

Exh. CN-3  
Docket TP-220513  
Witness: Christopher Noble

**BEFORE THE STATE OF WASHINGTON  
UTILITIES AND TRANSPORTATION COMMISSION**

WASHINGTON UTILITIES AND  
TRANSPORTATION COMMISSION,

Complainant,

v.

PUGET SOUND PILOTS,

Respondent.

Docket No. TP-220513

**EXHIBIT TO TESTIMONY OF  
Christopher Noble  
ON BEHALF OF  
PACIFIC MERCHANT SHIPPING ASSOCIATION**

**Christopher Noble Report with Charts**

**FEBRUARY 10, 2023**

# Noble Actuarial Consulting

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1134 E. 8<sup>th</sup> St.  
Port Angeles, WA 98362

July 1, 2022

Captain Mike Moore, Vice President  
Pacific Merchant Shipping Association  
World Trade Center  
2200 Alaskan Way, Suite 160  
Seattle, WA 98121

Re: Report of Findings on Puget Sound Pilots' Proposed Defined Benefit Pension Plan

Dear Captain Moore:

This letter/report, including attached exhibits, is prepared exclusively for the use of Pacific Merchant Shipping Association (PMSA) for due diligence on the Puget Sound Pilots' proposed defined benefit pension plan (PSP DB Plan), as described in our engagement letter dated June 2, 2022. It should not be relied upon by any other party or by PMSA for any other purpose.

## **Issues for PSP DB Plan**

I recommend that PMSA or PSP engage ERISA legal counsel for a complete review of the requirements of a defined benefit pension plan qualified under section 401(a) of the Internal Revenue Code [IRC 401(a)]. The following observations about the proposed plan are provided from the perspective of my actuarial experience with defined benefit pension plans and are not intended and should not be construed as legal advice. These observations should also not be

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construed as an exhaustive list of the legal, financial or administrative complications of converting the Farebox benefits into a qualified DB plan.

- Participant compensation that may be used in the determination of benefits in a qualified defined benefit pension plan is limited by IRC 401(a)(17). That limit is adjusted annually for inflation and is \$305,000 in 2022. It is unclear how the benefit formula in the current Farebox plan could be used in a tax-qualified plan without applying this compensation limit and reducing benefits. The reduction could be made up through the Farebox plan, but that would require an additional set of calculations and increase administrative complexity.
- Benefits provided by a qualified defined benefit plan are limited under IRC 415(b). Benefits under the current Farebox plan formula could potentially exceed those limits in certain circumstances. In any case, benefits under the plan would need to be checked against those limits and truncated if necessary.
- Administrative complications: Qualified defined benefit plans are required to offer participants some alternative forms of payment (e.g., a form in which the surviving spouse receives a percentage of the initial benefit amount other than the 50% provided in the current plan). Procedures would need to be established to determine the amount of such alternative forms of payment, provide participants an election opportunity and appropriate information and disclosures, and implement payment of the elected form. Furthermore, Qualified defined benefit plans are required to accept Qualified Domestic Relations Orders (QDROs) that meet appropriate criteria. A QDRO would assign a portion of the participant's benefit to another party. The plan would need to have procedures in place to review and implement such orders.
- Investment considerations: A qualified DB plan must have processes in place for prudent management of invested funds.
- Funded status considerations: When plan asset values fall below certain critical threshold percentages of the funding target (present value of accrued benefits), restrictions on the operation of the plan are imposed under IRC 436. If previously accrued benefits are included in the qualified DB plan, the likelihood of encountering those restrictions will be high until those past accrued benefits have been funded.
- Nondiscrimination issues: If any of the sponsors of the multiple employer plan has employees other than the covered pilot, the plan may be required to include some or all of those additional employees under IRC 401(a)(4), 401(a)(26) or 410(b).

- Additional administrative expenses: Qualified pension plans must pay annual premiums to the Pension Benefit Guarantee Corporation (PBGC). Premiums in the first year could range from approximately \$5,000 if the plan provides benefits only for future service to approximately \$80,000 if benefits for past service, including for retirees, are included in the plan. In addition, services of an Enrolled Actuary would be required annually for the PBGC premium filing and the form 5500 filed with the IRS, and services of an accountant would be required to audit the financial statements of the plan.

