City of Portland Bureau of Fire and Police Disability and Retirement
Agenda for Regular Meeting – Board of Trustees
Tuesday, January 26, 2021 – 2:00 p.m.

Please note, City Hall is closed to the public due to the COVID-19 Pandemic. Under Portland City Code and state law, the Board of Trustees is holding this meeting electronically. All members of the board are attending remotely. The meeting is available to the public on the City's eGov PDX channel on YouTube, Channel 30, and www.portlandoregon.gov/video

The FPDR is taking these steps as a result of the COVID-19 pandemic and the need to limit in-person contact and promote social distancing. The pandemic is an emergency that threatens the public health, safety and welfare which requires us to meet remotely by electronic communications. Thank you for your patience, flexibility and understanding as we manage through this difficult situation to do the FPDR's business.

ADMINISTRATION

The following consent item(s) are considered to be routine and will be acted upon by the Board in one motion, without discussion, unless a Board member, staff member or the public requests an item be held for discussion.

1 Approval of Minutes – November 17, 2020 Meeting

INTRODUCTION OF VISITORS

PUBLIC COMMENT PERIOD

Public comments will be heard by electronic communication (internet connection or telephone). If you wish to sign up for public comment, please register at the following link: https://us02web.zoom.us/webinar/register/WN_DAhN4O_ATcaUVlS6hcWXLw *You will be asked to provide your name, phone number, email address, agenda item number(s) you wish to provide comment on and zip code. After registering, you will receive a confirmation email containing information about joining the electronic/virtual meeting. Individuals will have three minutes to provide public comment unless otherwise stated at the meeting.* ***The deadline to sign up for the January 26, 2021 electronic board meeting is Monday, January 25, 2021 at 3:00 p.m. Individuals can also provide written testimony to the Board by emailing the FPDR Director Sam Hutchison at sam.hutchison@portlandoregon.gov by January 22, 2021.***

ACTION ITEMS

1 Actuarial Valuation and Levy Adequacy Analysis
- Issue: Review June 30, 2020 actuarial valuation and levy adequacy analysis.
- Expected Outcome: Board accepts actuarial valuation report and levy adequacy analysis.

2 Adopt 2021-2022 Budget
- Issue: Review FY 2021-2022 Recommended Budget and Five-Year Forecast for FYE 2022-2026
- Expected Outcome: Board passes motion to adopt Recommended Budget as FPDR Requested Budget

3 Resolution No. 533 - Amend Milliman (FPDR Actuary) Contract
- Issue: Milliman's contract will expire on March 31, 2021.
- Expected Outcome: Board will adopt resolution amending contract to extend term and increase compensation as proposed by staff.

INFORMATION ITEMS

The following information items do not require action by the Board and are solely for informational purposes unless a Board member, staff member or the public requests an item be held for discussion.

1 FPDR Summary of Expenditures

2 FPDR Updates

3 Future Meeting Agenda Items

Copies of materials supplied to the Board before the meeting, except confidential items and those referred to Executive Session, are available for review by the public on the FPDR website at www.portlandoregon.gov/fpdr or at the FPDR offices located at: 1800 SW First Avenue, Suite 450, Portland, Oregon 97201

NOTE*: If you have a disability that requires any special materials services or assistance call (503) 823-6823 at least 48 hours before the meeting.*
#denotes items will be in Executive Session pursuant to ORS 192.660(2)(h) and not open to the public

[THE FOLLOWING SUMMARIZED MINUTES WERE CONDUCTED IN PUBLIC SESSION. THERE WERE NO PORTIONS OF THE MINUTES THAT WERE IN EXECUTIVE SESSION.]

A regular meeting of the Board of Trustees of the Fire and Police Disability and Retirement Fund was called to order on the 17th day of November 2020 at 1:06 p.m. As a result of the COVID-19 pandemic and the need to limit in-person contact and promote social distancing, the meeting was held remotely via a Zoom webinar platform.

Board Members Present Included:

Josh Harwood, Chairperson
Jason Lehman, Fire Trustee
Catherine MacLeod, Citizen Trustee
Brian Hunzeker, Police Trustee (entered meeting at 1:20 p.m.)

Board Members Absent Included:

Elizabeth Fouts, Citizen Trustee

Also present were:

Sam Hutchison, FPDR Director
Kimberly Mitchell, FPDR Claims Manager
Stacy Jones, FPDR Finance Manager
Keith Simovic, Moss Adams
Jim Lanzarotta, Moss Adams
Amanda McCleary-Moore, Moss Adams
Kristin Johnson, Financial Policy Advisor, Office of Comm. Hardesty
Todd Tackett, Portland Police Bureau
Leo Harris, Portland Police Bureau
Rick Nixon, BTS

Chair Harwood called the meeting to order and asked for approval of the minutes.

Trustee MacLeod made a motion that was seconded by Trustee Lehman and unanimously passed to approve the September 22, 2020 minutes.

Aye	*Trustee Harwood, Trustee Hunzeker, Trustee Lehman, Trustee MacLeod*
Nay	*None*
Abstain	*None*
Absent	*Trustee Fouts*

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There were no General Public Comments.

Action Item No. 1 – Resolution No. 531 – Amend Outside Legal Counsel Contract

Director Hutchison explained that Lorne Dauenhauer of Ogletree Deakins is the FPDR board's outside legal counsel and that contract is expiring in January 2021. Director Hutchison stated that the board has relied on outside counsel's expertise and actuarial knowledge on many issues. Director Hutchison explained that all legal contracts are done through the City Attorney's office and they would prepare and process the extension of the contract.

Trustee Lehman asked what the difference was in the contract amount from the last contract. It was explained that the contract would be extended for a four-year period for a not to exceed amount of $125,000, which was the same amount as the expiring contract for the last three years. Trustee Lehman asked if the same amount for a longer period was enough to which it was explained that a balance was remaining from the expiring contract. Trustee Lehman confirmed that the contract was for $125,000 over the four-year period. Director Hutchison explained that it is a fee for service and FPDR will pay only what they are billed.

Trustee Lehman made a motion which was seconded by Trustee MacLeod and unanimously passed to adopt Resolution No. 531.

Aye	*Trustee Harwood, Trustee Hunzeker, Trustee Lehman, Trustee MacLeod*
Nay	*None*
Abstain	*None*
Absent	*Trustee Fouts*

Action Item No. 2 – Resolution No. 532 – Approve Funding of Portland Police Bureau Wellness Initiative

Director Hutchison introduced Leo Harris and Todd Tackett from the Portland Police Bureau Training Division. Sgt. Todd Tackett (Sgt. Tackett) began by thanking Director Hutchison and the Board for consideration of their wellness initiative. Sgt. Tackett stated they work at the training division and are dedicated to wellness. Sgt. Tackett stated that the program they are presenting came together after seeing the impact and trauma sustained by officers who have worked on the protests and riots.

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Officer Leo Harris (Officer Harris) explained that their proposal is focused on the 60 or so officers assigned full time to the Police Bureau's Rapid Response Team. Officer Harris stated that 160 days of protests and several riots have taken an emotional and physical toll on many officers and added that a lot of officers were moved from other divisions and put into a whole new role of managing protests. Officer Harris stated that they do try to do messaging to let the officers know not to take things personally and remain professional but it is hard and officers have reported being followed home, having their homes vandalized, family members being harassed, personal finances hacked, being ostracized because of their profession and even having their children tell them that their friends are no longer wanting to associate with them. Officer Harris added that many officers are feeling hopeless and traumatized, that there's a strain on their relationships and a huge number are questioning if they can continue in law enforcement. Officer Harris explained that Police EAP used to average about one call a week and now they are getting one call a day. In addition, Officer Harris pointed out that in 2019 less than 600 injuries were logged in their injury logs. To date, in 2020, there are almost 1500 entries.

Officer Harris stated that their ask is for funding help to transition officers back to normal patrol duties. Officer Harris explained that they will provide training and care for mental and emotional health and went over the ways they were going to do that. Officer Harris anticipates the results of the proposal would be fewer and shorter PTSD claims and getting people back to work over a shorter time period which would reduce disability costs for FPDR. Officer Harris stated that they need healthier officers to be effective and the proposed program would be an investment in their officers.

Trustee Lehman thanked Officer Harris and Sgt. Tackett for the presentation and stated that it is proactive and in the direction that the Fire Bureau wants to go as well. Trustee Lehman absolutely supported the proposal and added that some of their Fire members were also involved with the Rapid Response Team. Trustee Lehman stated that they have people facing some unique experiences and to focus specifically on the experience is much better than having a big class for everyone and the chance that someone gets missed. Officer Harris added that one of the things they were also trying to do is include the Fire medics that were helping the officers during the protests and riots. Chair Harwood stated that the program makes sense and was supportive of it as well.

Trustee MacLeod also thanked Officer Harris and Sgt. Tackett for the presentation and stated it appears to be a very thoughtful program to help transition people back. As a member of the community, Trustee MacLeod was disappointed that the protests erupted in violence to those trying to maintain peace. Trustee MacLeod asked if there was any effort for the officers and others

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to sit down and communicate with people that were involved in those protests. Officer Harris stated that for one of the days of the program, they were trying to bring in external community members as that is an important step. Sgt. Tackett added that when they made a presentation to the Rapid Response Team, one of their asks was to bring in community members because they wanted to know as they transition back, what does the community expect from them.

Director Hutchison then provided some financial information and stated that as staff reported in their PTSD presumption presentation last year, a short duration stress claim can cost the FPDR between $25,000 to $75,000 per claim and a long duration stress claim from $500,000 to one million dollars per claim, so the $20,000 being asked to fund the proposal by far pays for itself. Director Hutchison added there are no financial issues with the program. Trustee Hunzeker echoed support of the proposal and believed that it will help members.

Trustee Lehman made a motion which was seconded by Trustee Hunzeker and unanimously passed to approve Resolution No. 532.

Aye	*Trustee Harwood, Trustee Hunzeker, Trustee Lehman, Trustee MacLeod*
Nay	*None*
Abstain	*None*
Absent	*Trustee Fouts*

Information Item No. 1 – Financial Audit – Presentation by Moss Adams

Finance Manager Stacy Jones (Stacy) explained that Moss Adams audits the FPDR financial statements and will present their audit investigation to the board. Stacy went on to state that two things are different on the staff side this year – everything was done remotely, including field work, so it took a lot of planning, coordination and a lot of scanning. Stacy thanked Moss Adams and staff who made that happen. Stacy also explained that FPDR worked with the accounting staff at the Office of Management and Finance to migrate to their professional accounting publication software. Stacy stated that the migration was successful and the audit document this year looks more professional and is put together in a much more efficient way. Stacy then introduced the Moss Adams team and noted that sadly, Jim Lanzarotta will be retiring, but was happy to welcome Amanda McCleary-Moore who will be taking over for Jim.

Jim Lanzarotta (Jim) went over the services they were engaged to do. Jim also went over the additional challenges public pension plans have, as well the importance of getting accurate

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information, financial sustainability and internal controls. Jim stated that they were happy to report that they did not see any big deficiencies and it was a "good, clean report, the best you can get".

Keith Simovic (Keith) provided insight into how they got to the point of delivering their financial results, what are areas they looked at and the significant audit areas, and what they take into consideration. Keith stated that they also looked at areas of consideration both before and during Covid-19 and what the impact of the pandemic has been. Keith added that one thing that benefits FPDR is that they do audit the City's CAFR as well, so they get a lot of insights into how funds are allocated and collected and reported and reconciled in the financial statement document. Keith went on to state that there is some level of risk that there could be a year in which benefit payments could exceed the property tax levy cap but given that, FPDR is doing a good job getting a levy evaluation every two years. Keith also stated that the FPDR disclosures are complete and transparent and their financial statements are very open.

Amanda McCleary-Moore (Amanda) responded to Stacy's earlier comment and reiterated that the financial statements looked really good and professional. Amanda then continued with the presentation and stated that there are required communications and went over what those were. Amanda stated that they could not identify anything that rose to significant deficiencies or material weakness. Looking into the future, Amanda stated that GASB has a lot of ongoing projects and there are quite a few accounting standards that could be applicable in the future that could change the look and feel of the financial statements. Amanda concluded by stating that the audit went well, went on time, they got everything they needed even while working remotely, and everyone was respectful of their time to meet the deadline.

Trustee MacLeod asked if the financial statements for the FPDR plan was incorporated as part of the City's financial statement to which Jim answered "yes" and that they would be able to see FPDR in the City's Comprehensive Annual Financial Report. Trustee MacLeod then asked if Moss Adams was not also auditing the City, how much more it would take for them to audit just the FPDR plan. Jim stated a lot of the financial work for the FPDR plan is already done by virtue of the work done for the City, so they are really able to focus on the actuarial and benefit side. Jim added that for a pension plan the size of FPDR, their fee would be in the $40,000 to $70,000 range and it is half of that doing the audit with the City. Stacy added that in addition there is a savings of staff time for the City side and the FPDR side by having the same firm do the City audit and the FPDR audit.

Jim stated one thing to keep in mind is recognizing that every pension plan is different and unique and just because an audit firm can audit a City, there are unique accounting standards that apply

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to a pension plan so Jim hoped that Director Hutchison and Stacy are involved in the selection of the external audit firm. Stacy stated that they do have a seat on the City's contract committee, and they are represented in that process. Stacy added that they are the City's largest liability so dropping that into the City's financials is a big deal and it must be done right. Stacy welcomed Amanda and closed with a special thanks to Jim for his wit, knowledge and shockingly detailed knowledge of GASB and wished Jim a happy retirement. Chair Harwood echoed Stacy's comments.

Information Item No. 2 - FPDR Summary of Expenditures

Stacy went over the expenditure report and stated that the tax anticipate notes proceeds were received in August and other than that everything looked normal for this time of year. Stacy added that they did not have the first quarter billings for the police and fire billings when the expenditure report was produced.

Chair Harwood asked if the levy adequacy report will be presented in January and Stacy replied that Milliman was working on a full valuation on data as of June 2020 and the levy adequacy and will be making a presentation to the board in January.

Information Item No. 3 – FPDR Updates

Director Hutchison updated the board about an amendment going through City Council on November 18, 2020. Director Hutchison explained that the City Auditor can make minor corrections to the Charter and they will be making gender neutral changes to the Charter. With regards to Chapter 5, the City Auditor will be making changes to he/she pronouns so it will be gender neutral. Director Hutchison added that none of the changes will impact what FPDR does and Director Hutchison will provide a copy of the changes made in the Charter after City Council approves the changes.

Director Hutchison also went over the proposed board meeting schedule for 2021 and stated that except for March and November, the meetings were scheduled for the fourth Tuesday of the month. There were no corrections or objections from the board and the meeting schedule will be formalized as presented.

Chair Harwood congratulated Trustee Hunzeker on his new position. Trustee Hunzeker will continue in his position as Police Trustee until the end of 2021.

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Information Item No. 5 – Future Meeting Agenda Items

There was no discussion on this Information Item.

There being no further business, the meeting was adjourned at 2:13 p.m.

