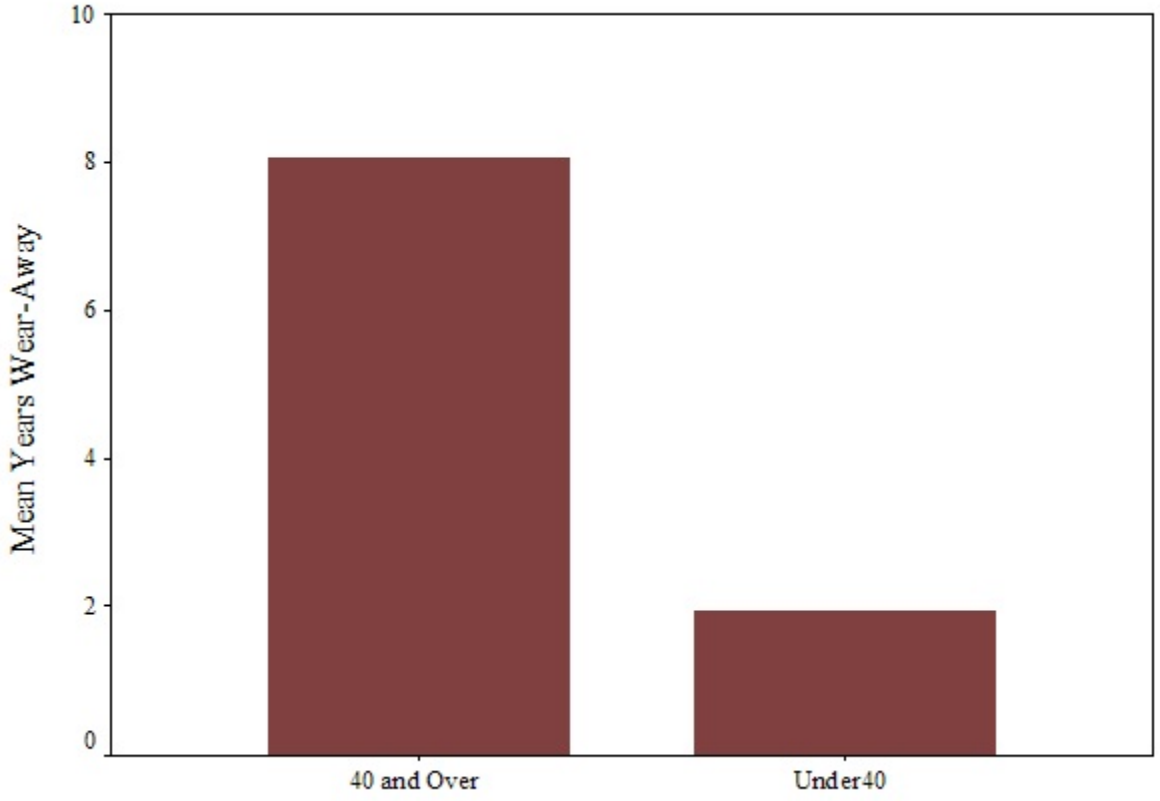



Chart 2 shows the same pattern, but displayed for each of the three companies separately . The wear-aways are consistently six to 11 years on average for older employees, while the wear-away for younger employees

[11]These data elements are computed as of the date the prior pension benefit was frozen, i.e. January 1, 2002 for El Paso, January 1, 2005 for Sonat, and April 1 2006 for Coastal.

ranged from less than one at Coastal (0.6 years) to 4.1 at El Paso. The adverse impact ratios range from 308% at Sonat to 1015% at Coastal, implying that the wear-away for older employees was over 10 times the that for younger employees.