### **Risks for PSP DB Plan**

- Funding requirements: Qualified defined benefit pension plans are required to pre-fund benefits. Consequently, conversion of any part of the current Farebox plan to a qualified DB plan will accelerate the need for contributions. Minimum contribution amounts are determined under IRC 430 and reflect the value of benefits accruing, amortization of unfunded past accruals, and amortization of changes in the plan's funded status (positive or negative) other than by required contributions. Decreasing discount rates and adverse plan experience (such as worse-than-expected investment performance, earlier-than-expected retirements or larger-than-expected increases in the retirement base) may create unanticipated spikes in required contributions.
- Permanence: Once established, a qualified defined benefit plan may generally be terminated only if all benefits under the plan are fully secured through insurance contracts or lump sum distributions to participants. Both of these ways of securing benefits are likely to cost more than the actuarial accrued liability for the benefits, so termination of the plan would require a significant additional infusion of cash. This requirement may make it difficult or impossible to end the plan when contribution requirements are more onerous than anticipated.

### **Review of Milliman Contribution Projections**

We find that the 50-year contribution projections are reasonable estimates, in both pattern over time and overall magnitude, based on the assumptions used in those estimates and the participant data provided to us. Note, however, that we have not matched Milliman's projections with our own calculations. A precise match would be beyond the scope of our engagement.

Present values shown at the bottom of Milliman's projections have been revised.

Milliman's projections show that total contributions are reduced when benefits are moved into a qualified defined benefit plan. This reduction is entirely attributable to use of the earnings on invested assets to help pay the benefits.

Milliman has indicated that their projections were prepared in order to estimate the relative impact on plan funding requirements of the three scenarios outlined, and cautioned against their use for any other purpose.

### Projection Assumptions

We find that the assumptions employed in Milliman's projections are reasonable for the purpose of the projection, but there are significant risks that key assumptions will not be realized and that required contributions will exceed the projected contributions. The assumptions are summarized in an attachment.

- Discount rate: Regulatory discount rates in 2022 are slightly lower than the rates used by Milliman as of July 1, 2021. Because the discount rates required to be used for qualified plan minimum required contributions are based on long-term average market rates, the required rates are likely to decline further in coming years, especially after 2025 when legislated floor on rates begins to relax. Lower discount rates would increase the required contributions to the plan. If market rates continue to increase as they have in recent months, the effect of the declining long-term average may be muted, but in the short term, defined benefit plan contributions are likely to be higher than those shown in Milliman's projections due to lower discount rates.
- Expected return on invested assets: Milliman's structure for the investment return assumption is difficult to analyze in detail, with the rate of return varying over time; but it is equivalent to a long-term rate of approximately 6%. The assumed rates of return may not be unreasonable for a diversified portfolio; but achieving those returns will likely require some allocation to more volatile asset classes, such as stocks, creating significant variation in actual returns. Such variations will create significant deviations (up or down) in required contributions from the projection.
- Mortality: The IRS annually updates the required mortality assumption used to determine minimum required contributions. Historically, those updates have tended to increase plan obligations and required contributions. However, the mortality experience used to set the assumption does not yet reflect the effects of the COVID-19 pandemic on life

expectancy, so the historical norm might not continue unchecked when experience from 2020 and 2021 is included in the development of the prescribed mortality assumption. Milliman's projections have assumed no change in the prescribed mortality assumption, potentially understating long-term contributions for the DB plan if the overall trend in the required assumption is similar to the historical pattern.

- Participant gender: Milliman has assumed that all pilots are male. Because females have longer life expectancy than males, if any pilots are female, the Farebox costs would be slightly higher in the later years. In the DB plan, those higher future expected payments are recognized immediately and would increase required contributions starting in 2022.
- Plan expenses: No plan expenses have been included in the projection. Required contributions in the DB plan would be increased by expected expenses of the plan, including PBGC premiums, administrative costs, actuarial and accounting fees, and investment expenses.

### Sensitivities

The attached exhibits provide the projected contribution amounts from Milliman (for ease of comparison) and estimated adjustments to those projected contributions for the following two scenarios:

- Reduce discount rate and expected return on assets by 100 basis points. Under current law, the discount rates will never fall below 3.75%. Therefore, while this scenario is not a worst case, it is reasonably conservative relative to the range of likely discount rates. For simplicity, the reduced discount rates are assumed to apply in all years, even though it would take several years before the actual required rates could possibly get that low.
- Retain Milliman's assumed discount rate and reduce active pilot count to 44 pilots. Milliman indicates that their projections reflect a steady count of 52 active pilots. The attached estimated adjustment allows the count to drop to 44 through normal attrition before new pilots are brought into the plan to keep the count at that level.