Sam Hutchison, FPDR Director

/kk

Actuarial Valuation & Levy Adequacy Analysis

FPDR

Matt Larrabee, FSA, EA, MAAA
Scott Preppernau, FSA, EA, MAAA

JANUARY 26, 2021

Milliman

Introduction

- Milliman has completed its June 30, 2020 actuarial valuation of the FPDR program
  - Actuarial valuations are performed biennially
- We have also completed an analysis assessing the likelihood that the permitted levy under the City Charter will be adequate to fund the FPDR program, including contributions to Oregon PERS for FPDR Three members
  - The analysis can be used by interested parties to assess the magnitude and potential volatility of future FPDR levies and to quantify several likely economic sources of levy volatility

Basis of Valuation and Levy Modeling

- The previous iterations of valuation and levy modeling were performed as of June 30, 2018
- No material changes to modeled benefit provisions since prior work
- Based on Board's input, projected benefits reflect assumed future FPDR Two COLA as blended 2.00%/1.75%
- Other assumption changes since June 30, 2018:
  - Demographic assumptions reflect Experience Study presented to Board in September 2020; includes updates to salary, retirement, and mortality assumptions
  - Inflation assumption lowered
  - Discount rate updated in accordance with previously adopted assumption (affects valuation, but not levy modeling)
  - Updated Real Market Value (RMV) for property subject to taxation (affects levy modeling, but not valuation)

Actuarial Valuation Results

Valuation – Uses & Limitations

- The actuarial valuation will provide the basis for two fiscal years of financial statement reporting information for both FPDR and the City of Portland
- Actuarial valuation results as of June 30, 2020 will be rolled forward for use in financial reporting at June 30, 2021 and June 30, 2022
- The pay-as-you-go structure of FPDR benefits means that the actuarial valuation is <u>not</u> used for:
  - Establishing the funded status of the FPDR program
  - Determining an actuarially calculated pre-funding contribution rate

Projected Pension Benefit Payments

- An actuarial valuation is a very long-term calculation model
  - In total, as of June 30, 2020 retired and disabled FPDR members and their beneficiaries were receiving retirement pensions and long-term disability income replacement payments of approximately $11 to $12 million per month
  - In our valuation model, those payments are forecast to increase for the next 16 years on a non-inflation adjusted basis
    - The subsequent decline is gradual, with payments not decreasing to current levels (in non-inflation adjusted dollars) until around the year 2057
- Given the long-term nature of the model, assumptions play a key role in the calculations

2020 Valuation Assumptions

Presented to FPDR Board in September 2020

- This valuation reflects the assumptions from the 2020 actuarial experience study, presented in September 2020
- Key assumptions updated for June 30, 2020
  - Discount rate: assumption is defined by reference to municipal bond index rate; valuation uses market rate as of the valuation date
  - Mortality: updated to current Oregon PERS police & fire mortality assumption; uses “PUB-2010” public safety mortality tables
  - FPDR Two COLA: updated to assume blended 2.00%/1.75% COLA
  - Member salary increase: reflects changes in recent experience and more explicitly reflects longevity-related increases for both Bureaus
  - Retirement: separate assumptions for greater than/less than 25 years, and reflect recent experience
  - Other: changes to some retirement elections, likelihood of pre-retirement termination of employment, and long-term disability

Benefit Provisions Valued

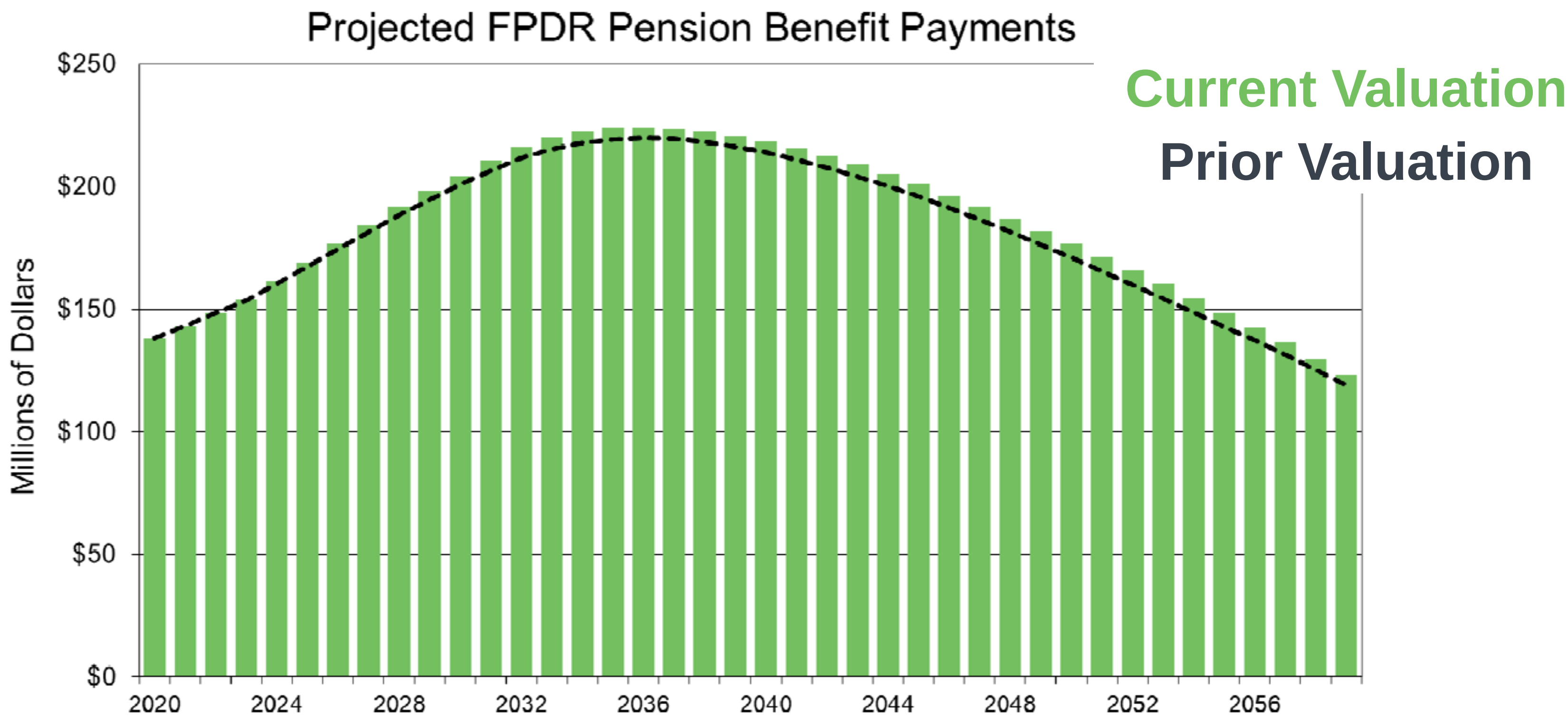
- There were no material changes in benefit provisions valued compared to the prior valuation
- As discussed, *assumed* level of future FPDR Two COLAs was changed from prior valuation
  - Assumption does not affect actual future COLA – Board retains full discretion to adopt each year's COLA, within the Charter parameters
- Prior June 30, 2018 valuation used "modified PERS" COLA
  - CPI-U changes up to 2.00% for service prior to October 8, 2013, and 1.25% for service after October 8, 2013
- This June 30, 2020 valuation uses 2.00% for service prior to October 8, 2013 and 1.75% for later service
  - This was also approach Board adopted for actual COLA in 2020

Actuarial Valuation - Development of Liabilities

- The valuation calculates projected FPDR benefit payments by year for the FPDR membership group as of the valuation date
  - The projections combine the member and beneficiary census data with all of the long-term actuarial assumptions
- Those projected payments are then converted into a net present value as of the valuation date using a discount rate assumption that reflects the time value of money
- A *cost allocation method* attributes a portion of the net present value for current actives to their service already rendered
  - This is called the ***actuarial accrued liability*** for the actives
- The portion of the net present value attributed to the upcoming year is called the ***normal cost*** for active members

Actuarial Valuation – Projected Benefits

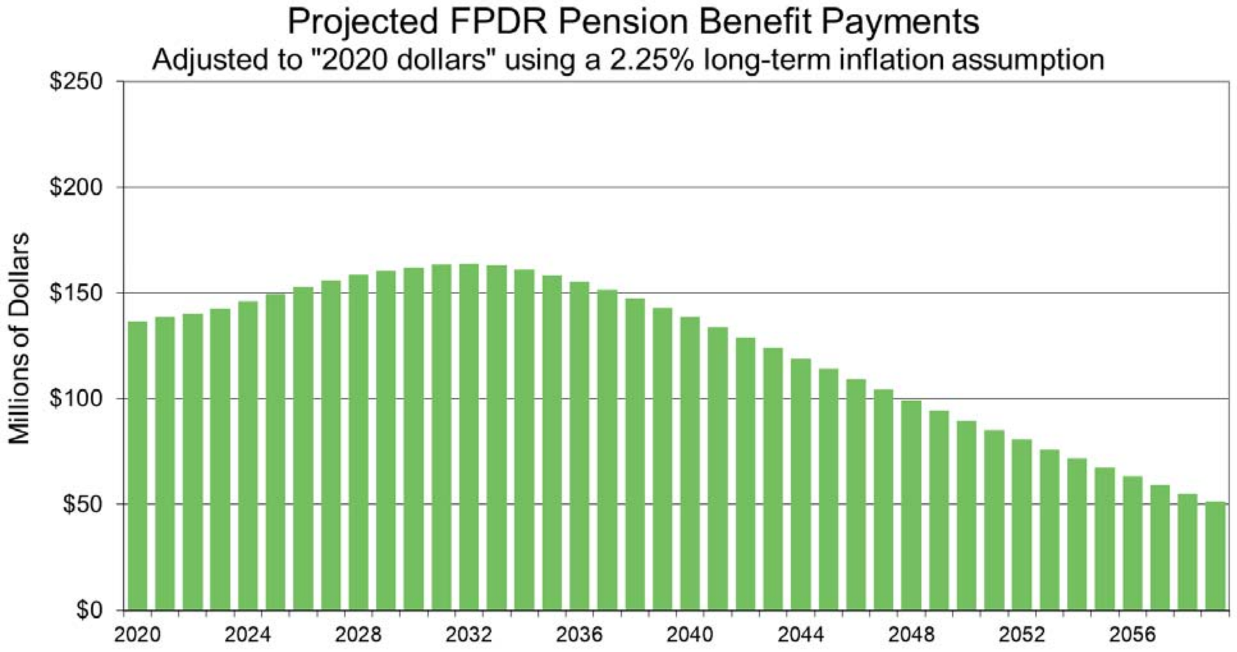
- Below are projected FPDR pension benefit payments on a non-inflation adjusted basis for the two most recent valuations



- Benefits projected to increase for 16 years; decrease thereafter
- Projected benefit payments are similar to prior valuation

Actuarial Valuation – Projected Benefits

- This chart shows this valuation's projected payments on an inflation-adjusted basis using a long-term inflation assumption



- Once almost all FPDR Two members have retired, benefits will then begin to decrease over time when measured on this inflation-adjusted basis

Actuarial Valuation Results

($ in millions)	6/30/2018 Valuation	6/30/2020 Valuation
Discount Rate	3.87%	2.21%
Cost Allocation Method	Entry Age Normal	Entry Age Normal
Actuarial Accrued Liability	$3,323.7	$4,456.1
Normal Cost	$64.4	$106.7
Projected Base Pay for Next Year	$152.2	$166.0

- A 2.21% discount rate was used for this valuation
  - Same assumption used for June 30, 2020 financial reporting
  - Reflects 20-year municipal bond index, per GASB financial reporting standards
  - Index is lower than at previous valuation, materially increasing Actuarial Accrued Liability (as detailed on the next slide) and Normal Cost
- Projected base pay reflects the active member population on the valuation date, and does not reflect experience after that date

Actuarial Valuation Results

Actuarial Accrued Liability Changes

($ in millions)	Actuarial Accrued Liability
6/30/2018 Actuarial Accrued Liability	$3,323.7
Expected increase	124.7
Assumption change – Discount rate	973.6
Assumption change – FPDR Two COLA	78.6
Assumption change – Mortality	(104.1)
Assumption change – Salary related	17.7
Assumption change – Other	(3.2)
Experience (gain)/loss	45.1
6/30/2020 Actuarial Accrued Liability	$4,456.1

Lower discount rate

- More details can be found in our formal actuarial valuation report

Levy Adequacy Modeling

Levy Analysis
Total Requirements Calculation

- Our model includes separate components to develop the ***Total Requirements*** for FPDR
  - ***Pay-as-you go costs subcomponent***
    - FPDR One and FPDR Two retiree payments, including death and disability benefits, and disability-related medical reimbursements
    - FPDR Three death, disability and disability-related medical
    - Administrative and operating expenses for the program
  - ***Pre-funded costs subcomponent*** (charged on FPDR Three payroll)
    - Variable employer contributions to the Oregon PERS (PERS) defined benefit program, in which FPDR Three members are eligible for OPSRP benefits
      - Set by the PERS Board, and includes a charge for the value of benefits currently being earned and a shortfall amortization charge for PERS unfunded liability
      - Reflects changes made in Senate Bill 1049 in June 2019
    - Fixed 9% of payroll contribution to the account balance-based Individual Account Program (IAP) administered by PERS

Effect of Transition to FPDR Three

- During the projection period of our levy adequacy analysis, the FPDR levy will be funding two generations of FPDR members simultaneously
  - FPDR One and FPDR Two members funded on a pay-as-you-go basis during their retirement years
  - Pre-funding of FPDR Three members' retirement benefits during their working careers
- In addition, disability and administrative costs are funded on a pay-as-you-go basis
- Higher levies and near-term costs are expected during a transition from a pay-as-you-go system to a pre-funded system

Effects of 2006 City Charter Reform

- Ultimately, the long-term cost of any benefit program is:

Cost = Benefits Paid + Administrative Expenses – Investment Earnings

- Effects of the 2006 City Charter reform on long-term cost are:
  - Decreased FPDR Three benefit levels, when compared to FPDR Two
  - The pre-funded nature of FPDR Three benefits creates the potential for investment earnings, which lower long-term cost
- The cost-saving effects of the 2006 reform accrue very slowly, with the most dramatic effects likely to occur decades after the enactment of reform

Variability in Levy Adequacy Model Analysis

- A levy adequacy analysis is not a guarantee of what will occur, and our model accordingly attempts to illustrate the potential variability of outcomes in some areas
- In our model, the two large factors that drive levy variability are actual:
  - Changes in Real Market Value (RMV) that deviate from the baseline forecast
  - Oregon PERS investment experience varying from baseline forecast
    - Variability due to this factor increases over time as a greater percentage of total payroll becomes FPDR Three
- In many of the poor economic scenarios modeled, low RMV growth and poor PERS investment results are linked, leading to a leveraged upward effect on the levy rate calculated as a fraction of RMV

Basis for the Levy Adequacy Model

- June 30, 2020 FPDR member demographic census
- Benefit provisions as reflected in the June 30, 2020 valuation
- RMV provided by the City of $159.0 billion as of January 2020, which was used in the 2020 levy request to fund FPDR for the 2020-2021 fiscal year (also known as fiscal 2021)
- RMV growth from 2020 to 2021 of 0.0% and median annual growth in subsequent years of 4.0%, based on input from the City of Portland's economist
  - A wide variety of potential RMV growth patterns were modeled
- A financial model with varying investment returns to project future Oregon PERS contributions using the most recent valuation and estimated 2020 PERS investment returns of +5.93%

Interpreting Analysis Results

- Results are shown as a probability distribution, rather than a single amount
  - The distribution is based on a stochastic simulation using 10,000 economic scenarios
    - Scenarios were developed by Milliman’s national team of credentialed investment professionals that specialize in capital market models
- In the charts, the dots represent median outcomes
- We graphically display results from the 5th to 95th percentiles, so ten percent of model outcomes fall outside of the depicted range

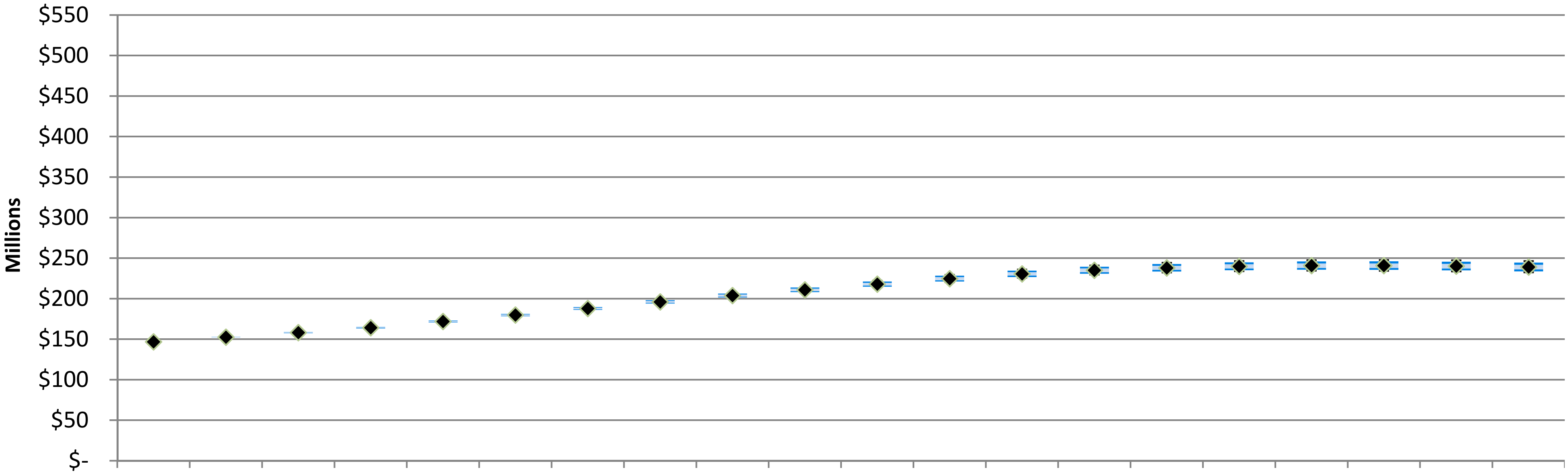
Sources of Levy Volatility Not Modeled

- The levy adequacy analysis model depicts volatility associated with inflation, RMV changes and Oregon PERS investment returns, but does not include all potential sources of volatility
- Other potential sources of volatility not modeled include
  - Potential correlated effects of market conditions on levels of tax compression and/or levels of tax delinquency
  - Effects of Oregon property tax law changes and/or new levies
  - Demographic experience different from assumption (e.g. retirement, retiree life expectancy)
  - Growth in FPDR workforce or change in workforce composition
  - Changes to Oregon PERS assumptions and methodology for setting employer contribution rates