**Chart 2: Duration of Wear-Away by Employee Age, by Company**

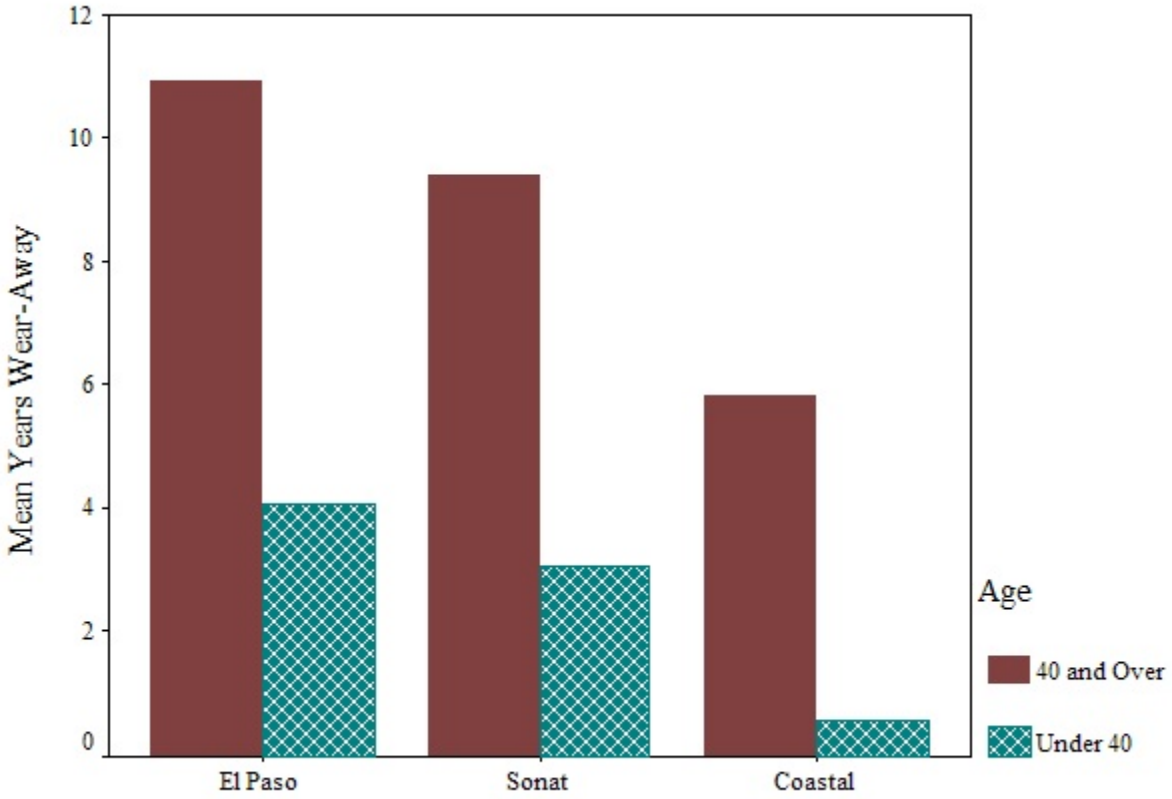



Chart 3 shows that as employees age, they experienced increasingly lengthy wear-away periods. For every five year increase in the employee's age, the wear-away period on average becomes approximately two years longer.