Note that in order to provide comparability, these additional projections are based on estimates of the sensitivity of Milliman's projections to the discount rate and active pilot count. They rely on the Milliman projection and were not developed independently from Milliman's projections. Our sensitivities are intended only to provide an estimate of the impact on Milliman's projections of changes in key assumptions. In light of all of Milliman's caveats on the use of their

Review of Proposed PSP DB Plan

Captain Mike Moore  
July 1, 2022

projections, and on the issues with the underlying assumptions discussed above, these additional projections should not be used for any purpose other than understanding the impact of changes in these key assumptions.

### **Summary of Information Provided**

In preparing this report, I have relied upon all the information provided by PMSA, including participant census data and a description of plan provisions, and on the projections developed by Milliman and the information describing those projections. I have reviewed the information provided for reasonableness, but have no basis for assessing the accuracy or completeness of the census data or plan provisions. I have assumed that the information provided is appropriate for plan measurements as of July 1, 2021; and I am not aware of any events subsequent to that date that would significantly affect the results of my analysis. Documents relied upon for this report include:

- Census data in PSP Actuarial Info-C.xls including 49 active pilots and 68 retired pilots and surviving spouses.
- Plan provisions in Pension Plan 8-8-06.pdf.
- Projected contributions in 50-Year Cost Projections-C.pdf
- Actuarial Methods and Assumptions-C.pdf, and clarifying e-mail responses to questions dated June 29, 2022 and June 30, 2022.

I am a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. I meet the Qualification Standards to issue statements of actuarial opinion on pension plans in the United States.

Signed:



7/1/2022

Chris Noble

Noble Actuarial Consulting

Attachments: Summary of Methods and Assumptions, Projection Exhibits

## Review of Proposed PSP DB Plan

### Summary of Methods and Assumptions

Unless noted otherwise, we understand that these methods and assumptions were used by Milliman in their contribution projections. Unless indicated otherwise, we believe that these methods and assumptions are reasonable for the purpose of the projections.

#### **Actuarial cost method**

The unit credit actuarial cost method was used. This method is used for determination of qualified pension plan minimum required contributions under current regulations.

#### **Funding policy**

Annual contributions are assumed to be made on the first day of the plan year (July 1) equal to the minimum required contributions. Under current regulations, contributions may be deferred up to 20.5 months, but must be increased with interest over the deferral period.

#### **Discount rates**

In the Milliman projections and the projections adjusted for active pilot count, required contributions were determined using the segment rates prescribed by regulations for such purpose for plan years beginning July 1, 2021. We believe that these rates are reasonable for the first plan year in the projection, but that they may be biased toward understating the DB plan contribution requirements in later years. Present values at the bottom of the projections are calculated using a discount rate of 5%. The projections assume that annual losses on the benefit obligation due to refreshing the select periods for the first two segments are matched by investment gains.

In the discount rate sensitivity projections, each segment rate was decreased by 100 basis points. We believe these rates are appropriate for showing the sensitivity of contributions to the discount rates, but are biased toward overstating contribution requirements in the short term. Present values at the bottom of these projections are calculated using a discount rate of 4%.

#### **Return on invested assets**

The return on invested assets is assumed to equal the increase in funding target other than due to accrual of additional benefits. This assumption simplifies the projection. It is difficult to quantify precisely, but results in a long-term rate of return of approximately 6%. In the discount rate sensitivity projections, the long-term rate of return is reduced by approximately 100 basis points.



Review of Proposed PSP DB Plan

## Summary of Methods and Assumptions

### Pilot income

Pilot income is assumed equal to the Retirement Base, \$393,790 as of July 1, 2022, and is assumed to increase 2% per year. We are unable to assess whether the Retirement Base is a reasonable assumption for pilot income. 2% is a reasonable wage inflation assumption based on historical national trends, but in the current environment may be biased to understating contributions for both Farebox and DB plans. We have no information with which to assess the reasonableness of this assumption for pilot income in particular.

### Mortality

The IRS prescribed separate annuitant and non-annuitant tables for 2021 for minimum contribution requirements are used. This assumption is reasonable as of July 1, 2022. See discussion in the body of the report about its use at later dates.