Total Requirements

Pay-As-You-Go Costs Subcomponent

- Relatively predictable; increasing until essentially all FPDR Two actives are retired; FPDR Three disability and inflation-linked values of future FPDR Two benefits add volatility in later years



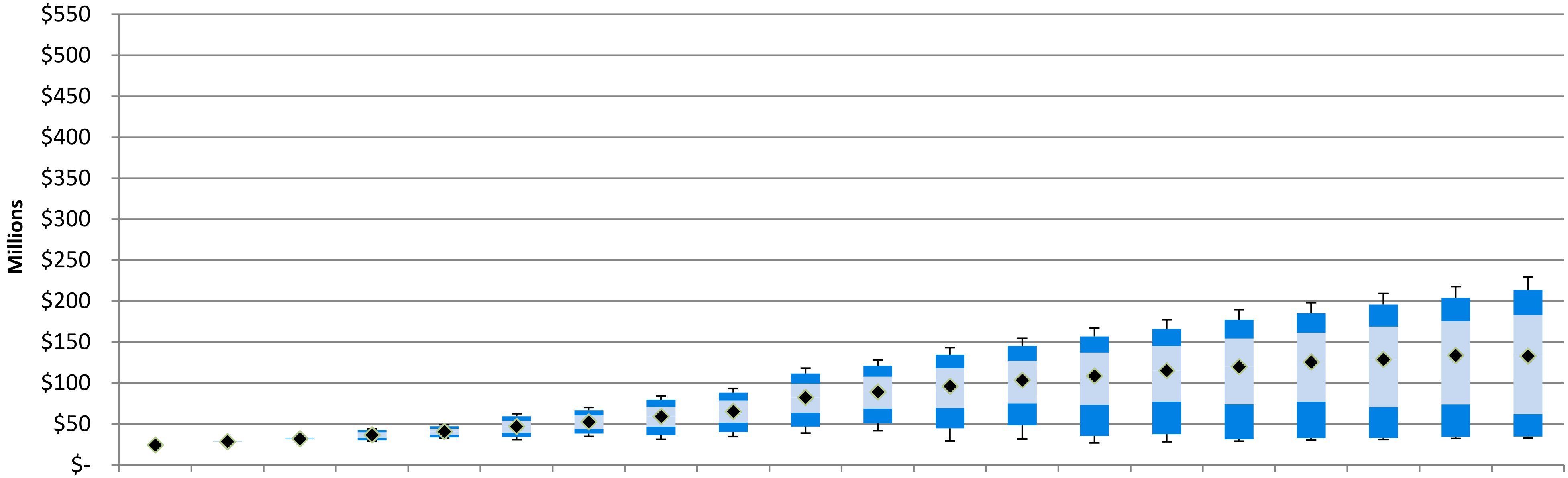
FY Ending 6/30		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
5th	--	146.8	152.9	159.0	165.4	173.3	181.7	190.3	198.8	207.1	214.7	222.1	229.4	235.9	240.8	244.2	246.3	247.4	247.7	247.2	246.3
10th		146.8	152.9	158.8	165.1	173.0	181.3	189.7	198.2	206.4	213.9	221.2	228.4	234.7	239.5	242.7	244.9	246.0	246.2	245.7	244.6
25th		146.8	152.7	158.5	164.7	172.4	180.6	188.9	197.2	205.2	212.4	219.6	226.6	232.8	237.3	240.5	242.4	243.4	243.5	243.0	241.9
50th	•	146.8	152.6	158.1	164.2	171.8	179.8	187.9	196.1	203.9	210.9	217.9	224.7	230.6	235.1	238.0	239.8	240.8	240.8	240.2	239.0
75th		146.8	152.5	157.7	163.7	171.2	179.1	187.0	195.0	202.6	209.5	216.3	222.9	228.5	232.8	235.6	237.3	238.1	238.1	237.4	236.2
90th		146.8	152.4	157.3	163.2	170.7	178.4	186.3	194.0	201.5	208.1	214.8	221.2	226.7	230.8	233.5	235.1	235.8	235.7	235.0	233.8
95th	--	146.8	152.3	157.1	163.0	170.4	178.0	185.8	193.4	200.9	207.4	213.9	220.3	225.7	229.7	232.3	233.8	234.5	234.4	233.6	232.4

Includes administrative & operating expenses and short-term disability and medical costs

Total Requirements

Pre-Funded Costs Subcomponent

- Increases as the portion of payroll that is FPDR Three grows; more variable than pay-as-you-go costs since OPSRP contribution rates are linked to variable OPERS investment results

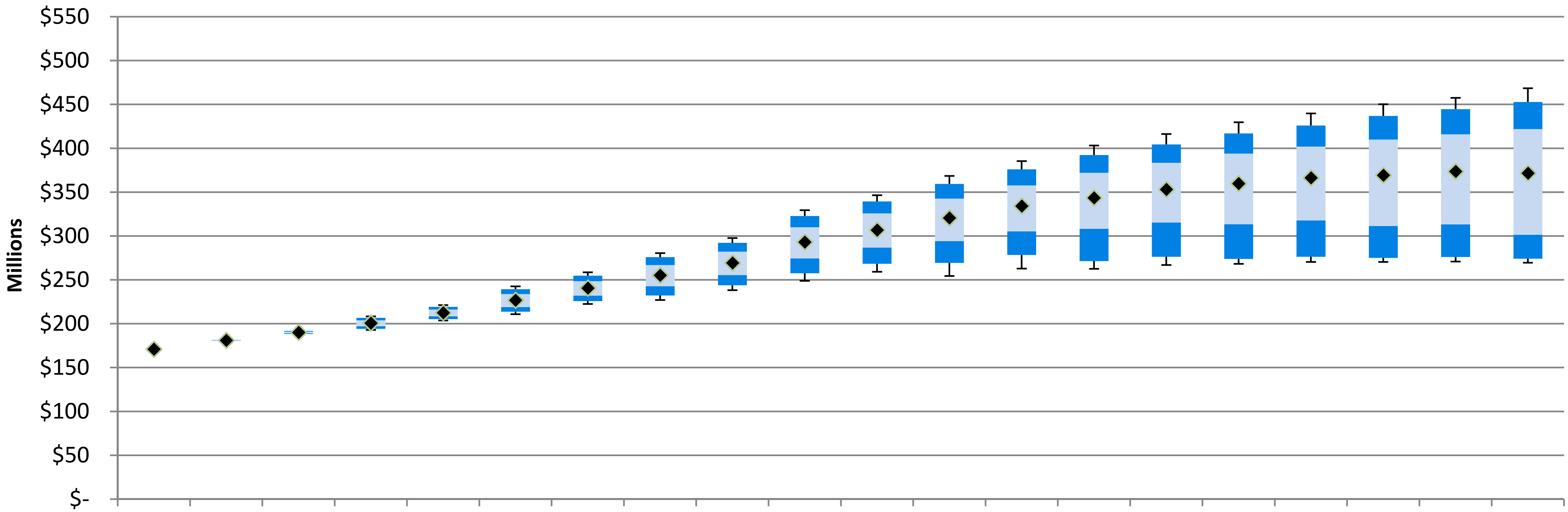


FY Ending 6/30		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
5th	--	24.3	28.8	33.4	43.9	48.9	62.4	70.1	84.0	93.2	118.0	128.0	143.2	154.3	167.1	177.4	189.1	197.9	209.1	217.6	229.2
10th		24.3	28.7	33.1	42.4	47.1	59.4	66.7	79.6	88.1	111.6	121.1	134.6	145.1	156.8	166.0	177.2	185.1	195.6	203.9	213.6
25th		24.3	28.6	32.6	39.8	44.3	53.9	60.5	70.8	78.3	99.2	107.6	118.0	127.1	137.0	145.0	154.2	161.3	168.8	175.5	183.0
50th	•	24.3	28.4	32.1	36.6	40.8	47.1	52.7	59.2	65.5	82.3	89.1	96.0	103.5	108.8	115.2	120.0	125.6	128.7	133.6	132.8
75th		24.3	28.3	31.5	33.1	36.8	39.3	44.0	46.8	51.7	63.7	69.0	69.6	75.0	73.2	77.2	73.8	77.2	70.6	73.6	62.0
90th		24.3	28.1	31.1	30.1	33.5	34.0	38.1	36.2	40.0	46.8	50.7	44.7	48.2	35.2	37.4	31.2	32.6	32.7	34.1	34.6
95th	--	24.3	28.0	30.8	29.1	32.3	30.8	34.6	31.1	34.5	38.6	41.7	29.1	31.4	26.7	28.2	28.8	30.1	30.9	32.1	32.9

Excludes administrative & operating expenses and short-term disability and medical costs

Total Requirements

- This is the combination of the two subcomponents (pay-as-you-go costs; pre-funded costs)
- All amounts are shown on a non-inflation adjusted basis



FY Ending 6/30		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
5th	--	171.0	181.7	192.4	208.4	221.2	242.6	258.7	280.5	297.6	329.4	346.5	368.4	385.4	403.1	416.3	429.7	439.7	450.2	457.5	468.4
10th		171.0	181.6	191.9	206.7	219.3	239.4	254.9	276.0	292.2	322.9	339.4	359.4	376.0	392.4	404.5	417.0	426.1	436.9	444.6	452.9
25th		171.0	181.3	191.0	204.0	216.3	233.9	248.6	267.0	282.3	310.1	325.8	342.7	357.7	372.2	383.4	393.9	402.0	410.0	416.0	421.9
50th	•	171.0	181.0	190.1	200.8	212.6	226.8	240.6	255.2	269.3	293.0	306.7	320.6	334.2	343.5	353.1	359.8	366.4	369.3	373.6	371.5
75th		171.0	180.7	189.2	197.2	208.5	219.2	232.1	242.8	255.4	274.5	286.8	294.3	305.4	308.2	315.5	313.5	317.8	311.6	313.4	301.4
90th		171.0	180.5	188.4	194.3	205.3	213.7	225.8	232.2	243.9	257.7	268.4	269.3	278.4	271.4	276.4	273.9	276.4	275.1	276.1	274.2
95th	--	171.0	180.3	187.9	193.0	203.8	210.8	222.6	227.0	238.2	248.9	259.2	254.4	262.9	262.6	267.0	268.2	270.4	270.3	270.9	269.6

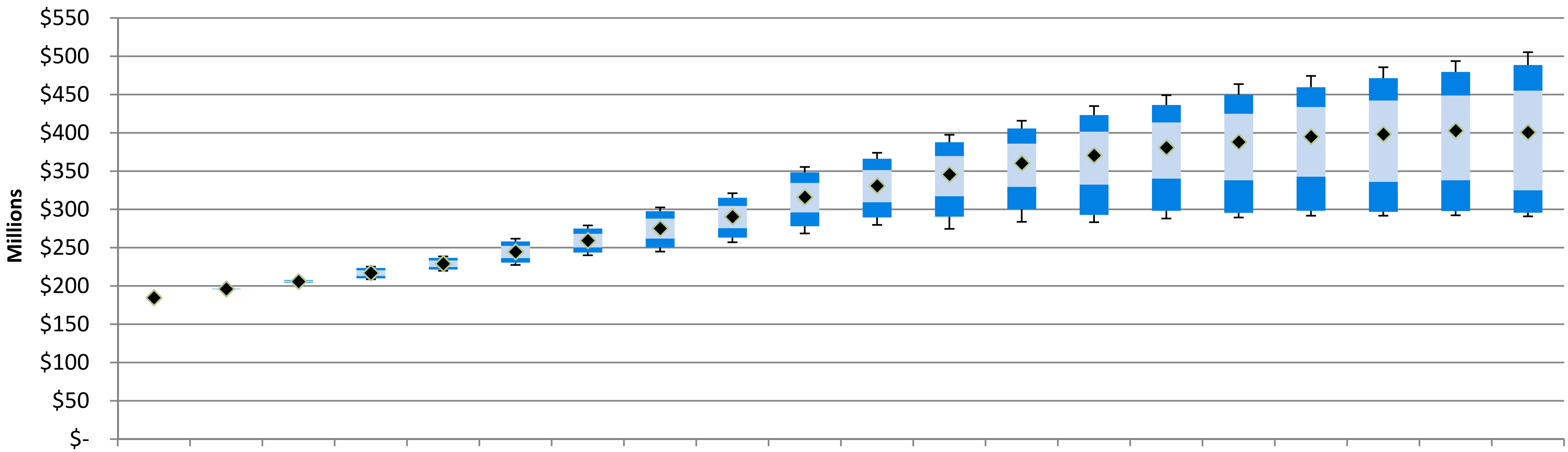
Includes administrative & operating expenses and short-term disability and medical costs

Development of Final Levy in Dollars

- The Total Requirements shown on the prior slides are the estimate of the funds needed for the operation of FPDR, including PERS contributions for FPDR Three members
- Several adjustments are made to the Total Requirements amount to develop a ***Final Levy*** for Board and Council review
  - Decrease to account for other revenue sources
  - Increase to reflect the effects of discounts and delinquencies
  - Increase to reflect the effects of tax compression on some properties
- Based on communications with the City Economist and FPDR, the net effects of these three adjustments for years after fiscal 2020-2021 is estimated as a 7.9%-8.5% increase
  - Details are in the Appendix

Final Levy in Dollars

- This shows the estimated Final Levy request as a dollar amount
- All amounts are shown on a non-inflation adjusted basis



FY Ending 6/30		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
5th	--	184.7	197.1	208.4	225.3	238.6	261.7	279.1	302.6	321.1	355.4	373.9	397.5	415.8	434.9	449.2	463.6	474.3	485.7	493.6	505.4
10th		184.7	196.9	207.9	223.5	236.6	258.3	275.0	297.8	315.3	348.3	366.2	387.8	405.7	423.3	436.4	449.9	459.7	471.4	479.7	488.6
25th		184.7	196.6	207.0	220.6	233.3	252.3	268.2	288.0	304.6	334.6	351.5	369.7	386.0	401.5	413.7	425.0	433.7	442.4	448.8	455.2
50th	•	184.7	196.3	206.0	217.0	229.3	244.7	259.5	275.3	290.6	316.2	330.9	345.9	360.5	370.6	380.9	388.2	395.3	398.4	403.1	400.9
75th		184.7	196.0	205.0	213.2	225.0	236.5	250.4	262.0	275.6	296.2	309.5	317.5	329.5	332.5	340.4	338.3	342.8	336.2	338.2	325.2
90th		184.7	195.7	204.1	210.0	221.5	230.5	243.7	250.6	263.2	278.0	289.5	290.6	300.4	292.9	298.2	295.5	298.2	296.8	297.9	295.8
95th	--	184.7	195.6	203.6	208.6	219.8	227.4	240.1	244.9	257.0	268.6	279.7	274.5	283.6	283.3	288.0	289.4	291.8	291.7	292.2	290.8