**Chart 3: Duration of Wear-Away by Five-Year Age Intervals**

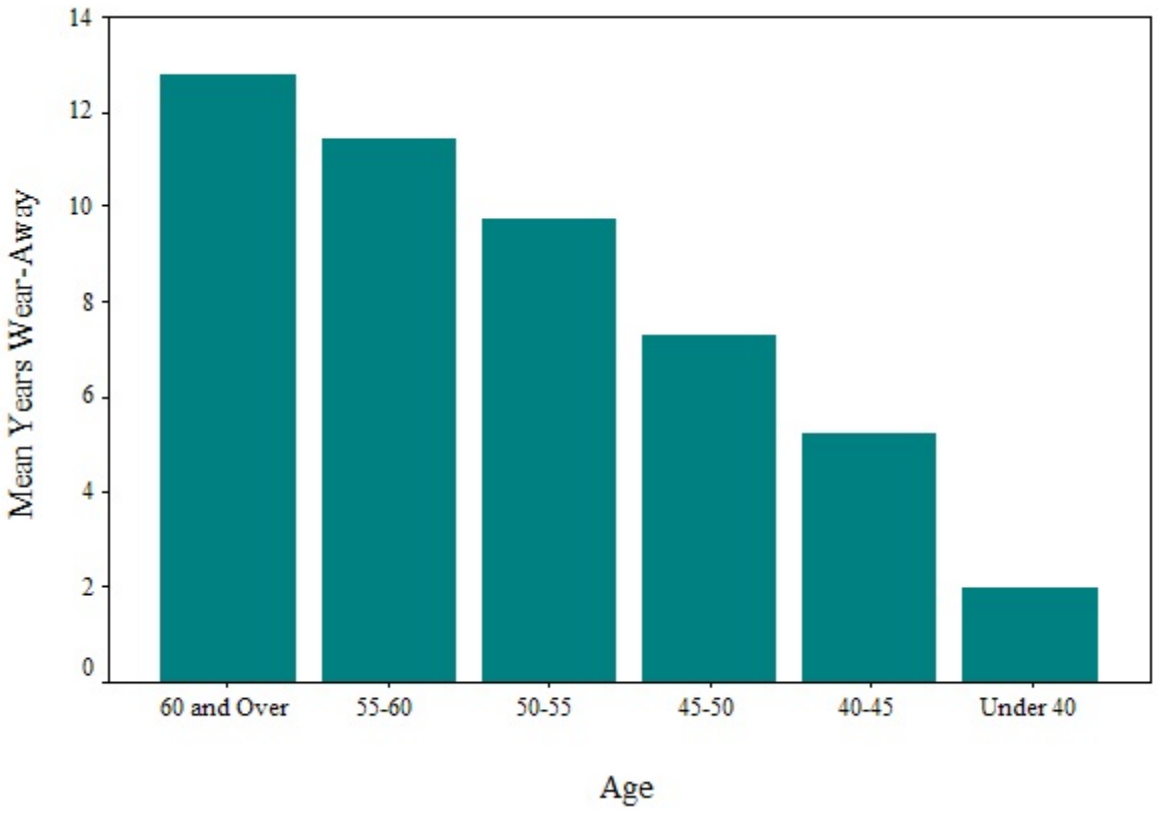
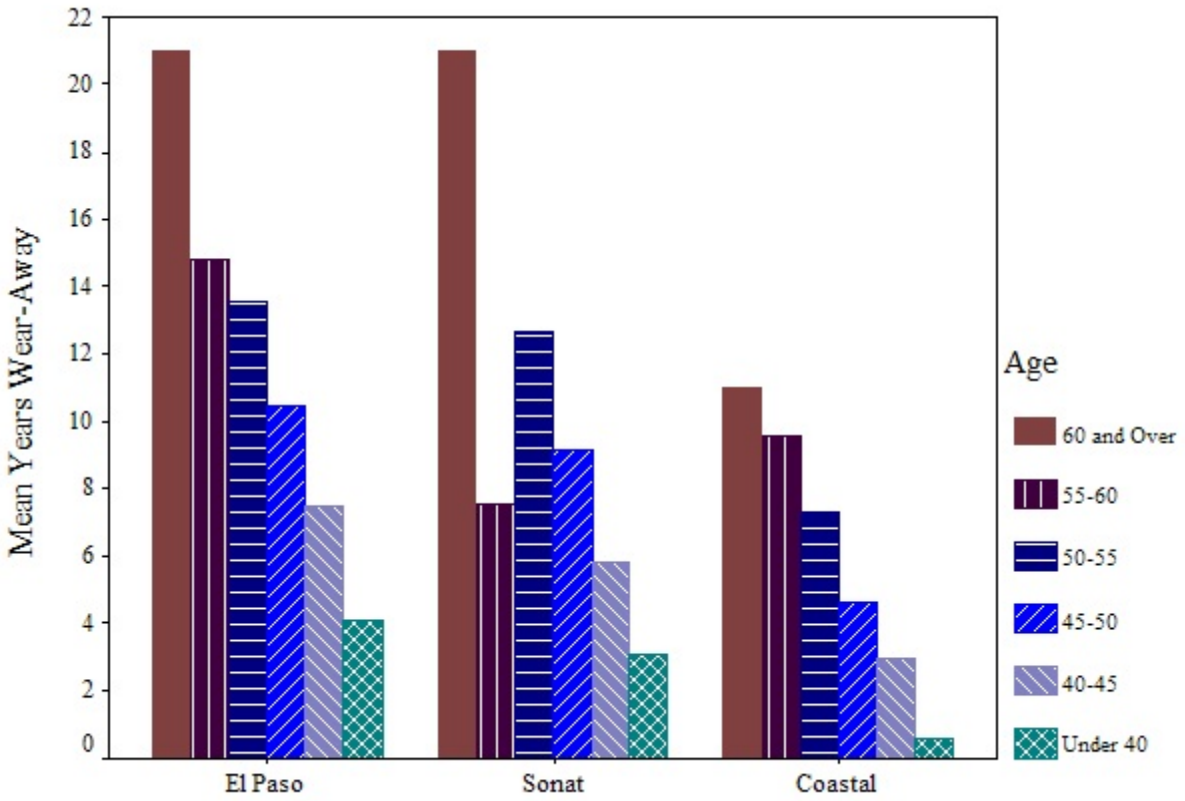