### Preretirement decrements

No disability or pre-retirement termination is assumed. We are unable to assess the reasonableness of this assumption.

### Retirement age

Pilots are assumed to retire at ages 60 through 70, with the following probabilities.

Age	Retirement Rate
Under 60	0%
60	5%
61	5%
62	15%
63	15%
64	17.5%
65	20%
66	25%
67	25%
68	33%
69	50%
70	100%

This assumption is not inconsistent with the ages at retirement of the retirees in the data.

## Review of Proposed PSP DB Plan

### Summary of Methods and Assumptions

#### **Missing demographic data**

Spouses are assumed to be three years younger than participants. This is a typical assumption for male participants. 70% of pilots are assumed to have a spouse eligible for benefits upon the pilot's death. This is a typical assumption for pension plans.

Both active and retired pilots are assumed to be male, and their spouses are assumed to be female. We are unable to assess the reasonableness of these assumptions.

Date of birth is missing for three surviving spouses receiving benefits and for one retired pilot. The pilot is assumed to be 74 years old on July 1, 2021 and the surviving spouses are assumed to be 71 years old. The assumed age for the pilot is close to the average age of retired pilots in the data. The assumed age for surviving spouses is consistent with the assumed age for the pilot, but significantly younger than the average age of surviving spouses in the data. The assumption may be biased toward overstating the Farebox contributions in later years, but it is not expected to have a significant effect.

The data includes 49 active pilots, but the baseline and discount rate sensitivity projections assume 52 active pilots. The three additional pilots are assumed to have the average age and service of the 49 pilots in the data. We are unable to assess the reasonableness of this assumption.

Milliman Projection  
 Milliman Discount Rates  
 52 Active Pilots

Year	Current Farebox	Current Retirees and Current Actives (Past Only) Remain Farebox, DB Plan for All Active Future Accruals			Current Retirees Remain Farebox, DB Plan for All Active Benefits		
	Annual	Annual Contributions			Annual Contributions		
	Contribution	Farebox	DB Plan	Total	Farebox	DB Plan	Total
2022	5,416,000	5,410,000	2,601,000	8,011,000	5,281,000	4,858,000	10,139,000
2023	5,634,000	5,603,000	2,665,000	8,268,000	5,177,000	4,921,000	10,098,000
2024	5,827,000	5,749,000	2,764,000	8,513,000	5,067,000	5,021,000	10,088,000
2025	6,037,000	5,882,000	2,834,000	8,716,000	4,950,000	5,090,000	10,040,000
2026	6,261,000	6,000,000	2,901,000	8,901,000	4,826,000	5,157,000	9,983,000
2027	6,543,000	6,135,000	2,932,000	9,067,000	4,694,000	5,188,000	9,882,000
2028	6,753,000	6,189,000	3,013,000	9,202,000	4,555,000	5,269,000	9,824,000
2029	6,918,000	6,183,000	3,095,000	9,278,000	4,409,000	5,352,000	9,761,000
2030	7,119,000	6,170,000	3,146,000	9,316,000	4,255,000	5,403,000	9,658,000
2031	7,327,000	6,138,000	3,200,000	9,338,000	4,094,000	5,457,000	9,551,000
2032	7,517,000	6,060,000	3,240,000	9,300,000	3,926,000	5,497,000	9,423,000
2033	7,658,000	5,936,000	3,314,000	9,250,000	3,752,000	5,570,000	9,322,000
2034	7,758,000	5,786,000	3,412,000	9,198,000	3,571,000	5,669,000	9,240,000
2035	7,844,000	5,614,000	3,504,000	9,118,000	3,386,000	5,761,000	9,147,000
2036	7,955,000	5,436,000	3,585,000	9,021,000	3,196,000	5,842,000	9,038,000
2037	8,088,000	5,252,000	3,657,000	8,909,000	3,003,000	3,657,000	6,660,000
2038	8,163,000	5,042,000	3,771,000	8,813,000	2,808,000	3,771,000	6,579,000
2039	8,220,000	4,816,000	3,887,000	8,703,000	2,611,000	3,887,000	6,498,000
2040	8,326,000	4,590,000	3,970,000	8,560,000	2,415,000	3,970,000	6,385,000
2041	8,376,000	4,353,000	4,105,000	8,458,000	2,219,000	4,105,000	6,324,000
2042	8,435,000	4,112,000	4,229,000	8,341,000	2,026,000	4,229,000	6,255,000
2043	8,524,000	3,871,000	4,337,000	8,208,000	1,836,000	4,337,000	6,173,000
2044	8,619,000	3,629,000	4,455,000	8,084,000	1,651,000	4,455,000	6,106,000
2045	8,770,000	3,391,000	4,541,000	7,932,000	1,472,000	4,541,000	6,013,000
2046	8,933,000	3,153,000	4,635,000	7,788,000	1,302,000	4,635,000	5,937,000
2047	9,125,000	2,919,000	4,714,000	7,633,000	1,140,000	4,714,000	5,854,000
2048	9,356,000	2,691,000	4,778,000	7,469,000	989,000	4,778,000	5,767,000
2049	9,603,000	2,470,000	4,840,000	7,310,000	850,000	4,840,000	5,690,000
2050	9,806,000	2,252,000	4,932,000	7,184,000	722,000	4,932,000	5,654,000
2051	9,987,000	2,042,000	5,032,000	7,074,000	606,000	5,032,000	5,638,000
2052	10,183,000	1,842,000	5,127,000	6,969,000	503,000	5,127,000	5,630,000