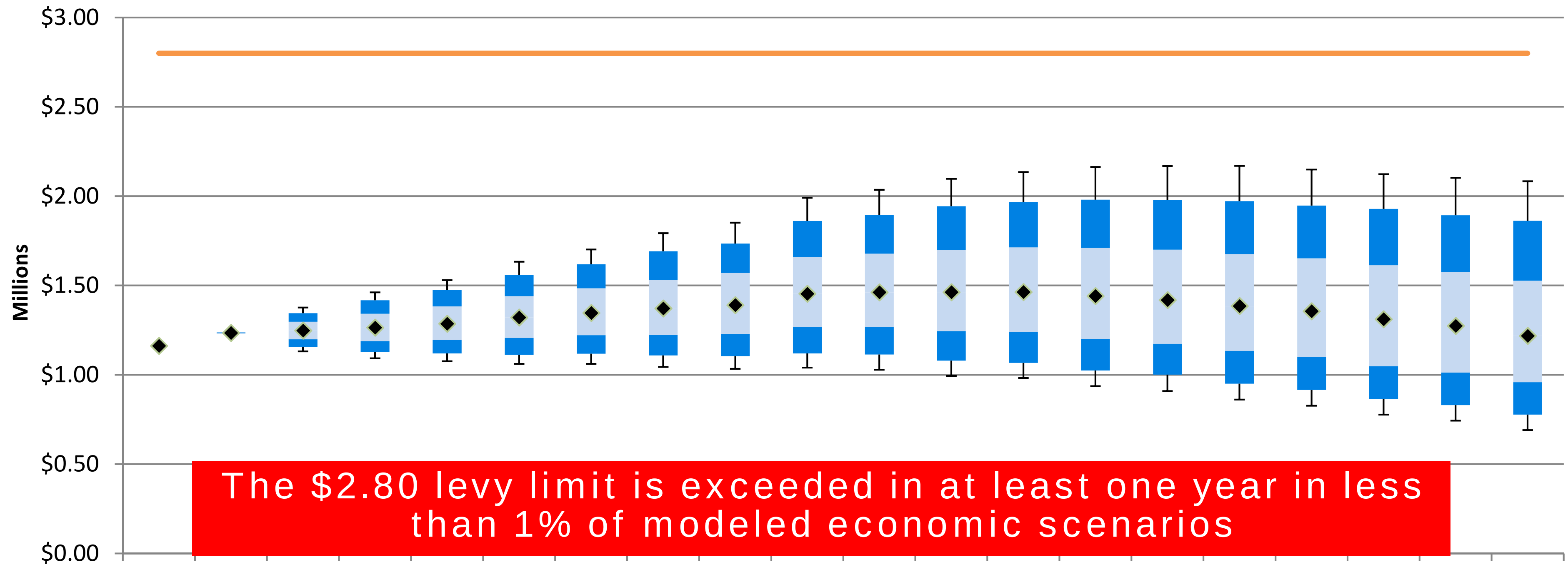
Includes administrative & operating expenses and short-term disability and medical costs

Development of Final Levy as a RMV Rate

- The Final Levy in dollars shown on the prior slide is converted into a Final Levy as a RMV Rate
- That rate is then compared to the limit in the City Charter of $2.80 per $1,000 of RMV
- Future RMV levels vary significantly by scenario in the model
- In the two years since prior modeling, overall RMV grew 6%
  - RMV growth fell below the prior model's median assumed growth

Final Levy as a RMV Rate

- This shows the estimated Final Levy request as a rate per $1,000 of RMV; the City Charter limits the levy to $2.80



FY Ending 6/30		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
5th	--	$1.16	$1.24	$1.38	$1.46	$1.53	$1.63	$1.70	$1.79	$1.85	$1.99	$2.04	$2.10	$2.13	$2.16	$2.17	$2.17	$2.15	$2.12	$2.10	$2.08
10th		$1.16	$1.24	$1.34	$1.42	$1.47	$1.56	$1.62	$1.69	$1.74	$1.86	$1.89	$1.94	$1.97	$1.98	$1.98	$1.97	$1.95	$1.93	$1.89	$1.86
25th		$1.16	$1.24	$1.30	$1.34	$1.38	$1.44	$1.48	$1.53	$1.57	$1.66	$1.68	$1.70	$1.71	$1.71	$1.70	$1.68	$1.65	$1.61	$1.57	$1.53
50th	•	$1.16	$1.23	$1.25	$1.26	$1.29	$1.32	$1.35	$1.37	$1.39	$1.45	$1.46	$1.46	$1.46	$1.44	$1.42	$1.38	$1.36	$1.31	$1.27	$1.22
75th		$1.16	$1.23	$1.20	$1.19	$1.20	$1.21	$1.22	$1.22	$1.23	$1.27	$1.27	$1.25	$1.24	$1.20	$1.17	$1.13	$1.10	$1.05	$1.01	$0.96
90th		$1.16	$1.23	$1.15	$1.13	$1.12	$1.11	$1.12	$1.11	$1.10	$1.12	$1.11	$1.08	$1.07	$1.02	$1.00	$0.95	$0.92	$0.86	$0.83	$0.78
95th	--	$1.16	$1.23	$1.13	$1.09	$1.08	$1.06	$1.06	$1.04	$1.03	$1.04	$1.03	$0.99	$0.98	$0.94	$0.91	$0.86	$0.83	$0.78	$0.74	$0.69

Includes administrative & operating expenses and short-term disability and medical costs

Certification

This presentation summarizes key results of an actuarial valuation as of June 30, 2020 and stochastic levy adequacy analysis for the fiscal years 2021 to 2040 of the Fire & Police Disability & Retirement Fund ("FPDR" or "the Fund") sponsored by the City of Portland. For complete actuarial valuation results, including cautions regarding the limitations of use of valuation calculations, please refer to our formal Actuarial Valuation Report as of June 30, 2020 ("the Valuation Report") published in January 2021. The Valuation Report, including all supporting information regarding data, assumptions, methods and provisions, is incorporated by reference into this presentation.

In preparing this presentation, we relied, without audit, on information (some oral and some in writing) supplied by Fund and City of Portland staff. This information includes, but is not limited to, Fund benefit provisions as defined by City Charter, employee data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the Fund have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the Fund and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the Fund. The valuation results were developed using models intended for valuations that use standard actuarial techniques.

A valuation report is only an estimate of the Fund's financial condition as of a single date. It can neither predict the Fund's future condition nor guarantee future financial soundness. Actuarial valuations do no affect the ultimate cost of Fund benefits, only the timing of Fund contributions or cost recognition. While the valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. Likewise an actuarial projection, even if stochastic, is still determined by underlying assumptions. If different assumptions are used projection results may differ significantly. No one set of assumptions is uniquely correct.

Future actuarial measurements may differ significantly from the current measurements summarized in this presentation due to such factors as the following: Fund experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in Fund benefit provisions or applicable law.

Certification

Future actuarial measurements may differ significantly from the current measurements summarized in this presentation due to such factors as the following: Fund experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in Fund benefit provisions or applicable law.

This presentation includes identification and analysis of various risks relevant to the operation and funding of the FPDR program. Some of these risks were illustrated quantitatively through stochastic modeling, while others were identified without numerical illustration in this document. Our analysis was performed based on the methods, assumptions, and inputs described in this document. We recommend that FPDR continues to periodically perform further risk assessments in the future to take into account changing conditions in the underlying basis.

Milliman's work is prepared solely for the internal business use of the City of Portland and FPDR.

Milliman does not intend to benefit or create a legal duty to any third party recipient of its work product. No third party recipient of Milliman's work product should rely upon it. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are retirement actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the principles prescribed by the Actuarial Standards Board and the *Code of Professional Conduct* and *Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States* published by the American Academy of Actuaries. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Appendix

Appendix
Actuarial Basis

Data

We have based our calculation of the liabilities on the data supplied by the FPDR and summarized in the data exhibits of the Valuation Report.

Assets as of June 30, 2020, were based on values provided by FPDR and the City of Portland and are detailed in the Valuation Report.

Methods / Policies

Actuarial Cost Method: Entry age normal, as described in the Valuation Report.

Provisions

Provisions valued are as detailed in the Valuation Report and reflect benefit provisions in effect as of June 30, 2020.

FPDR Two COLA: The Valuation Report was prepared assuming future COLAs for FPDR Two are a blended rate. The blended rate is determined by applying a 2.00% COLA for service prior to October 8, 2013 and a 1.75% COLA for service thereafter.

Appendix

Actuarial Basis

Assumptions for Valuation Calculations

As described in the Valuation Report.

Assumptions for Levy Adequacy Analysis

As described in the Valuation Report except where modified by the deviations and additions noted in this Appendix.

Real Market Value (RMV) of real estate subject to property taxes: $159.0 billion as of the beginning of 2020 as reported by the City and FPDR. It is our understanding that amount served as the basis for calculations for property tax bills sent in October 2020 to fund FPDR for the fiscal year running from July 1, 2020 to June 30, 2021 (FYE 2021). No reduction is made to RMV in the model for any estimate of urban renewal excess per our understanding (from consultation with TSCC) that RMVs are determined as inclusive of urban renewal excess value. As a result, we understand that the RMV amount without any reduction for urban renewal excess is an appropriate determination basis for evaluating the $2.80 levy limit.

Increase in RMV: Based on consultation with the City's economist, projected with 0.0% growth in the first year of our model and a 4.0% geometric average annual compounded growth thereafter.   Growth patterns vary in our stochastic model with the exception of the first year.

Administrative & Operating Expenses: A component of the Total Requirements, based on consultation with FPDR this is modeled as $4.35 million in the first year of our model and in subsequent years is assumed to increase with CPI, which varies in our stochastic model.

Short-Term Disability & Disability-Related Medical Costs: A component of the Total Requirements, based on consultation with FPDR staff this is modeled as $4.52 million in the first year of our model and in subsequent years it is assumed to increase with CPI plus 1.5%, with CPI varying in our stochastic model.

Appendix
Actuarial Basis

Assumptions for Levy Adequacy Analysis (continued)

IAP Contribution to OPERS for FPDR Three members: A component of the Total Requirements, assumed to be 9% of FPDR Three payroll throughout the payment period.

OPSRP Contribution to OPERS for FPDR Three members: A component of the Total Requirements. This will vary based on future investment experience of the OPERS program. It is assumed in this model that the current OPERS assumptions and rate calculation methods will remain consistent throughout the projection period. Detailed information on those methods can be found in the December 31, 2019 System-Wide Actuarial Valuation Report for Oregon PERS.

Overtime effect on FPDR Three base payroll subject to OPERS contributions: Throughout the projection it is assumed that overtime pay subject to OPERS contributions will be 18.6% of base FPDR Three payroll.

Adjustments to Total Requirements to Estimate Final Levy: Three adjustments are made as detailed below. For years after FYE2024 of our model, the net combined adjustment is to increase Total Requirements by 7.9%.

> <u>Other sources of revenue</u>: Multiply by 0.985 (equal to one hundred percent minus 1.5 percent)
>
> <u>Adjustment for property tax discounts and delinquencies</u>: Multiply by 1.04712 (equal to one divided by one minus 4.5 percent)
>
> <u>Adjustment for estimated effects of tax compression</u>: Based on information provided by FPDR and the City's economist, multiply by the following factors:
>
> FYE2021 – 1.04712 (equal to one divided by one minus 4.5 percent)
>
> FYE2022 – 1.05152 (equal to one divided by one minus 4.9 percent)
>
> FYE2023 – 1.05042 (equal to one divided by one minus 4.8 percent)
>
> FYE2024 – 1.04822 (equal to one divided by one minus 4.6 percent)
>
> Later fiscal years – 1.04603 (equal to one divided by one minus 4.4 percent)

Appendix
Actuarial Basis

Assumptions for Levy Adequacy Analysis (continued)

CPI: Varies in our stochastic model. Average geometric annual compounded growth of 2.20%.

Oregon PERS Investment Returns: Return for calendar year 2020 is assumed to be +5.93%, based on results published by Oregon State Treasury through November 30, 2020. Returns for 2021 and beyond vary in our stochastic model. Average geometric annual compounded growth for the post-2020 period is approximately 6.7%.

COLA increases: For FPDR One members, COLA increases are assumed to be equal to the projected wage growth in a given year and are assumed to remain level in years where projected wage growth is negative.

For FPDR Two retirement-related benefits, the baseline levy modeling assumes annual COLA increases a blend of 2.00% (for service prior to October 8, 2013) and 1.75% (for service after that date).

For FPDR Three, retirement-related benefits, COLA increases are assumed to be applied according to current rules for the OPERS program ("full PERS").

Wage growth: Varies in our stochastic model. Each year's projected wage growth is equal to projected CPI plus 1.00%.

New entrants and system pay growth: No new members are assumed to be eligible for FPDR One or FPDR Two benefits; all new entrants are assumed to become members under the FPDR Three/OPSRP benefit formula. Payroll for FPDR Three new entrant members is expected to grow such that overall system pay would grow at 3.25% if inflation was 2.25%, consistent with the valuation assumption.

Appendix
Rate Projection Basis

Assumptions for Levy Adequacy Analysis (continued)

Capital Market Model

For each 20-year projection, we ran 10,000 stochastic scenarios for RMV, inflation and Oregon PERS asset class rates of return. The scenarios were calibrated to represent Milliman's capital market assumptions in terms of expected average real returns, the expected year-to-year volatility of the returns, and the expected correlation between the returns of different asset classes. The correlation of RMV to investment returns was developed based on an analysis of recent actual experience. Annual rates of return for each of the asset classes and inflation are generated from a multivariate lognormal probability distribution. Rates of return are independent from year to year.

The variable return model includes 10,000 projected scenarios for possible future year-by-year system investment returns and levels of inflation. In developing that model, per Actuarial Standards of Practice we disclose reliance upon a Milliman colleague who is a credentialed actuary and also a credentialed investment professional with expertise in preparing capital outlook modeling. We reviewed overall model results for reasonability while, as part of his work, our investment professional colleague reviewed the investment projections for internal consistency.

For this purpose, we considered the Oregon PERS Fund to be allocated among the model's asset classes as shown on the following slide. This allocation is based on the OIC's Statement of Investment Objectives and Policy Framework for the Oregon PERS Fund, as revised in April 2019.

Appendix

Rate Projection Basis

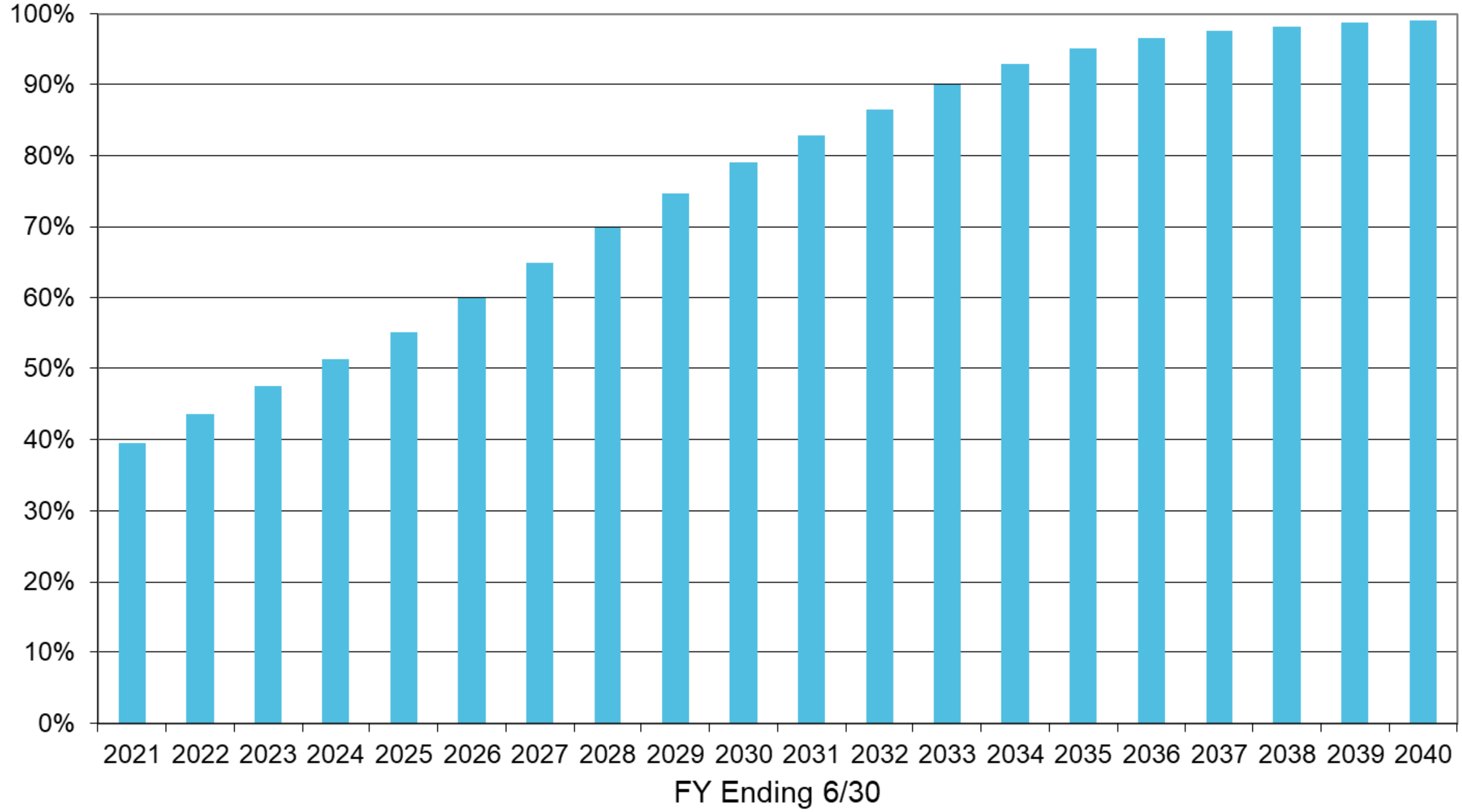
Assumptions for Levy Adequacy Analysis (continued)

Capital Market Model for Oregon PERS Contribution Rate Projection

Reflects asset allocation for the Oregon PERS Fund as revised in April 2019, and Milliman's capital market assumptions as of July 1, 2020.