Chart 4 shows the wear-away for the same five year age bands, but for each company separately. This chart demonstrates that for El Paso and Sonat wear-away periods for older employees over 20 years. Many workers over age 50 will never resume earning retirement benefits before they retire.

**Chart 4: Duration of Wear-Away by Five-Year Age Intervals, by Company**




## Age Central Determinant of Wear-Away

The existence and length of wear-away can be calculated from five values for each employee: age, vested service, the frozen benefit, the cash balance plan value, and salary. Age is positively correlated with years of wear-away: as age increases, the years of wear-away also increases. In addition, vested service, the frozen benefit, salary, and the cash plan balance are positively correlated with age: as age increases, each of these tends to increase.

Since these factors are all positively correlated with age, the age of employees has a strong impact on the existence and length of wear-away. Age is the necessary antecedent of higher values of the other variables. As such, age is the necessary if not sufficient condition through which any of them impacts wear-away. This relationship between age and the other variables means that each of these variables will mediate the impact of age, tending to act as a proxy for age in their impact on wear-away.

For example, while an employee age 50 can have 25 years of service, it is impossible for an employee who is age 30 or 40 to have that many years of service. Similarly the frozen benefits that could be acquired by an employee of age 50 would be unachievable for a 30 or 40 year old employee. Age is a necessary precursor for all the factors affecting wear-away.

Chart 5 demonstrates the relationship between age, years of service and wear-away. Duration of wear-away is indicated by the number shown at each location representing a combination of age and service. For example, the number 11 near the middle of the chart indicates that employees age 42 with 11 years of service have an average of 11 years of wear-away. The duration of wear-away increases with age, as seen by looking across a row of numbers. Similarly, the duration of wear-away increases with increasing service, as seen by

examining a column of numbers. There is a clear upper limit on Vesting Service, reflecting the fact that generally people don't begin to work until a certain age, thus many combinations of age and service are impossible.