Milliman Projection  
 Milliman Discount Rates  
 52 Active Pilots

Year	Current Farebox	Current Retirees and Current Actives (Past Only) Remain Farebox, DB Plan for All Active Future Accruals			Current Retirees Remain Farebox, DB Plan for All Active Benefits		
	Annual Contribution	Annual Contributions			Annual Contributions		
	Farebox	DB Plan	Total	Farebox	DB Plan	Total	
2053	10,426,000	1,654,000	5,200,000	6,854,000	412,000	5,200,000	5,612,000
2054	10,625,000	1,476,000	5,308,000	6,784,000	332,000	5,308,000	5,640,000
2055	10,815,000	1,310,000	5,418,000	6,728,000	264,000	5,418,000	5,682,000
2056	10,978,000	1,156,000	5,548,000	6,704,000	207,000	5,548,000	5,755,000
2057	11,156,000	1,015,000	5,673,000	6,688,000	160,000	5,673,000	5,833,000
2058	11,349,000	886,000	5,799,000	6,685,000	122,000	5,799,000	5,921,000
2059	11,556,000	770,000	5,926,000	6,696,000	91,000	5,926,000	6,017,000
2060	11,775,000	667,000	6,056,000	6,723,000	67,000	6,056,000	6,123,000
2061	12,005,000	574,000	6,189,000	6,763,000	48,000	6,189,000	6,237,000
2062	12,246,000	493,000	6,324,000	6,817,000	34,000	6,324,000	6,358,000
2063	12,497,000	422,000	6,462,000	6,884,000	24,000	6,462,000	6,486,000
2064	12,759,000	360,000	6,602,000	6,962,000	16,000	6,602,000	6,618,000
2065	13,029,000	306,000	6,747,000	7,053,000	11,000	6,747,000	6,758,000
2066	13,307,000	260,000	6,895,000	7,155,000	7,000	6,895,000	6,902,000
2067	13,592,000	221,000	7,046,000	7,267,000	4,000	7,046,000	7,050,000
2068	13,886,000	187,000	7,200,000	7,387,000	3,000	7,200,000	7,203,000
2069	14,186,000	159,000	7,356,000	7,515,000	2,000	7,356,000	7,358,000
2070	14,494,000	134,000	7,516,000	7,650,000	1,000	7,516,000	7,517,000
2071	14,809,000	114,000	7,679,000	7,793,000	1,000	7,679,000	7,680,000
2072	15,132,000	97,000	7,844,000	7,941,000	-	7,844,000	7,844,000
Total Payments:	495,703,000	156,977,000	246,004,000	402,981,000	93,098,000	279,853,000	372,951,000
Present Value: (at 5.0%)	152,196,000	84,895,000	74,101,000	158,996,000	57,740,000	99,183,000	156,923,000

Milliman Projection  
Adjusted Discount Rates (-100 basis points)  
52 Active Pilots