	Annual Arithmetic Mean	20-Year Annualized Geometric Mean	Annual Standard Deviation	Policy Allocation
US Large/Mid-Cap Equity	7.18%	5.99%	16.45%	16.17%
US Small Cap Equity	8.60%	6.69%	21.15%	1.35%
US Micro-Cap Equity	9.24%	6.89%	23.60%	1.35%
Non-US Developed Equity	8.80%	7.34%	18.45%	13.48%
Emerging Markets Equity	10.81%	8.14%	25.40%	4.24%
Non-US Small Cap Equity	9.44%	7.74%	20.00%	1.93%
Private Equity	11.92%	8.29%	30.00%	17.50%
US Core Fixed Income	3.05%	2.99%	3.85%	9.60%
US Short-Term Bonds	2.58%	2.56%	2.05%	9.60%
US Bank/Leveraged Loans	5.20%	4.95%	7.40%	3.60%
High Yield Bonds	6.20%	5.78%	9.70%	1.20%
Real Estate	6.33%	5.69%	12.00%	10.00%
Global REITs	8.52%	6.84%	19.75%	2.50%
Timber	6.54%	5.79%	13.00%	1.13%
Farmland	6.99%	6.24%	13.00%	1.13%
Infrastructure	7.77%	6.79%	15.00%	2.25%
Commodities	5.37%	3.79%	18.85%	1.13%
Hedge Fund of Funds - Diversified	4.42%	4.19%	7.10%	1.50%
Hedge Fund Event-Driven	5.98%	5.64%	8.70%	0.38%
US Inflation (CPI-U)	2.50%	2.49%	1.65%	**N/A**
Fund Total (reflecting asset class correlations)	**7.44%**	**6.74%***	**12.64%**	**100.00%**

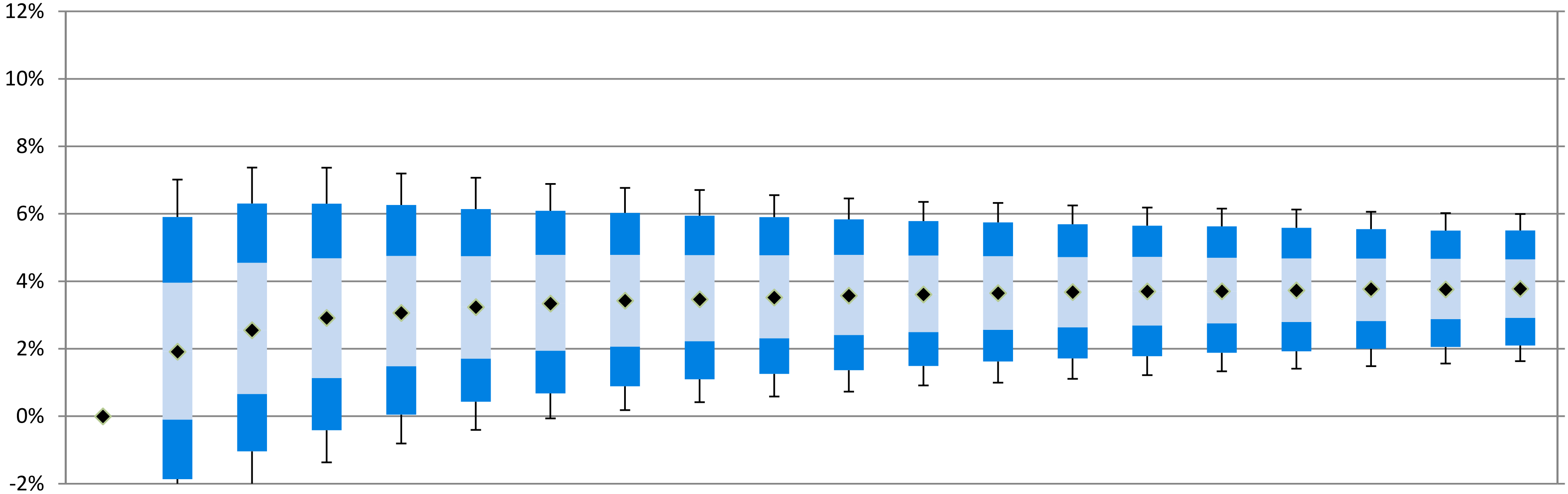
Appendix
Proportion of Active Payroll that is FPDR Three



FY Ending 6/30	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2038	2039
FPDR Three Pay as % of Total	40%	44%	48%	51%	55%	60%	65%	70%	75%	79%	83%	86%	90%	93%	95%	96%	98%	98%	99%	99%

Appendix

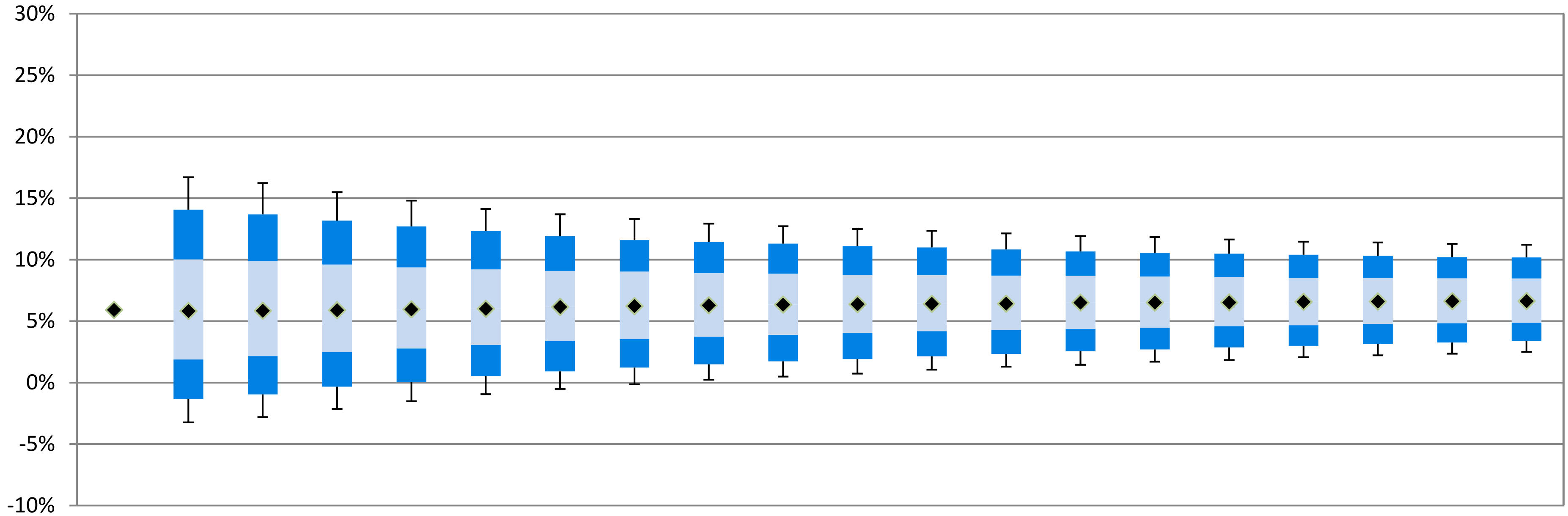
Cumulative Annualized Geometric Growth in RMV



CY Ending 12/31		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
5th	--	0.0%	7.0%	7.4%	7.4%	7.2%	7.1%	6.9%	6.8%	6.7%	6.6%	6.5%	6.4%	6.3%	6.2%	6.2%	6.2%	6.1%	6.1%	6.0%	6.0%
10th		0.0%	5.9%	6.3%	6.3%	6.3%	6.1%	6.1%	6.0%	5.9%	5.9%	5.8%	5.8%	5.7%	5.7%	5.7%	5.6%	5.6%	5.5%	5.5%	5.5%
25th		0.0%	4.0%	4.5%	4.7%	4.8%	4.7%	4.8%	4.8%	4.8%	4.8%	4.8%	4.8%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%	4.7%
50th	•	0.0%	1.9%	2.6%	2.9%	3.1%	3.2%	3.3%	3.4%	3.5%	3.5%	3.6%	3.6%	3.7%	3.7%	3.7%	3.7%	3.7%	3.8%	3.8%	3.8%
75th		0.0%	-0.1%	0.7%	1.1%	1.5%	1.7%	1.9%	2.1%	2.2%	2.3%	2.4%	2.5%	2.6%	2.6%	2.7%	2.8%	2.8%	2.8%	2.9%	2.9%
90th		0.0%	-1.9%	-1.0%	-0.4%	0.1%	0.4%	0.7%	0.9%	1.1%	1.3%	1.4%	1.5%	1.6%	1.7%	1.8%	1.9%	1.9%	2.0%	2.1%	2.1%
95th	--	0.0%	-2.9%	-2.0%	-1.4%	-0.8%	-0.4%	-0.1%	0.2%	0.4%	0.6%	0.7%	0.9%	1.0%	1.1%	1.2%	1.3%	1.4%	1.5%	1.6%	1.6%

Appendix

Cumulative Annualized Geometric Investment Return on Oregon PERS Fund



CY Ending 12/31		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
5th	--	5.9%	16.7%	16.2%	15.5%	14.8%	14.1%	13.7%	13.3%	12.9%	12.7%	12.5%	12.3%	12.1%	11.9%	11.8%	11.6%	11.5%	11.4%	11.3%	11.2%
10th		5.9%	14.1%	13.7%	13.2%	12.7%	12.3%	11.9%	11.6%	11.5%	11.3%	11.1%	11.0%	10.8%	10.7%	10.6%	10.5%	10.4%	10.3%	10.2%	10.2%
25th		5.9%	10.0%	9.9%	9.6%	9.4%	9.2%	9.1%	9.0%	8.9%	8.9%	8.8%	8.7%	8.7%	8.7%	8.6%	8.6%	8.5%	8.5%	8.5%	8.5%
50th	•	5.9%	5.8%	5.9%	5.9%	6.0%	6.0%	6.2%	6.2%	6.3%	6.4%	6.4%	6.4%	6.4%	6.5%	6.5%	6.5%	6.6%	6.6%	6.6%	6.6%
75th		5.9%	1.9%	2.2%	2.5%	2.8%	3.1%	3.4%	3.6%	3.7%	3.9%	4.1%	4.2%	4.3%	4.4%	4.5%	4.6%	4.7%	4.8%	4.8%	4.9%
90th		5.9%	-1.3%	-1.0%	-0.3%	0.1%	0.5%	0.9%	1.2%	1.5%	1.7%	1.9%	2.1%	2.3%	2.6%	2.7%	2.9%	3.0%	3.1%	3.3%	3.4%
95th	--	5.9%	-3.2%	-2.8%	-2.1%	-1.5%	-0.9%	-0.5%	-0.1%	0.2%	0.5%	0.7%	1.1%	1.3%	1.4%	1.7%	1.8%	2.1%	2.2%	2.4%	2.5%

Retirement System Risks

- FPDR, like all defined benefit plans, is subject to various risks that will affect future plan liabilities, including:
  - **Demographic risks**: the potential that mortality experience, retirement behavior, or other demographic experience for the plan population will be different than expected
  - **Contribution risk**: the potential that actual future contributions will be materially different than expected, or that significant changes occur to sources of funding. For FPDR benefits, material changes in the property tax structure or the City's Real Market Value would be an example of contribution risk.
- The results of an actuarial valuation are based on one set of reasonable assumptions, but it is almost certain that future experience will not exactly match the assumptions
- Further discussion of plan risks and historical information regarding plan experience are shown in our actuarial valuation

CITY OF PORTLAND FIRE & POLICE DISABILITY & RETIREMENT (FPDR) FUND

Pension Actuarial Valuation Report as of June 30, 2020

Prepared by:

Matt Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Gary Deeth, ASA, EA, MAAA
Consulting Actuary

Milliman, Inc.
1455 SW Broadway, Suite 1600
Portland OR 97201

Tel +1 503 227 0634

milliman.com

1455 SW Broadway
Suite 1600
Portland, OR 97201
USA

Tel +1 503 227 0634

milliman.com

January 14, 2021

Stacy Jones
FPDR Financial Manager
Bureau of Fire & Police Disability & Retirement

Dear Stacy,

As part of our engagement with the Bureau of Fire & Police Disability & Retirement and the City of Portland, we performed an actuarial valuation of the Fire & Police Disability & Retirement Fund ("FPDR" or "the System") sponsored by the City as of June 30, 2020. Our findings are set forth in this actuarial valuation report. This report reflects the benefit provisions in effect as of June 30, 2020.

In preparing this report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, System benefit provisions as defined by City Charter, employee data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised. The valuation results were developed using models intended for valuations that use standard actuarial techniques.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

This valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits, only the timing of System contributions or cost recognition. While the valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those assumptions would be different. No one set of assumptions is uniquely correct.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: System experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements; and changes in System benefit provisions or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements. The FPDR Board has the final decision regarding the appropriateness of the assumptions and cost methods used in this report, and reviewed and accepted them in its September 2020 Board meeting related to the 2020 experience study.

Milliman's work is prepared solely for the use and benefit of FPDR and the City of Portland.

Milliman does not intend to benefit or create a legal duty to any third party recipient of this report. No third party recipient of Milliman's work product should rely upon this report. Such recipients should engage qualified professionals for advice appropriate to their own specific needs.

The consultants who worked on this assignment are retirement actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

The signing actuaries are independent of the plan sponsor. We are not aware of any relationship that would impair the objectivity of our work.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the principles prescribed by the Actuarial Standards Board and the *Code of Professional Conduct* and *Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States* published by the American Academy of Actuaries. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

Sincerely,

Matthew R. Larrabee, FSA, EA, MAAA
Principal and Consulting Actuary

Scott D. Preppernau, FSA, EA, MAAA
Principal and Consulting Actuary

Gary C. Deeth, ASA, EA, MAAA
Consulting Actuary

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Section I – Summary of the Findings

Summary of the Findings

Milliman has prepared this report for the City of Portland and its Fire & Police Disability & Retirement Fund ("FPDR" or "the Plan") to:

- Estimate the Plan's actuarial liabilities as of June 30, 2020 for FPDR and the City of Portland,
- Provide a multi-year estimate of projected benefit payments from the Plan, and
- Provide the basis for later financial reporting results and levy adequacy analysis requested by FPDR, which will build from these June 30, 2020 valuation results.

Summary of Principal Results

The following table summarizes the primary results of the valuation which are discussed further below.

	June 30, 2018	June 30, 2020
Discount Rate	3.87%	2.21%
Actuarial Cost Method	Entry Age Normal	Entry Age Normal
Actuarial Accrued Liability (AAL)	$ 3,323,733,057	$ 4,456,071,006
Assets	17,790,776	18,638,401
Unfunded Actuarial Accrued Liability (UAAL)	3,305,942,281	4,437,432,605
Projected Base Pay for Next Year	152,231,134	165,958,162
Normal Cost	64,396,646	106,741,759

FPDR is essentially funded on a pay-as-you-go basis via a property tax levy. The actuarial liabilities contained in this report are not used as a basis for pre-funding the plan, but do provide a measure of the present value of the financial obligation associated with the program. The actuarial liabilities are calculated from a projection of benefit payments. The projection reflects the current provisions, assumptions, and demographic information documented in this report. The stream of projected future benefit payments is converted to a net present value as of the valuation date based on the valuation discount rate, which is 2.21% for the current valuation. The total net present value is then assigned to past, present, and future service according to the actuarial cost method. The portion assigned to the past is called the **actuarial accrued liability (AAL)**[1], while the portion assigned to the current year is referred to as the **normal cost**.