**Chart 5: Duration of Wear-Away by Age and Years of Vesting Service**

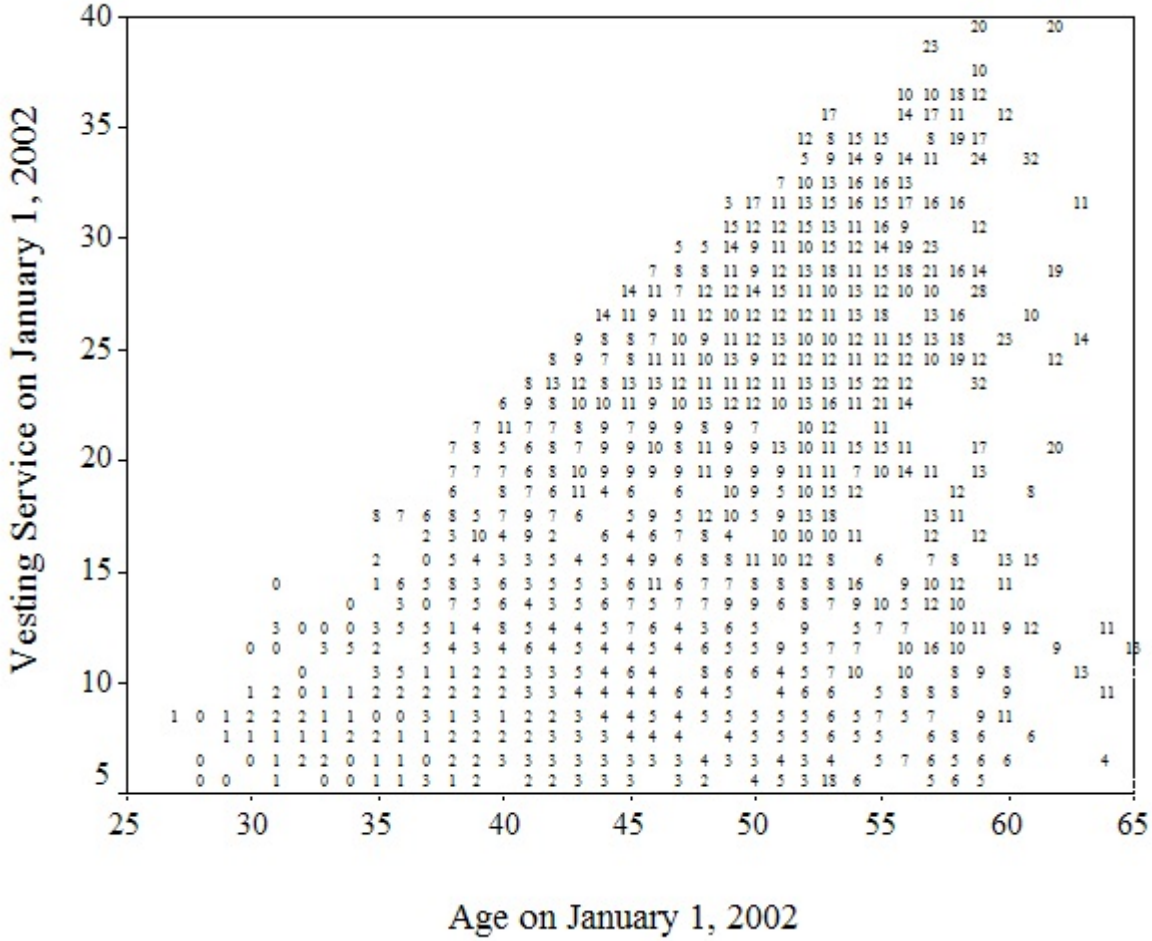
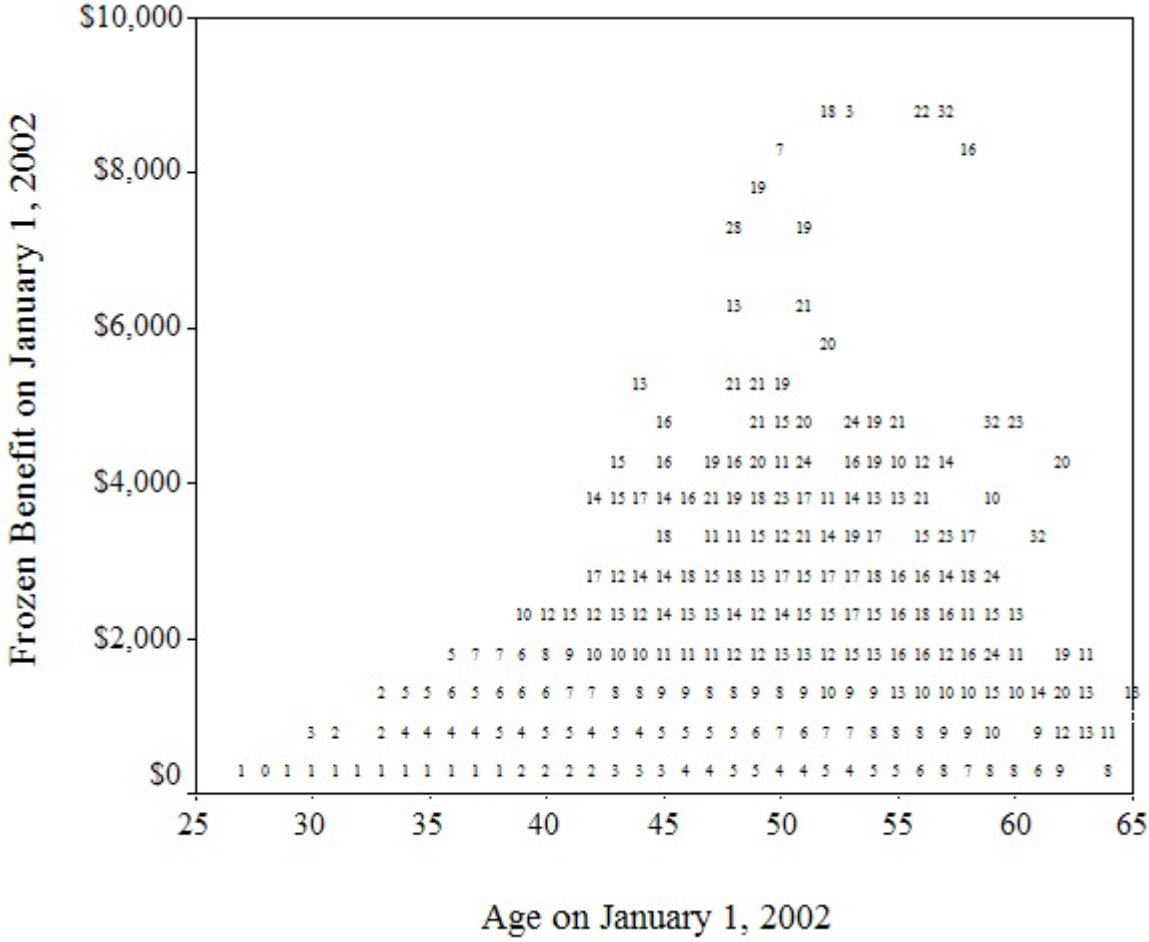