Year	Current Retirees and Current Actives (Past Only) Remain Farebox, DB Plan for All Active Future Accruals			Current Retirees Remain Farebox, DB Plan for All Active Benefits			
	Current Farebox Annual Contribution	Annual Contributions			Annual Contributions		
		Farebox	DB Plan	Total	Farebox	DB Plan	Total
2022	5,416,000	5,410,000	3,067,000	8,477,000	5,281,000	5,521,000	10,802,000
2023	5,634,000	5,603,000	3,143,000	8,746,000	5,177,000	5,596,000	10,773,000
2024	5,827,000	5,749,000	3,260,000	9,009,000	5,067,000	5,714,000	10,781,000
2025	6,037,000	5,882,000	3,342,000	9,224,000	4,950,000	5,795,000	10,745,000
2026	6,261,000	6,000,000	3,421,000	9,421,000	4,826,000	5,874,000	10,700,000
2027	6,543,000	6,135,000	3,458,000	9,593,000	4,694,000	5,911,000	10,605,000
2028	6,753,000	6,189,000	3,553,000	9,742,000	4,555,000	6,006,000	10,561,000
2029	6,918,000	6,183,000	3,650,000	9,833,000	4,409,000	6,104,000	10,513,000
2030	7,119,000	6,170,000	3,710,000	9,880,000	4,255,000	6,164,000	10,419,000
2031	7,327,000	6,138,000	3,774,000	9,912,000	4,094,000	6,228,000	10,322,000
2032	7,517,000	6,060,000	3,821,000	9,881,000	3,926,000	6,275,000	10,201,000
2033	7,658,000	5,936,000	3,908,000	9,844,000	3,752,000	6,361,000	10,113,000
2034	7,758,000	5,786,000	4,024,000	9,810,000	3,571,000	6,478,000	10,049,000
2035	7,844,000	5,614,000	4,132,000	9,746,000	3,386,000	6,586,000	9,972,000
2036	7,955,000	5,436,000	4,228,000	9,664,000	3,196,000	6,682,000	9,878,000
2037	8,088,000	5,252,000	4,313,000	9,565,000	3,003,000	4,313,000	7,316,000
2038	8,163,000	5,042,000	4,447,000	9,489,000	2,808,000	4,447,000	7,255,000
2039	8,220,000	4,816,000	4,584,000	9,400,000	2,611,000	4,584,000	7,195,000
2040	8,326,000	4,590,000	4,682,000	9,272,000	2,415,000	4,682,000	7,097,000
2041	8,376,000	4,353,000	4,841,000	9,194,000	2,219,000	4,841,000	7,060,000
2042	8,435,000	4,112,000	4,987,000	9,099,000	2,026,000	4,987,000	7,013,000
2043	8,524,000	3,871,000	5,115,000	8,986,000	1,836,000	5,115,000	6,951,000
2044	8,619,000	3,629,000	5,254,000	8,883,000	1,651,000	5,254,000	6,905,000
2045	8,770,000	3,391,000	5,355,000	8,746,000	1,472,000	5,355,000	6,827,000
2046	8,933,000	3,153,000	5,466,000	8,619,000	1,302,000	5,466,000	6,768,000
2047	9,125,000	2,919,000	5,559,000	8,478,000	1,140,000	5,559,000	6,699,000
2048	9,356,000	2,691,000	5,635,000	8,326,000	989,000	5,635,000	6,624,000
2049	9,603,000	2,470,000	5,708,000	8,178,000	850,000	5,708,000	6,558,000
2050	9,806,000	2,252,000	5,816,000	8,068,000	722,000	5,816,000	6,538,000
2051	9,987,000	2,042,000	5,934,000	7,976,000	606,000	5,934,000	6,540,000
2052	10,183,000	1,842,000	6,046,000	7,888,000	503,000	6,046,000	6,549,000

Milliman Projection  
Adjusted Discount Rates (-100 basis points)  
52 Active Pilots