The results from this valuation will also be used to assist the City and FPDR in completing disclosures for financial reporting **measurement dates** as of June 30, 2021 and June 30, 2022 under **GASB 67** (which governs plan financial reporting) and **GASB 68** (which governs the City's reporting). Results calculated as of the June 30, 2020 **valuation date** in this report will be recalculated as of these later dates using standard actuarial roll-forward techniques. GASB 67 and GASB 68 permit the use of a valuation date that is up to 24 months prior to the measurement date. Actuarial valuations are conducted each even-numbered year, and results from that valuation will be used to develop the fiscal year-end financial reporting for measurement dates 12 and 24 months subsequent to the valuation date. Following this procedure and generally accepted financial reporting practices for governmental entities, the results from this report will be used to develop GASB 67 and 68 results for the fiscal years ending in 2021 and 2022. However, the actual fiscal year-ending

[1] *Bolded terms from the Executive Summary are defined in the report glossary.*

2021 and 2022 results are not included in this report, as the measurements must be adjusted to reflect experience (including bond market information to identify the appropriate discount rate and audited fund asset levels) through the relevant dates. These results will be provided separately according to the relevant financial reporting timeframe.

The discount rate used to determine a net present value changed from 3.87% for the previous valuation as of June 30, 2018 to 2.21% for the current valuation as of June 30, 2020, which had the effect of significantly increasing the measured plan liabilities. The discount rate of 2.21% is the same rate used by FPDR in plan financial reporting as of June 30, 2020, and was selected to be consistent with the rate selection basis required under GASB 67. Because of the primarily unfunded nature of the FPDR plan, the discount rate under GASB 67 should be set equal to a municipal bond rate or index that represents yields for 20-year tax-exempt general obligation municipal bonds.

In this valuation, there are two categories of plan assets considered for FPDR: a $750,000 Reserve Fund established by the governing City Charter, and the FPDR Fund, which held $17,888,401 in trust for pension benefits as of June 30, 2020. Assets are reported by FPDR and are measured on a fair market value basis. We understand these funds are invested in short-term fixed income securities, in a similar manner to the general assets of the City of Portland. Both funds are included as assets in this valuation based upon consultation with FPDR, the City of Portland, and the City's external auditor.

The City of Portland also provides an "indirect subsidy" retiree healthcare benefit for FPDR members via allowing access to the medical plans offered to active FPDR members. We understand the indirect (or implicit) subsidy for these benefits is valued in a separate actuarial valuation conducted by another actuary.

In addition to the indirect subsidy noted above, FPDR also provides a benefit that reimburses medical expenses associated with service-connected injuries and illness. In consultation with FPDR and the City's external auditor, it was decided that beginning with the June 30, 2012 valuation the liability for post-retirement disability-related expenses could be estimated by applying a fixed percentage load to the pension liabilities. This percentage load was 0.65% for the previous valuation. We reviewed this assumption as part of the current valuation and have maintained the 0.65% load assumption based on recent observed experience over the prior 4 years and expectations regarding future experience.

Plan Provisions

Since the previous valuation, there have been no changes to the plan provisions that had a material effect on the valuation liabilities.

Assumptions and Methods

The demographic and economic assumptions used in this valuation are based on an experience study presented to the FPDR Board on September 22, 2020. Most assumptions used in the previous valuation were based on an experience study presented to the FPDR Board on May 27, 2014.

Assumptions were updated in the current valuation, as a result of the 2020 experience study. Three key changes are described below:

- The discount rate used for the valuation is selected to be consistent with the discount rate used for GASB financial reporting at the valuation date. The GASB standards require the use of a municipal bond rate or index for a plan such as FPDR, which led to the current valuation's discount rate of 2.21%. This is a decrease of 166 basis points from the prior valuation, and the discount rate change increased the Actuarial Accrued Liability (AAL) as of the valuation date by $974 million.

- The mortality assumptions used for all members and beneficiaries have been selected to be consistent with the same assumptions used by the Oregon Public Employees Retirement System (OPERS) for police and fire members and beneficiaries in the most recently published OPERS valuation. The OPERS assumptions are used because the much larger size of the OPERS system generates more statistically credible mortality experience for Oregon public safety personnel than would result from examining FPDR experience in isolation. Updating this assumption decreased AAL by $104 million in the current valuation.

- Future cost of living adjustments (COLAs) for FPDR Two and Three benefits are applied annually at the discretion of the Board of Trustees, up to the current Oregon PERS statutory maximum of 2.00 percent per year. For purposes of the valuation, it was assumed that in the future a blended COLA of 2.00% for benefits related to service through October 8, 2013 and 1.75% for benefits related to service after that date would be granted annually by the FPDR Board. This is consistent with the actual FDPR Two and Three COLAs the FPDR Board chose to grant in 2020. Updating this assumption increased AAL by $79 million in the current valuation.

These changes – along with others made as part of the 2020 experience study – are discussed more fully in the appendices to this report, and their effects on measured liabilities are shown in Section II of this report. All actuarial assumptions, methods, and plan provisions valued are summarized in the appendices of this report.

Section II – Valuation Results

Valuation Results

Calculation of the Unfunded Actuarial Accrued Liability (UAAL)

The development of the Unfunded Actuarial Accrued Liability is shown in the table below.

Benefit Obligations and UAAL	June 30, 2018	June 30, 2020
Actuarial Cost Method	Entry Age Normal	Entry Age Normal
1 Discount Rate	3.87%	2.21%
2 Total Present Value of Benefits (includes future accruals)	3,903,474,297	5,357,692,279
3 Actuarial Accrued Liability		
a. Retirees	1,929,387,585	2,425,483,329
b. Pre-retirement disableds	55,021,387	63,973,229
c. Surviving spouses and alternate payees	146,660,852	174,087,758
d. Inactive participants with deferred benefits	39,466,710	53,851,610
e. Active employees	1,153,196,523	1,738,675,080
f. **Total**	**3,323,733,057**	**4,456,071,006**
4 Present value of future normal costs *(2.-3.f.)*	579,741,240	901,621,273
5 Projected next year's base pay	152,231,134	165,958,162
6 Normal cost	64,396,646	106,741,759
7 Assets	17,790,776	18,638,401
8 Unfunded Actuarial Accrued Liability (UAAL) *(3.f. -7.)*	3,305,942,281	4,437,432,605

Projected Benefit Payments

The table below shows the projected benefit payments assuming no new entrants and all valuation assumptions are realized. The payment projections shown include the effect of assumed future service and salary increases for current actives, as well as the assumed load for disability-related medical expenses in retirement. The amounts shown do not include any projected benefit payments to members and their survivor beneficiaries from the Oregon Public Employees Retirement System (OPERS) in which FPDR Three members also participate. The amounts shown also do not include any employer contributions to OPERS for service by FPDR Three members. For comparison, the actual benefit payments during the 2019-2020 fiscal year on this basis were approximately $135.4 million.

Fiscal Year	Projected Benefit Payments
2020-2021	$137,908,000
2021-2022	143,272,000
2022-2023	148,390,000
2023-2024	154,129,000
2024-2025	161,411,000
2025-2026	168,992,000
2026-2027	176,674,000
2027-2028	184,318,000
2028-2029	191,612,000
2029-2030	198,118,000
2030-2031	204,567,000
2031-2032	210,826,000
2032-2033	216,115,000
2033-2034	219,946,000
2034-2035	222,332,000
2035-2036	223,639,000
2036-2037	223,963,000
2037-2038	223,477,000
2038-2039	222,325,000
2039-2040	220,616,000
2040-2041	218,316,000
2041-2042	215,581,000
2042-2043	212,478,000
2043-2044	208,934,000
2044-2045	205,062,000
2045-2046	200,850,000
2046-2047	196,410,000
2047-2048	191,761,000
2048-2049	186,839,000
2049-2050	181,809,000

Actuarial Liabilities by Tier

	June 30, 2020						
	FPDR One Police	FPDR One Fire	FPDR Two Police	FPDR Two Fire	FPDR Three Police	FPDR Three Fire	Total
Total Present Value of Benefits							
Active	-	-	1,500,016,503	1,109,732,743	16,723,245	13,823,862	**2,640,296,353**
Inactive	92,215,822	76,590,597	1,576,879,966	971,709,541	-	-	**2,717,395,926**
Total	92,215,822	76,590,597	3,076,896,469	2,081,442,284	16,723,245	13,823,862	**5,357,692,279**
Actuarial Accrued Liability							
Active	-	-	1,055,679,378	680,092,371	1,574,794	1,328,537	**1,738,675,080**
Inactive	92,215,822	76,590,597	1,576,879,966	971,709,541	-	-	**2,717,395,926**
Total	92,215,822	76,590,597	2,632,559,344	1,651,801,912	1,574,794	1,328,537	**4,456,071,006**
Normal Cost	-	-	62,782,036	42,678,806	712,576	568,341	**106,741,759**
Projected next year's base pay	-	-	57,187,107	42,961,790	37,484,380	28,324,885	**165,958,162**
Normal Cost as % of base pay	N/A	N/A	109.8%	99.3%	1.9%	2.0%	**64.3%**

Analysis of Gains and Losses

The table below shows Actuarial Accrued Liability (AAL) as of the previous valuation date of July 1, 2018, the expected AAL at the current valuation date if all assumptions were met with no changes to benefit provisions or assumptions, and the actual AAL calculated in this valuation before reflecting any changes to benefit provisions or assumptions. As detailed in the table, actual experience compared to assumption since the last valuation led to a $45 million demographic experience loss, or increase in liability, compared to the expected liability. The main reasons for this loss were salary increases being higher than expected and participants living longer than assumed.

Actuarial Accrued Liability Gain/(Loss) Analysis	
	Actuarial Accrued Liability
June 30, 2018 AAL	3,323,733,057
Expected June 30, 2020 AAL before changes	3,448,440,541
Actual June 30, 2020 AAL before changes	3,493,541,238
Gain/(Loss)	(45,100,697)
Gain/(Loss) as % of expected AAL	-1.3%
Sources of Gain/(Loss)	
Salary experience	(29,131,254)
FPDR One COLA experience	548,076
FPDR Two COLA experience	(902,484)
Oregon residency experience	1,685,249
Retiree mortality experience	(12,488,737)
New actives	(147,279)
Total	(40,436,429)
Remaining Gain/(Loss) from other sources	(4,664,268)
Remaining Gain/(Loss) as % of expected AAL	-0.1%

Effect of Assumption, Method, and Plan Changes

The table below shows the changes in plan AAL and Normal Cost that occurred as a result of updating the valuation assumptions, as discussed in Appendix C of this report.

Effect of Assumption, Method, and Plan Changes		
	Actuarial Accrued Liability (AAL)	Normal Cost
June 30, 2018 Valuation	3,323,733,057	64,396,646
June 30, 2020 before changes	3,493,541,238	64,388,552
Plan provision changes	N/A	N/A
Assumption/method changes		
Discount rate assumption	973,556,615	39,127,059
Mortality assumption	(104,117,092)	(1,053,329)
FPDR 2 COLA assumption	78,577,168	4,080,974
Salary-related assumptions*	17,714,775	1,853,775
Other demographic assumptions	(3,201,698)	(1,655,272)
Total change	962,529,768	42,353,207
June 30, 2020 Final Valuation Results	4,456,071,006	106,741,759

** Includes general wage growth, merit scale, and FPDR 1 COLA assumptions*

Section III – Plan Assets

Plan Assets

The FPDR Board of Trustees administers both the FPDR Fund and a Reserve Fund.

The FPDR Fund is invested primarily in cash and short-term investments. As of June 30, 2020, the Fund had a total of $17,888,401 in net assets considered held in trust for pension benefits.

The Reserve Fund is authorized under provisions of Chapter 5 (Section 5-104) of the City of Portland's Charter; and its purpose is to provide a reserve from which advances can be made to the FPDR Fund in the event the Fund is depleted to the extent that it cannot meet its current obligations. Under provisions of the City Charter, the Reserve Fund maximum is established at $750,000 and is fully funded as of June 30, 2020.

Based on input from FPDR, the City of Portland and its external auditor, we understand both the FPDR Fund held in trust for pension benefits and the Reserve Fund are considered to meet GASB requirements of plan assets for financial reporting, and thus are used for plan actuarial valuation purposes.

The amounts shown below for both the current and prior valuation date are provided to us by FPDR and the City of Portland and are reported on a fair market value basis.

	Asset Summary		
Valuation Date	FPDR Fund - Held in Trust for Pension	Reserve Fund	Total Pension Assets
June 30, 2018	$17,040,776	$750,000	$17,790,776
June 30, 2020	$17,888,401	$750,000	$18,638,401

Appendix A

Participant Data

Statistics for FPDR Participants as of June 30, 2020

	FPDR One		FPDR Two		FPDR Three		Total		Grand
	Police	Fire	Police	Fire	Police	Fire	Police	Fire	Total
Actives									
Headcount	0	0	472	377	399	296	871	673	1,544
Average Age	N/A	N/A	48.1	47.3	35.7	37.8	42.4	43.2	42.7
Average Service	N/A	N/A	20.8	19.6	6.3	7.8	14.1	14.4	14.2
Average Salary*	N/A	N/A	$121,680	$114,625	$93,946	$95,692	$108,975	$106,298	$107,808
Current Retiree & Beneficiaries**									
Headcount	181	167	951	581	0	0	1,132	748	1,880
Average Age	83.0	85.0	67.0	69.0	N/A	N/A	69.6	72.5	70.7
Average Monthly Benefit	$3,673	$3,708	$5,863	$6,681	N/A	N/A	$5,513	$6,018	$5,714
Current Disabled Members									
Headcount	1	2	19	3	0	0	20	5	25
Average Age	63.0	62.0	52.7	53.3	N/A	N/A	53.3	56.8	54.0
Average Monthly Benefit	$5,270	$5,069	$4,336	$2,701	N/A	N/A	$4,383	$3,648	$4,236
Inactive Deferred Members									
Headcount	0	0	56	11	0	0	56	11	67
Average Age	N/A	N/A	47.0	45.6	N/A	N/A	47.0	45.6	46.7
Average Monthly Benefit	N/A	N/A	$2,155	$2,241	N/A	N/A	$2,155	$2,241	$2,170

* *Average Salary is projected 2020-2021 basic annualized earnings.*

** *Headcount does not include 119 Alternate Payees receiving benefits via a Domestic Relations Order. The average monthly benefit for that group is $1,636.*

Distribution of FPDR Two Active Participants as of June 30, 2020

FPDR Two Police

	Years of Service							
Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30**	**Total**
0-20	0	0	0	0	0	0	0	**0**
20-24	0	0	0	0	0	0	0	**0**
25-29	0	0	0	0	0	0	0	**0**
30-34	0	0	0	0	0	0	0	**0**
35-39	0	0	9	10	0	0	0	**19**
40-44	0	0	17	69	11	0	0	**97**
45-49	0	0	11	50	97	17	0	**175**
50-54	0	0	4	30	52	39	0	**125**
55-59	0	0	3	4	18	16	4	**45**
60-64	0	0	0	3	1	5	0	**9**
65-69	0	0	0	0	0	1	1	**2**
70-74	0	0	0	0	0	0	0	**0**
75+	0	0	0	0	0	0	0	**0**
Total	**0**	**0**	**44**	**166**	**179**	**78**	**5**	**472**

FPDR Two Fire

	Years of Service							
Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30**	**Total**
0-20	0	0	0	0	0	0	0	**0**
20-24	0	0	0	0	0	0	0	**0**
25-29	0	0	0	0	0	0	0	**0**
30-34	0	0	0	0	0	0	0	**0**
35-39	0	0	16	15	0	0	0	**31**
40-44	1	0	22	58	17	0	0	**98**
45-49	0	0	19	43	53	2	0	**117**
50-54	0	0	6	25	43	7	4	**85**
55-59	0	0	1	3	16	7	9	**36**
60-64	0	0	0	0	1	1	6	**8**
65-69	0	0	0	0	0	0	2	**2**
70-74	0	0	0	0	0	0	0	**0**
75+	0	0	0	0	0	0	0	**0**
Total	**1**	**0**	**64**	**144**	**130**	**17**	**21**	**377**

FPDR Two Total

	Years of Service							
Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30**	**Total**
0-20	0	0	0	0	0	0	0	**0**
20-24	0	0	0	0	0	0	0	**0**
25-29	0	0	0	0	0	0	0	**0**
30-34	0	0	0	0	0	0	0	**0**
35-39	0	0	25	25	0	0	0	**50**
40-44	1	0	39	127	28	0	0	**195**
45-49	0	0	30	93	150	19	0	**292**
50-54	0	0	10	55	95	46	4	**210**
55-59	0	0	4	7	34	23	13	**81**
60-64	0	0	0	3	2	6	6	**17**
65-69	0	0	0	0	0	1	3	**4**
70-74	0	0	0	0	0	0	0	**0**
75+	0	0	0	0	0	0	0	**0**
Total	**1**	**0**	**108**	**310**	**309**	**95**	**26**	**849**