Chart 6 demonstrates the relationship between age, years of service and frozen benefit. Similar to Chart 5, duration of wear-away is indicated by the number shown at each location representing a combination of age and frozen benefit. The duration of wear-away increases with age, as seen by looking across a row of numbers. Similarly, the duration of wear-away increases with increasing frozen benefit, as seen by examining a column of numbers.

**Chart 6: Duration of Wear-Away by Age and Frozen Benefit**




## Multivariate Regression is Not Needed to Understand the Impact of Age on Wear-Away

In this case there is no need to use statistical tools like correlation analysis or multivariate regression. These tools are designed to investigate patterns that are not already known. For example, multivariate regression estimates the way each of a group of factors impacts an outcome. These tools are inappropriate in this case, since *we already know the precise relationship between each of the factors and wear-away.* We can use a tool like Mr. Poulin's spreadsheets to *compute* the impact of age on wear-away. There is no need to estimate the impact.

In any case, regression analysis does show the key role of age in lengthening the period of wear-away for older employees. This is a strong relationship because the underlying relationship between age and wear-away were built into the transition plan by defendants.

Multivariate regression evaluates the size of the effect of age on wear-away, while controlling for other variables. Age is found to be a primary and statistically significant factor in length of wear-away. A regression model including all the variables used in Mr. Poulin's calculations of wear-away[12] indicates that wear-away for employees is affected by their age, and that the impact is statistically significant at the levels

[12]The model included age, service, salary, final average salary, cash balance account value and the frozen prior benefit.

far exceeding the prima facie threshold of 0.05. In fact, the statistical significance of the effect of age on wear-away is so extreme (over 35 standard deviations) that it rules out that the impact is due to chance. To illustrate, consider that the likelihood that age is not a factor in length of wear-away is less than the chance of winning the six-number Colorado lottery 40 times in a row, each time with only one ticket.

If age were not a significant factor in wear-away, we would expect that controlling for other factors would reduce the age effect to statistical insignificance. In contrast, controlling for the significant effects of other variables leaves a highly significant effect of age.

# 5. Calculation of Benefit Reductions and Damages

In addition to the spreadsheets used to calculate wear-away, Mr. Poulin developed spreadsheets to calculate the reduction in benefits and damages resulting in the plan transition. As employees continue to work after the date of transition to the cash balance plan, they generally accrue benefits more slowly than under the prior pension plan. For most employees, there is a period during which they do not accrue benefits at all, due to the wear-away effects discussed previously. When that period ends, the employees may begin to accrue benefits again, but at a slower rate than they would have under the previous plan. The benefit reduction analysis presented here compares the monthly benefit accrued under the cash balance plan to the monthly benefit that would have been accrued under the prior pension plan. This comparison is shown at five, ten, and fifteen years after the transition date.