Year	Current Farebox	Current Retirees and Current Actives (Past Only) Remain Farebox, DB Plan for All Active Future Accruals			Current Retirees Remain Farebox, DB Plan for All Active Benefits		
	Annual Contribution	Annual Contributions			Annual Contributions		
		Farebox	DB Plan	Total	Farebox	DB Plan	Total
2053	10,426,000	1,654,000	6,132,000	7,786,000	412,000	6,132,000	6,544,000
2054	10,625,000	1,476,000	6,260,000	7,736,000	332,000	6,260,000	6,592,000
2055	10,815,000	1,310,000	6,389,000	7,699,000	264,000	6,389,000	6,653,000
2056	10,978,000	1,156,000	6,543,000	7,699,000	207,000	6,543,000	6,750,000
2057	11,156,000	1,015,000	6,690,000	7,705,000	160,000	6,690,000	6,850,000
2058	11,349,000	886,000	6,839,000	7,725,000	122,000	6,839,000	6,961,000
2059	11,556,000	770,000	6,989,000	7,759,000	91,000	6,989,000	7,080,000
2060	11,775,000	667,000	7,142,000	7,809,000	67,000	7,142,000	7,209,000
2061	12,005,000	574,000	7,299,000	7,873,000	48,000	7,299,000	7,347,000
2062	12,246,000	493,000	7,458,000	7,951,000	34,000	7,458,000	7,492,000
2063	12,497,000	422,000	7,621,000	8,043,000	24,000	7,621,000	7,645,000
2064	12,759,000	360,000	7,786,000	8,146,000	16,000	7,786,000	7,802,000
2065	13,029,000	306,000	7,957,000	8,263,000	11,000	7,957,000	7,968,000
2066	13,307,000	260,000	8,131,000	8,391,000	7,000	8,131,000	8,138,000
2067	13,592,000	221,000	8,309,000	8,530,000	4,000	8,309,000	8,313,000
2068	13,886,000	187,000	8,491,000	8,678,000	3,000	8,491,000	8,494,000
2069	14,186,000	159,000	8,675,000	8,834,000	2,000	8,675,000	8,677,000
2070	14,494,000	134,000	8,864,000	8,998,000	1,000	8,864,000	8,865,000
2071	14,809,000	114,000	9,056,000	9,170,000	1,000	9,056,000	9,057,000
2072	15,132,000	97,000	9,250,000	9,347,000	-	9,250,000	9,250,000
Total Payments:	495,703,000	156,977,000	290,114,000	447,091,000	93,098,000	326,918,000	420,016,000
Present Value: (at 4.0%)	184,467,000	94,315,000	106,292,000	200,607,000	62,759,000	135,227,000	197,986,000

Milliman Projection  
 Milliman Discount Rates  
 Adjusted to 44 Active Pilots

Year	Current Farebox			Current Retirees and Current Actives (Past Only) Remain Farebox, DB Plan for All Active Future Accruals			Current Retirees Remain Farebox, DB Plan for All Active Benefits		
	Annual Contributions			Annual Contributions			Annual Contributions		
	Farebox	DB Plan	Total	Farebox	DB Plan	Total	Farebox	DB Plan	Total
2022	5,416,000			5,410,000	2,601,000	8,011,000	5,281,000	4,858,000	10,139,000
2023	5,589,000			5,601,000	2,576,000	8,177,000	5,177,000	4,832,000	10,009,000
2024	5,806,000			5,742,000	2,531,000	8,273,000	5,067,000	4,788,000	9,855,000
2025	6,011,000			5,869,000	2,442,000	8,311,000	4,950,000	4,698,000	9,648,000
2026	6,237,000			5,977,000	2,455,000	8,432,000	4,826,000	4,711,000	9,537,000
2027	6,504,000			6,100,000	2,481,000	8,581,000	4,694,000	4,737,000	9,431,000
2028	6,714,000			6,142,000	2,549,000	8,691,000	4,555,000	4,805,000	9,360,000
2029	6,890,000			6,123,000	2,619,000	8,742,000	4,409,000	4,876,000	9,285,000
2030	7,083,000			6,096,000	2,662,000	8,758,000	4,255,000	4,919,000	9,174,000
2031	7,274,000			6,050,000	2,708,000	8,758,000	4,094,000	4,965,000	9,059,000
2032	7,446,000			5,957,000	2,742,000	8,699,000	3,926,000	4,999,000	8,925,000
2033	7,580,000			5,821,000	2,804,000	8,625,000	3,752,000	5,060,000	8,812,000
2034	7,669,000			5,658,000	2,887,000	8,545,000	3,571,000	5,144,000	8,715,000
2035	7,729,000			5,475,000	2,965,000	8,440,000	3,386,000	5,222,000	8,608,000
2036	7,823,000			5,285,000	3,033,000	8,318,000	3,196,000	5,290,000	8,486,000
2037	7,939,000			5,090,000	3,094,000	8,184,000	3,003,000	3,094,000	6,097,000
2038	7,993,000			4,870,000	3,191,000	8,061,000	2,808,000	3,191,000	5,999,000
2039	8,028,000			4,636,000	3,289,000	7,925,000	2,611,000	3,289,000	5,900,000
2040	8,100,000			4,402,000	3,359,000	7,761,000	2,415,000	3,359,000	5,774,000
2041	8,131,000			4,158,000	3,473,000	7,631,000	2,219,000	3,473,000	5,692,000
2042	8,155,000			3,911,000	3,578,000	7,489,000	2,026,000	3,578,000	5,604,000
2043	8,200,000			3,666,000	3,670,000	7,336,000	1,836,000	3,670,000	5,506,000
2044	8,252,000			3,420,000	3,770,000	7,190,000	1,651,000	3,770,000	5,421,000
2045	8,361,000			3,179,000	3,842,000	7,021,000	1,472,000	3,842,000	5,314,000
2046	8,486,000			2,939,000	3,922,000	6,861,000	1,302,000	3,922,000	5,224,000
2047	8,638,000			2,705,000	3,989,000	6,694,000	1,140,000	3,989,000	5,129,000
2048	8,823,000			2,478,000	4,043,000	6,521,000	989,000	4,043,000	5,032,000
2049	9,021,000			2,260,000	4,095,000	6,355,000	850,000	4,095,000	4,945,000
2050	9,183,000			2,046,000	4,173,000	6,219,000	722,000	4,173,000	4,895,000
2051	9,323,000			1,842,000	4,258,000	6,100,000	606,000	4,258,000	4,864,000
2052	9,469,000			1,649,000	4,338,000	5,987,000	503,000	4,338,000	4,841,000