Distribution of FPDR Three Active Participants as of June 30, 2020

FPDR Three Police

	Years of Service							
Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30**	**Total**
0-20	0	0	0	0	0	0	0	**0**
20-24	10	0	0	0	0	0	0	**10**
25-29	75	2	0	0	0	0	0	**77**
30-34	46	38	9	0	0	0	0	**93**
35-39	36	25	41	0	0	0	0	**102**
40-44	21	15	34	0	0	0	0	**70**
45-49	3	6	24	0	0	0	0	**33**
50-54	2	1	7	0	0	0	0	**10**
55-59	1	0	3	0	0	0	0	**4**
60-64	0	0	0	0	0	0	0	**0**
65-69	0	0	0	0	0	0	0	**0**
70-74	0	0	0	0	0	0	0	**0**
75+	0	0	0	0	0	0	0	**0**
Total	**194**	**87**	**118**	**0**	**0**	**0**	**0**	**399**

FPDR Three Fire

	Years of Service							
Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30**	**Total**
0-20	0	0	0	0	0	0	0	**0**
20-24	1	0	0	0	0	0	0	**1**
25-29	26	2	0	0	0	0	0	**28**
30-34	36	18	3	0	0	0	0	**57**
35-39	28	26	39	0	0	0	0	**93**
40-44	12	19	47	0	0	0	0	**78**
45-49	4	6	21	0	0	0	0	**31**
50-54	0	0	7	0	0	0	0	**7**
55-59	0	1	0	0	0	0	0	**1**
60-64	0	0	0	0	0	0	0	**0**
65-69	0	0	0	0	0	0	0	**0**
70-74	0	0	0	0	0	0	0	**0**
75+	0	0	0	0	0	0	0	**0**
Total	**107**	**72**	**117**	**0**	**0**	**0**	**0**	**296**

FPDR Three Total

	Years of Service							
Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30**	**Total**
0-20	0	0	0	0	0	0	0	**0**
20-24	11	0	0	0	0	0	0	**11**
25-29	101	4	0	0	0	0	0	**105**
30-34	82	56	12	0	0	0	0	**150**
35-39	64	51	80	0	0	0	0	**195**
40-44	33	34	81	0	0	0	0	**148**
45-49	7	12	45	0	0	0	0	**64**
50-54	2	1	14	0	0	0	0	**17**
55-59	1	1	3	0	0	0	0	**5**
60-64	0	0	0	0	0	0	0	**0**
65-69	0	0	0	0	0	0	0	**0**
70-74	0	0	0	0	0	0	0	**0**
75+	0	0	0	0	0	0	0	**0**
Total	**301**	**159**	**235**	**0**	**0**	**0**	**0**	**695**

Distribution of All Active Participants as of June 30, 2020

Police Total

	Years of Service							
Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30**	**Total**
0-20	0	0	0	0	0	0	0	**0**
20-24	10	0	0	0	0	0	0	**10**
25-29	75	2	0	0	0	0	0	**77**
30-34	46	38	9	0	0	0	0	**93**
35-39	36	25	50	10	0	0	0	**121**
40-44	21	15	51	69	11	0	0	**167**
45-49	3	6	35	50	97	17	0	**208**
50-54	2	1	11	30	52	39	0	**135**
55-59	1	0	6	4	18	16	4	**49**
60-64	0	0	0	3	1	5	0	**9**
65-69	0	0	0	0	0	1	1	**2**
70-74	0	0	0	0	0	0	0	**0**
75+	0	0	0	0	0	0	0	**0**
Total	**194**	**87**	**162**	**166**	**179**	**78**	**5**	**871**

Fire Total

	Years of Service							
Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30**	**Total**
0-20	0	0	0	0	0	0	0	**0**
20-24	1	0	0	0	0	0	0	**1**
25-29	26	2	0	0	0	0	0	**28**
30-34	36	18	3	0	0	0	0	**57**
35-39	28	26	55	15	0	0	0	**124**
40-44	13	19	69	58	17	0	0	**176**
45-49	4	6	40	43	53	2	0	**148**
50-54	0	0	13	25	43	7	4	**92**
55-59	0	1	1	3	16	7	9	**37**
60-64	0	0	0	0	1	1	6	**8**
65-69	0	0	0	0	0	0	2	**2**
70-74	0	0	0	0	0	0	0	**0**
75+	0	0	0	0	0	0	0	**0**
Total	**108**	**72**	**181**	**144**	**130**	**17**	**21**	**673**

Grand Total

	Years of Service							
Age	**0-4**	**5-9**	**10-14**	**15-19**	**20-24**	**25-29**	**30**	**Total**
0-20	0	0	0	0	0	0	0	**0**
20-24	11	0	0	0	0	0	0	**11**
25-29	101	4	0	0	0	0	0	**105**
30-34	82	56	12	0	0	0	0	**150**
35-39	64	51	105	25	0	0	0	**245**
40-44	34	34	120	127	28	0	0	**343**
45-49	7	12	75	93	150	19	0	**356**
50-54	2	1	24	55	95	46	4	**227**
55-59	1	1	7	7	34	23	13	**86**
60-64	0	0	0	3	2	6	6	**17**
65-69	0	0	0	0	0	1	3	**4**
70-74	0	0	0	0	0	0	0	**0**
75+	0	0	0	0	0	0	0	**0**
Total	**302**	**159**	**343**	**310**	**309**	**95**	**26**	**1,544**

Distribution of Current Retirees and Beneficiaries as of June 30, 2020

	FPDR One				FPDR Two			
	Police		Fire		Police		Fire	
Age	Count	Total Monthly Benefit	Count	Total Monthly Benefit	Count	Total Monthly Benefit	Count	Total Monthly Benefit
<40	0	-	0	-	4	4,948	1	870
40-44	0	-	0	-	1	6,254	0	-
45-49	0	-	0	-	14	79,775	1	11,242
50-54	1	1,897	0	-	99	650,595	20	161,301
55-59	0	-	2	3,938	136	858,091	59	469,653
60-64	4	15,629	3	8,880	167	1,092,421	161	1,181,659
65-69	15	50,360	11	43,422	219	1,239,031	140	913,066
70-74	24	97,747	16	59,739	190	1,032,992	93	560,509
75-79	29	103,568	16	58,753	88	456,359	68	373,284
80-84	33	107,545	38	137,266	26	117,509	29	161,879
85-89	44	183,234	36	130,837	5	25,992	9	48,488
90-94	23	74,174	35	137,314	2	12,020	0	-
95+	8	30,697	10	39,099	0	-	0	-
Total	**181**	**$664,851**	**167**	**$619,249**	**951**	**$5,575,986**	**581**	**$3,881,951**

*Headcount does not include 119 Alternate Payees receiving benefits via a Domestic Relations Order (DRO). Total monthly benefits for that group was $194,641

Distribution of Disabled Participants as of June 30, 2020

	FPDR One				FPDR Two			
	Police		Fire		Police		Fire	
Age	Count	Total Monthly Benefit	Count	Total Monthly Benefit	Count	Total Monthly Benefit	Count	Total Monthly Benefit
<40	0	-	0	-	0	-	0	-
40-44	0	-	0	-	1	2,176	1	1,978
45-49	0	-	0	-	8	29,986	0	-
50-54	0	-	0	-	6	31,345	0	-
55-59	0	-	0	-	3	15,542	2	6,125
60-64	1	5,270	2	10,137	1	3,344	0	-
65-69	0	-	0	-	0	-	0	-
70-74	0	-	0	-	0	-	0	-
75-79	0	-	0	-	0	-	0	-
80-84	0	-	0	-	0	-	0	-
85-89	0	-	0	-	0	-	0	-
90-94	0	-	0	-	0	-	0	-
95+	0	-	0	-	0	-	0	-
Total	**1**	**$5,270**	**2**	**$10,137**	**19**	**$82,392**	**3**	**$8,103**

Distribution of Inactive Deferred Participants as of June 30, 2020

	FPDR One				FPDR Two			
	Police		Fire		Police		Fire	
Age	Count	Total Monthly Benefit	Count	Total Monthly Benefit	Count	Total Monthly Benefit	Count	Total Monthly Benefit
<40	0	-	0	-	7	13,599	2	3,610
40-44	0	-	0	-	19	36,893	4	9,422
45-49	0	-	0	-	24	54,471	4	7,120
50-54	0	-	0	-	6	15,745	1	4,499
55-59	0	-	0	-	0	-	0	-
60-64	0	-	0	-	0	-	0	-
65-69	0	-	0	-	0	-	0	-
70-74	0	-	0	-	0	-	0	-
75-79	0	-	0	-	0	-	0	-
80-84	0	-	0	-	0	-	0	-
85-89	0	-	0	-	0	-	0	-
90-94	0	-	0	-	0	-	0	-
95+	0	-	0	-	0	-	0	-
Total	**0**	**-**	**0**	**-**	**56**	**$120,707**	**11**	**$24,651**

Appendix B

Actuarial Cost Method and Policies

Actuarial Cost Method and Policies

Actuarial cost method: Liabilities shown in this report are computed using the Individual Entry Age Normal cost method allocated as a level percent of projected pay from the date of entry to projected exit age. Under this method, the total Actuarial Present Value of Benefits allocated over the service for each active member from their date of entry into the Plan until their assumed date of exit from the Plan, as a level percent of projected pay. This level amount is referred to as the Normal Cost, and is calculated for each active member. It is calculated by dividing the total Actuarial Present Value of Projected Benefits at entry age by the Actuarial Present Value of Projected Service at entry age. The Normal Cost equals $0 for non-active members. The sum of the individual Normal Costs is the Normal Cost for the Plan.

Actuarial Value of Assets: Assets are provided by FPDR and the City of Portland and are reported on a fair market value basis. The considered assets have two components: the FPDR Fund and the Reserve Fund.

Census data: To prepare this report Milliman has used and relied on participant data supplied by FPDR and summarized in the valuation report in Appendix A. FPDR is responsible for ensuring that such participant data provides an accurate description of all persons who are participants under the terms of the plan or otherwise entitled to benefits as of June 30, 2020, that is sufficiently comprehensive and accurate for the purposes of this report. Although we have reviewed the data in accordance with Actuarial Standards of Practice No. 23, we have not verified or audited any of the data or information provided. Assumptions and estimates were made for any incomplete or missing data in consultation with FPDR.

Funding policy: Currently, the plan's benefits are effectively funded on a pay-as-you-go basis. FPDR funds on a cash basis as benefits are paid. The only assets that have been segregated and restricted to provide plan benefits are the amounts noted in the assets section of this report.

The valuation is based on the premise that the plan is ongoing and that the pay-as-you-go funding mechanism specified in City Charter continues.

Appendix C

Actuarial Assumptions

Actuarial Assumptions

The following assumptions were used in valuing the liabilities and benefits under the plan. The underlying basis for each assumption was reviewed and adopted in conjunction with an experience study presented to the FPDR Board in September 2020. The assumption selection process and rationale is described in detail in that study.

Note that for any given individual Member, the anticipated pay increase in a given year is the combined effect of inflation, real wage growth and salary merit increase.

Discount Rate

2.21% per annum. This rate was selected by the City of Portland via a reference to a bond rate or index as of June 30, 2020 for high-quality tax-exempt 20-year general obligation municipal bonds, as described in GASB No. 67. The results of this valuation will also be used to develop liabilities at June 30, 2021 and June 30, 2022 using standard roll-forward techniques. The discount rates used for that purpose will be determined based upon relevant municipal bond rate information at the applicable measurement date.

Inflation

2.25% per annum

Real Wage Growth

1.00% per annum

Payroll Growth

3.25% per annum (combination of above two factors)

Total Salary Increase

Total salary increases for individual active members are shown in the following table. These rates include the impact of overall payroll growth in additional to individual merit and longevity increases.

Completed Years Since Sworn Date	Fire	Police
0	21.75%	9.75%
1-4	10.00	9.00
5-7	3.25	5.00
8-13	3.25	4.00
14	6.25	6.75
15-18	3.25	4.00
19	6.25	6.75
20-23	3.25	4.00
24	6.25	6.75
25+	3.25	4.00

Mortality

Mortality rates are based on the rates for Police & Fire members in the December 31, 2019 valuation of Oregon PERS. Future improvement in life expectancies is assumed via a generational projection of mortality improvement as described. For active members, 50% of deaths are assumed to be service related, and 50% are assumed to be non-service related.

Male Retiree	Pub-2010 Healthy Public Safety Retiree Male, Generational projection with unisex Social Security data scale, no set back
Female Retiree	Pub-2010 Healthy Public Safety Retiree Female, Generational projection with unisex Social Security data scale, set back 12 months
Male Beneficiary	Pub-2010 Healthy General Employees Retiree Male, Generational projection with unisex Social Security data scale, set back 12 months
Female Beneficiary	Pub-2010 Healthy General Employees Retiree Female, Generational projection with unisex Social Security data scale, no set back
Male Active	Pub-2010 Healthy Public Safety Employee Male, Generational projection with unisex Social Security data scale, no set back
Female Active	Pub-2010 Healthy Public Safety Employee Female, Generational projection with unisex Social Security data scale, set back 12 months
Disabled Male Retiree	Pub-2010 Disabled Retiree Male, Generational projection with unisex Social Security data scale, Blended 50% Public Safety / 50% Non-Safety, no set back
Disabled Female Retiree	Pub-2010 Disabled Retiree Female, Generational projection with unisex Social Security data scale, Blended 50% Public Safety / 50% Non-Safety, no set back

Withdrawal

Rates of withdrawal from causes other than death, disability, and retirement are shown in the following select and ultimate table:

Years of Service	Fire	Police
0	10.00%	15.00%
1	1.00	7.50
2+	0.75	1.25

Disability Incidence

Rates of disability are assumed to follow 70% of the 1985 Disability Study Class 1 rates. 90 percent of disabilities are assumed to be service related, while the other 10 percent are assumed to be non-service related. Sample rates are shown below:

Age	Rate Per Year
30	0.0448%
35	0.0686%
40	0.1106%
45	0.1813%
50	0.3136%
55	0.5915%

Retirement

Active members are assumed to retire at the rates shown below. Vested terminated members are assumed to retire at the earliest age they would have been eligible to retire had they remained in active employment., i.e., the earlier of a) age 55 or b) age 50 with 25 Years of Service.

	Fire		Police	
Age	Under 25 Years of Service	25+ Years of Service	Under 25 Years of Service	25+ Years of Service
50-54		25%		45%
55	10%	25	30%	45
56	10	25	15	45
57-58	25	25	15	45
59-64	25	25	30	45
65+	100	100	100	100

Percentage Married

Active and vested terminated members are assumed to be married with 70% probability. Actual marital status is used for retirees.

Age Difference of Spouses

For active and vested terminated members, spouses of male members are assumed to be 3 years younger and spouses of female members are assumed to be 3 years older than the member. Actual spouse ages are used for retirees.

Load to Final Pay for 27 Pay Periods

The valuation includes a load of 2.5% in the calculation of Final Pay for retirement benefits. This is based on the assumption that 65% of members retiring from active status will do so in certain months that enable the inclusion of 27 biweekly pay periods during the one-year averaging period, rather than the usual 26.

Form of Payment for Future Retirees from Active or Vested Terminated Status

Active and vested terminated members are assumed to select the following forms of payment at the rates shown below:

Benefit Formula Elected	Percent Electing
2.8%	80%
2.6%	20%

Taken in combination with the percentage married assumption:

- 30% of active and vested terminated members are assumed to be unmarried and to select the 2.8% benefit formula at retirement,
- 50% are assumed to be married and to select the 2.8% benefit formula, and
- 20% are assumed to be married and to select the 2.6% benefit formula.

Form of Payment for Future Retirees from Disability Status

FPDR One: Marital status at Disability Retirement Age is assumed to be the same as currently reported. Married participants are valued including a survivor benefit percentage as specified in City Charter based on the age difference between a member and spouse.

FPDR Two: Currently disabled members reported as non-married are assumed to elect the 2.8% benefit formula. Those reported as married are assumed to have a 71.4% (five-sevenths) likelihood of selecting the 2.8% benefit formula and a 28.6% (two-sevenths) likelihood of selecting the 2.6% benefit formula.

Future Cost of Living Increases for Retiree Benefits

FPDR One: 3.25% per annum, representing the assumed annual increase in pay for a First Class Officer or Firefighter

FPDR Two: Blended average using 2.00% per annum for service before October 8, 2013 and 1.75% per annum for service after that date, based on recent COLA experience and guidance from the FPDR Board

Employment of Disabled Members

Disabled members are assumed not to return to active service. One-third of those disabled are assumed to become gainfully employed with earnings equal to 20% of their base pay prior to disability.