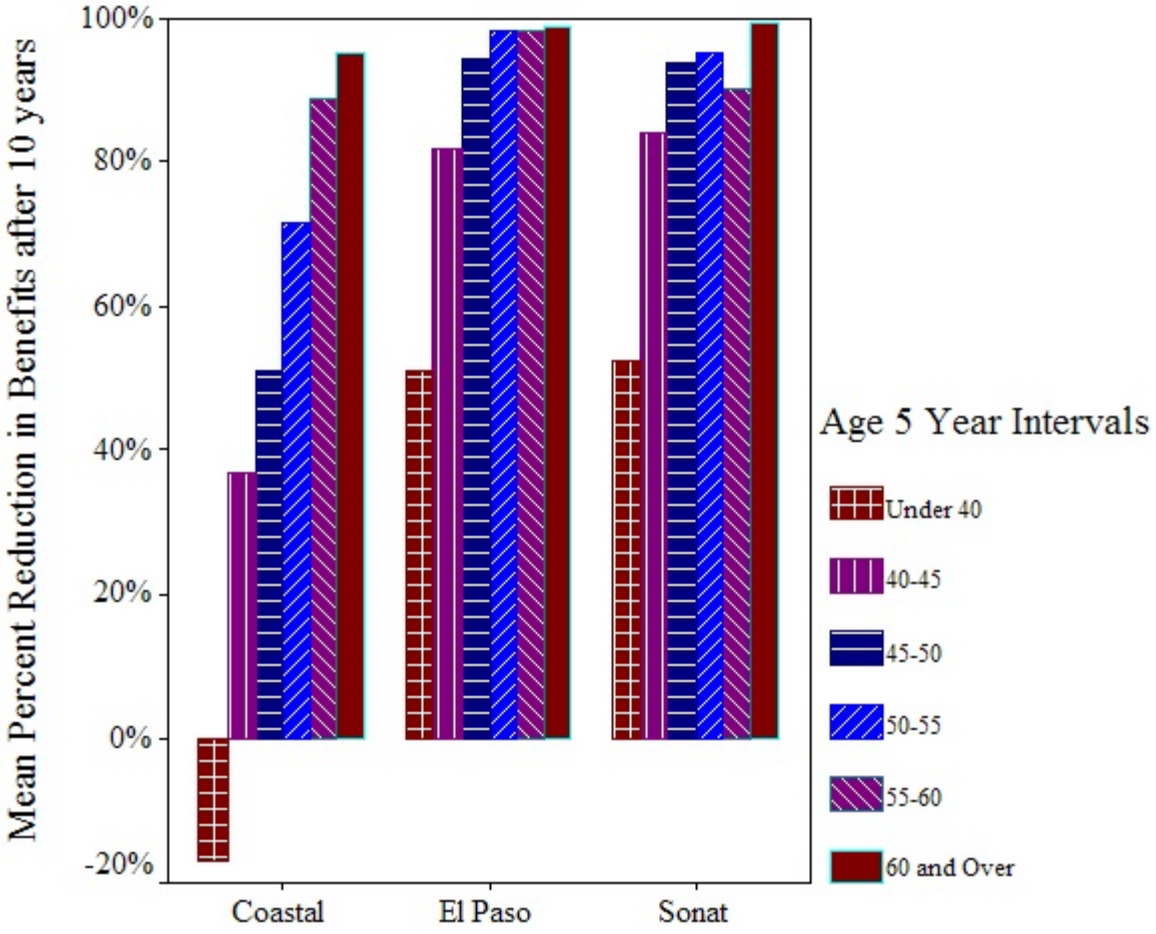
## Benefit Reductions Disproportionately Impact Older Employees

The average percentage reduction in benefits for all employees by age group is shown in Table 1. The reductions are quite steep for all but the youngest employees. Employees who were over 50 on the date their company went to the cash benefit plan had on average a 91.5 percent reduction in benefits after five years, and still had a 77.0 percent reduction in benefits after 15 years. The youngest employees on average have the smallest reductions in benefits, but over time the reduction they experience increases.

| Table 1: Reduction in Benefits By Age on Transition Date | | | |
|---|---|---|---|
| **Age Interval** | **Percent Reduction in Benefits after Five Years** | **Percent Reduction in Benefits after Ten Years** | **Percent Reduction in Benefits after Fifteen Years** |
| **Under 40** | 13.4 % | 16.9 % | 24.0 % |
| **40-45** | 76.2 % | 64.0 % | 58.7 % |
| **45-50** | 87.4 % | 75.1 % | 68.6 % |
| **50-55** | 91.5 % | 82.8 % | 77.0 % |
| **55-60** | 97.9 % | 92.2 % | 87.4 % |
| **Over 60** | 99.0 % | 95.7 % | 90.9 % |

The benefit reduction patterns vary by company. Chart 7 shows benefit reductions after ten years, by age and company. Younger employees in the Coastal company actually had increased benefits in the cash benefit plan, resulting in negative values for the benefit reduction calculation. El Paso and Sonat employees experienced greater reductions at relatively younger ages. In all three companies, there is a clear pattern showing that older employees bear the brunt of the benefit reductions.