Milliman Projection  
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Year	Current Farebox	Current Retirees and Current Actives (Past Only) Remain Farebox, DB Plan for All Active Future Accruals			Current Retirees Remain Farebox, DB Plan for All Active Benefits		
	Annual Contribution	Annual Contributions			Annual Contributions		
		Farebox	DB Plan	Total	Farebox	DB Plan	Total
2053	9,654,000	1,469,000	4,400,000	5,869,000	412,000	4,400,000	4,812,000
2054	9,799,000	1,300,000	4,491,000	5,791,000	332,000	4,491,000	4,823,000
2055	9,931,000	1,149,000	4,584,000	5,733,000	264,000	4,584,000	4,848,000
2056	10,028,000	1,010,000	4,694,000	5,704,000	207,000	4,694,000	4,901,000
2057	10,135,000	883,000	4,800,000	5,683,000	160,000	4,800,000	4,960,000
2058	10,256,000	768,000	4,907,000	5,675,000	122,000	4,907,000	5,029,000
2059	10,390,000	666,000	5,014,000	5,680,000	91,000	5,014,000	5,105,000
2060	10,536,000	575,000	5,124,000	5,699,000	67,000	5,124,000	5,191,000
2061	10,693,000	493,000	5,237,000	5,730,000	48,000	5,237,000	5,285,000
2062	10,860,000	422,000	5,351,000	5,773,000	34,000	5,351,000	5,385,000
2063	11,038,000	361,000	5,468,000	5,829,000	24,000	5,468,000	5,492,000
2064	11,226,000	307,000	5,586,000	5,893,000	16,000	5,586,000	5,602,000
2065	11,423,000	261,000	5,709,000	5,970,000	11,000	5,709,000	5,720,000
2066	11,627,000	221,000	5,834,000	6,055,000	7,000	5,834,000	5,841,000
2067	11,839,000	188,000	5,962,000	6,150,000	4,000	5,962,000	5,966,000
2068	12,060,000	159,000	6,092,000	6,251,000	3,000	6,092,000	6,095,000
2069	12,288,000	135,000	6,224,000	6,359,000	2,000	6,224,000	6,226,000
2070	12,523,000	114,000	6,360,000	6,474,000	1,000	6,360,000	6,361,000
2071	12,766,000	97,000	6,498,000	6,595,000	1,000	6,498,000	6,499,000
2072	13,016,000	82,000	6,637,000	6,719,000	-	6,637,000	6,637,000
Total Payments:	459,961,000	151,217,000	209,111,000	360,328,000	93,098,000	242,960,000	336,058,000
Present Value: (at 5.0%)	146,065,000	82,990,000	63,612,000	146,602,000	57,740,000	88,625,000	146,365,000