**Chart 7: Benefit Reductions After Ten Years by Age Interval and Company**




## Damages Calculations Reveal Older Employees Suffered Over 90% of Losses

Claude Poulin's also created spreadsheets that enable us to calculate damages from wear-away only, for each individual employee who has been impacted by the transition in the El Paso pension plan.[13] The estimated damages are shown in Table 2. This table shows that over 90 percent of damages were borne by older employees.

[13]Damages are included only for employees for whom data were available, and excluding SERP employees.

| Table 2: Estimated Total Damages by Age and Company | | | |
|---|---|---|---|
| **Age Group** | **Damages for El Paso Employees** | **Damages for Sonat Employees** | **Damages for Coastal Employees** |
| **All Employees** | $21,652,360.36 | $7,348,851.71 | $7,514,335.75 |
| **Employees 40 and Over** | $20,301,920.58 | $6,549,533.49 | $7,254,093.00 |
| **% Borne by Older Employees** | 94% | 89% | 97% |

# 6. Conclusion

This report provides overwhelming and incontrovertible evidence that older employees were impacted by the pension plan transition engineered by defendants. This report is based on data produced to date. It is my understanding that data on additional employee data will be produced by defendants. This report may be amended or a supplemental report submitted as a result of subsequent production by defendants. Section 1 lists detailed conclusions under the Summary of Findings.

# 7. Data and Information Sources Used

This is an analysis based on documents received to date. This report may be revised and a supplemental report submitted if additional information is provided. I have used the following information in this analysis:

### Data and Documentation

1. Tomlinson v. El Paso Class Action Complaint filed December 29, 2004.
2. Plaintiffs' Opposition to the Motion to Dismiss.
3. Plaintiffs' Motion for Class Certification and Conditional Approval of ADEA Collective Action, with supporting brief and exhibits.
4. Judge Walker Miller's March 22, 2007 and March 19, 2008 Decisions.
5. El Paso Pension Plan document effective January 1, 2001.
6. CBP Select SPD dated August 23, 2002.
7. Mercer's Calculation Reference Manual for the El Paso Pension Plan.
8. El Paso's Form 5500 for the 2002 plan year.
9. El Paso's Actuarial Valuation Report for the 2002 plan year.
10. Pension records for Wayne Tomlinson, Alice Ballesteros and Gary Muckelroy.
11. Online calculator benefit projections for Wayne Tomlinson, Alice Ballesteros and Gary Muckelroy (P-345 to 407).
12. Sample data for Sonat and Coastal employees, including Scott W., James N., Conrad B., Carl S. and Anna G.
13. An "extranet" for Mercer's BeneCalc pension administration system.
14. Spreadsheets for 956 El Paso, 547 Sonat and 1372 Coastal class members.
15. Declaration and exhibits of Kevin Minor of Mercer related to calculations of wear-away.
16. Declaration of Claude Poulin.

17. Wear-away, benefit reduction and damage calculation spreadsheets produced by Claude Poulin.

## 8. Consultant Background

I have been retained as an expert witness in this case. I possess a Ph.D. in Mathematical Statistics and have been endorsed as an expert in the field of statistics. I have been retained by plaintiffs and defendants to perform statistical evaluation of discrimination in a variety of contexts, and have testified as an expert in the area of statistics and the statistical evaluation of discrimination in United States District Court for the District of Colorado, United States District Court, Nevada, and the Circuit Court of the Sixth Judicial Circuit, Pinellas County, Florida. My Curriculum Vitae is attached. Cases in which I have testified as an expert at trial or by deposition within the preceding four years are indicated on my Curriculum Vitae in bold and are bulleted (▶). My publications in the previous ten years are listed in my Curriculum Vitae.

My hourly rates are $350 per hour for testimony and preparation, $250 for consultation and research.

Robert A. Bardwell, Ph. D.