Oregon Residency Post-Retirement

For purposes of determining eligibility for tax offset benefits, 70% of active and vested terminated members are assumed to reside in Oregon for retirement. For current retirees, actual current tax offset benefit status is assumed to continue throughout retirement.

Disability Retirement Age

FPDR One:	Age 64
FPDR Two:	Age 55
FPDR Three:	Age 60

FPDR One and Two members currently receiving disability benefits prior to their Disability Retirement Age are assumed to be credited with 30 years of service for the calculation of their benefit at Disability Retirement Age.

Offset for OPSRP Benefits

Benefits payable to FPDR Three members upon disability or pre-retirement death are offset by benefits paid from the OPSRP program. For valuation purposes, we have assumed OPSRP benefits offset FPDR benefits as follows:

FPDR Three Disability Benefits: OPSRP pre-retirement disability benefits are assumed to replace 0% of final salary. This assumption was employed at FPDR's request in recognition that eligibility for disability benefits under OPSRP is more limited than under FPDR. This assumption will be reviewed as experience emerges. After age 60, the OPSRP benefit is assumed to exceed the benefit provided by the FPDR program.

FPDR Three Death Benefits: OPSRP benefits are assumed to begin at age 50. At that time, they are assumed to be equal to 50% of the benefit calculated using a 1.8% multiplier, times Years of Service, times Final Salary, times an OPSRP early retirement reduction factor of 0.35. OPSRP benefits are assumed to increase at 1.25% per year.

Liability Load for Disability-Related Medical Expense Reimbursements

To estimate the projected future costs attributable to disability-related medical reimbursement payments occurring after retirement, projected pension payments are increased by 0.65%.

Changes since Prior Valuation

The discount rate was updated from 3.87% to 2.11%.

Healthy and disabled mortality assumptions were updated for all members and beneficiaries based on the rates for Police & Fire members and beneficiaries in the December 31, 2019 valuation of Oregon PERS.

Assumptions regarding total salary increases, withdrawal, disability incidence, retirement, percentage married and form of payment elections, employment of disabled members, and Oregon residency were all updated as part of the 2020 experience study.

Appendix D

Plan Provisions

Plan Provisions

Plan Eligibility

Prior to January 1, 2013, a sworn employee of the Bureau of Fire or Bureau of Police became a Member of the Fund at the time of permanent appointment. Effective January 1, 2013, a new sworn employee will become a Member of the Fund after completing six months of service.

FPDR One: Retired on or before January 1, 1990. Includes benefits provided by the Supplementary Retirement Program. (At the current valuation date, 6 surviving FPDR members continue to receive Supplementary benefits.)

FPDR Two: Not FPDR One, and permanently appointed as sworn employees of the Bureau of Fire or Bureau of Police prior to January 1, 2007.

FPDR Three: All other employees of the Bureau of Fire and Bureau of Police first sworn on or after January 1, 2007. FPDR Three members are also enrolled in the Oregon Public Service Retirement Plan (OPSRP), and OPSRP benefits are not payable from this Fund.

Member Contributions

No Member contributions are required after July 1, 1990. Prior to that date, Member contributions of 7% of First Class Pay were required; accumulated Member contributions prior to July 1, 1990 remain in the Fund.

Normal Retirement – FPDR Two and FPDR Three

Eligibility – A Member is eligible for retirement upon attaining the age of 50 and earning 25 or more Years of Service, or upon reaching age 55 with no service requirement.

Benefit – FPDR Two – The annual retirement benefit is a percentage of the Member’s Final Pay for each Year of Service up to 30 years. The percentage is based on the Member's choice of a survivor benefit when the Member applies for a retirement benefit, according to the table below:

Percentage of Benefit Continuing to Surviving Spouse or Minor Children	Percentage of Final Pay Per Year of Service
100%	2.2%
75%	2.4%
50%	2.6%
25% or no survivors	2.8%

Benefit – FPDR Three – None.

Benefit Form – The benefit begins at retirement and continues for the Member’s life, with the selected percentage continuing to the Member’s surviving spouse or minor children after the Member’s death.

Cost of Living Increases – FPDR One

Benefits for FPDR One retirees will increase annually in line with increases with the Base Pay of a First Class Officer or Firefighter as appropriate. The increase is not subject to the 2.00 percent cap currently in place for FPDR Two cost of living increases. Benefits provided by the Supplementary Retirement Program do not receive cost of living increases.

Cost of Living Increases – FPDR Two and FPDR Three

Future benefits will be increased at the discretion of the Board of Trustees up to the current Oregon PERS statutory maximum of 2.00 percent per year.

- In 2016, 2017, and 2018, the Board selected a blended COLA, calculated as 2.00% for benefits related to service through October 8, 2013 and 1.25% for benefits related to service after that date.
- In 2019, the Board selected a COLA equal to the maximum of 2.00%.
- In 2020, the Board selected a blended COLA, calculated as 2.00% for benefits related to service through October 8, 2013 and 1.75% for benefits related to service after that date.

Service-Connected or Occupational Disability Benefit

Eligibility – A Member is eligible for a service disability benefit upon sustaining an injury or illness in the performance of duty that prevents the Member from engaging in the duties of a firefighter or police officer.

A Member is eligible for an occupational disability benefit if the Member is unable to perform the duties of a firefighter or police officer due to certain illnesses or injuries as specified in City Charter.

Benefit – FPDR One – The benefit payable prior to Disability Retirement Date for a FPDR One member is 60% of the Base Pay of a First Class Officer or Firefighter, as appropriate. Upon reaching Disability Retirement Age, the member will receive his or her maximum earned pension.

Benefit – FPDR Two – During the first year of disability, the benefit is 75% of the Member's Base Pay, reduced by 50% of any wages earned in other employment while disabled.

If the Member is capable of Substantial Gainful Employment, then after one year of disability and after the Member becomes Medically Stationary, but before four years of disability have elapsed, the Member's benefit will change to 50% of Base Pay minus 25% of wages earned in other employment.

Under any circumstances, a minimum benefit of 25% of Base Pay for member's position at disability will continue as long as the disability continues.

At Disability Retirement Age the above benefits stop; the Member is then entitled to a retirement benefit computed using his Base Pay and Years of Service at his Disability Retirement Age.

Benefit – FPDR Three – The same as the benefit for FPDR Two, but offset by any disability benefits received from OPSRP.

Benefit Form – The disability benefit begins at disability and continues until the Member's recovery, death, or Disability Retirement Age, whichever occurs first. Disability benefits will be increased in step with the Base Pay of the position held by the Member at disability.

The retirement benefit begins at Disability Retirement Age and continues for the Member's life, with the selected percentage (or for FPDR One, determined percentage) continuing to the Member's surviving spouse or minor children after the Member's death.

Retirement benefits payable after Disability Retirement Age will be increased in the same manner as Normal Retirement Benefits.

Nonservice-Connected Disability Benefit

Eligibility – A Member is eligible for a nonservice disability benefit if the Member has ten Years of Service and sustains an injury or illness other than in the performance of duty that prevents the Member from engaging in duties as a firefighter or police officer.

Benefit – FPDR One – The benefit payable prior to Disability Retirement Date for a FPDR One member is the maximum earned pension, but not less than 20% of the salary of a First Class Officer or Firefighter, as appropriate. Upon reaching Disability Retirement Age, the member will receive his or her maximum earned pension.

Benefit – FPDR Two – The benefit is 50% of the Member's Base Pay, reduced by 50% of any wages earned in other employment while disabled.

At Disability Retirement Age the above benefits stop; the Member is then entitled to a retirement benefit computed using his Base Pay and Years of Service at his Disability Retirement Age.

Benefit – FPDR Three – The same as the benefit for FPDR Two, but offset by any disability benefits received from OPSRP.

Benefit Form – The disability benefit begins at disability and continues until the Member's recovery, death, or Disability Retirement Age, whichever occurs first. Disability benefits will be increased in step with the Base Pay of the position held by the Member at disability.

The retirement benefit begins at Disability Retirement Age and continues for the Member's life, with the selected percentage continuing to the Member's surviving spouse or minor children after the Member's death.

Retirement benefits payable after Disability Retirement Age will be increased in the same manner as Normal Retirement benefits.

Preretirement Service-Connected or Occupational Death Benefit

Eligibility – A Member's surviving spouse or dependent minor children are eligible for *a* service death benefit if the Member dies as a result of an injury or illness sustained in the performance of duty.

A Member's surviving spouse or dependent minor children are eligible for an occupational death benefit if the Member dies as a result of certain illnesses or injuries as specified in City Charter.

Benefit – FPDR Two – Prior to the date the Member would have reached the earliest retirement age, the surviving spouse or dependent minor children will receive an annual benefit equal to 75% of the Member's Base Pay.

After the date the Member would have reached the Member's earliest retirement age, the surviving spouse or dependent minor children will receive an annual benefit equal to 50% of the Member's Final Pay.

Benefit – FPDR Three – The same as the benefit for FPDR Two, but offset by any death benefits received from OPSRP.

Benefit Form – The death benefit begins when the Member dies and continues until the Member's beneficiaries cease to be eligible, which occurs at death for benefits paid to a surviving spouse and at age 18 for benefits paid to minor children.

Death benefits will be increased in the same manner as Normal Retirement benefits.

Preretirement Nonservice Death Benefit

Eligibility – A Member's surviving spouse or dependent minor children are eligible for a nonservice death benefit if a Member has earned one or more Years of Service and dies as a result of an injury or illness not sustained in the performance of duty.

Benefit – FPDR Two – If the Member has earned fewer than five Years of Service, the Member's beneficiaries will receive a refund of the Member's contributions accumulated to July 1, 1990.

If the Member has earned five or more Years of Service, the surviving spouse or dependent minor children will receive a benefit equal to 50% of the Member's retirement pension earned to the date of death, assuming an accrual rate of 2.6% of Final Pay for each Year of Service.

Benefit – FPDR Three – The same as the benefit for FPDR Two, but offset by any death benefits received from OPSRP.

Benefit Form – If the Member had five or more Years of Service, the death benefit to the surviving spouse begins when the spouse reaches age 55 and continues until the death of the surviving spouse.

If the Member had five or more Years of Service, a death benefit is payable to the dependent minor children if there is no surviving spouse or if the spouse is under age 55; the benefit to the dependent minor children begins when the Member dies and continues until the child is no longer a minor.

Death benefits will be increased in the same manner as Normal Retirement benefits.

Vested Termination Benefit

Eligibility – A Member is eligible for a vested termination benefit after earning five years of service.

Benefit – FPDR Two – If the Member terminates after earning five or more Years of Service, the termination benefit is the Member's retirement pension earned to the date of termination payable at the age the Member would have been eligible for retirement had he or she continued employment.

Benefit – FPDR Three – None.

Benefit Form – If the Member had earned five or more Years of Service at termination, the benefit begins when the Member would first have been eligible for retirement and continues for the Member's life, with the selected percentage continuing to the Member's surviving spouse or minor children after the Member's death.

Benefits will be subject to cost of living increases in the same manner as Normal Retirement benefits.

Oregon State Income Tax Adjustment

For Members hired prior to July 14, 1995, benefits will be eligible for an adjustment to compensate the Member for state income taxes paid. Senate Bill 822, enacted in 2013, limits eligibility for these adjustments to individuals residing in Oregon for tax purposes. There are two adjustment formulas and the Member or beneficiary will receive the greater of the two adjustments if eligible for both formulas.

SB 656 Increase: The amount of the adjustment is determined by the Member's Years of Service at termination, in accordance with the table below.

Years of Service	Adjustment
10 – 19	1.0%
20 – 24	2.5%
25 and over	4.0%

$$\textbf{HB 3349 Increase}\left(\frac{1}{\begin{array}{c}1-\text{maximum Oregon personal}\\ \text{income tax rate (limited to 9\%)}\end{array}}-1\right)\times\frac{\begin{array}{c}\text{Service prior to}\\ \text{October 1, 1991}\end{array}}{\text{All Service}}$$

Supplemental Retirement Benefits

A specified group of FPDR One retirees receive additional monthly supplemental benefits provided by special ordinance. These benefits do not receive a COLA.

Disability-Related Medical Expenses

FPDR reimburses reasonable medical and hospital expenses arising from a service-connected or occupational injury or illness. The Fund Administrator may limit reimbursement to particular medical and hospital service providers with which it has made fee arrangements and may join in the purchase of services and administration of claims for other employees of the City of Portland.

For Members retired on or before January 1, 2007:

For FPDR One/Two Members, reimbursement is for expenses incurred:

a) While serving as an active Member,

b) While disability benefits continue, and

c) While the retirement benefits are paid, assuming the member receives disability benefits through Disability Retirement Age

For Members retiring after January 1, 2007:

Reimbursement for expenses incurred at any time, regardless of whether the Member continued to receive disability benefits through Disability Retirement Age (FPDR One or FPDR Two) or Oregon PERS Normal Retirement Age (FPDR Three) or retired with a retirement benefit under Section 5-304 (FPDR Two) or under Oregon PERS (FPDR Three).

Changes since Prior Valuation

None that had a material effect on liabilities.

Definitions

Base Pay

A Member's Base Pay is the base pay in the Member's position, including premium pay, but excluding overtime and excluding any payments for unused vacation or sick leave, limited by Internal Revenue Code 401(a)(17).

Disability Retirement Age

FPDR One: Age 64

FPDR Two: A Member's Disability Retirement Age is the earlier of Social Security normal retirement age and the age at which the Member has earned 30 Years of Service.

FPDR Three: Normal Retirement Age under Oregon PERS.

Final Pay

A Member's Final Pay is the Member's highest Base Pay during any one of the three consecutive one-year periods preceding the month in which the Member retires, dies, becomes disabled, or terminates employment. For this purpose, a one-year period is defined to include 365 days of pay (366 in a leap year).

If the Member's benefit is deferred due to disability or employment covered by the Oregon Public Employees' Retirement System (OPERS), the Member's Final Pay will be increased during the deferral period with increases in the Base Pay of the Member's position at termination if the termination occurred prior to 2013.

Medically Stationary

A disabled Member is judged to be Medically Stationary when the Member's prognosis is clear and the Member's medical condition has stabilized and is unlikely to change.

Spouse

A Member's spouse must have been designated by marriage, or by a registered same-sex domestic partnership certified by June 26, 2013, for at least twelve months.

Substantial Gainful Activity

A disabled Member is capable of Substantial Gainful Activity if the FPDR Director determines that the Member is capable of being employed with earnings of at least one-third of the Member's Base Pay.

Year of Service

A Member will be credited with one twelfth of a Year of Service for each completed month of active employment as a City firefighter or police officer. (Maximum of 30 years)

In addition, a FPDR Two disabled Member will earn a portion of a Year of Service for each year during which the Member receives disability benefits. The portion of a Year of Service earned will equal the Member's disability pension during the year divided by 75% of current base pay for position held at disablement (the maximum disability benefit).

Excluded Benefits

The benefits described below were excluded from the valuation. We do not believe valuing these benefits would materially change the results of this valuation.

Preretirement Nonservice Death Benefit

A lump sum funeral benefit equal to 50% of one month of First Class Pay will be paid to the beneficiaries of Members who die while active, disabled, or retired.

Minimum Total Payments for Normal Retirement, Disability, Death, and Termination Benefits

The total of all payments to the Member and the Member's survivors will at least equal the Member's contributions accumulated to July 1, 1990.

Funeral Benefits

Upon the death of an active or retired FPDR One Member, the Board shall pay a sum not to exceed $200 to be used for funeral expenses. A lump sum funeral benefit equal to 50% of one month of First Class Pay will be paid to the beneficiaries of FPDR Two and FPDR Three Members who die while active, disabled, or retired.

Appendix E

Risk Disclosure

Risk Disclosure

The purpose of this appendix is to identify, assess, and provide illustrations of risks that are significant to FPDR, and in some cases to FPDR members.

The results of any actuarial valuation are based on one set of assumptions. Although we believe the current assumptions for FPDR provide a reasonable estimate of future expectations, it is almost certain that future experience will differ from the assumptions to some extent. It is therefore important to consider the potential impacts of these potential differences between assumptions and experience when making decisions that may affect the future financial health of the Plan, or of the Plan's members.

Actuarial Standard of Practice No. 51 (ASOP 51) addresses these issues by providing actuaries with guidance for assessing and disclosing the risk associated with measuring pension liabilities and the determination of pension plan contributions. Specifically, it directs the actuary to:

- Identify risks that may be significant to the plan.
- Assess the risks identified as significant to the plan. The assessment does not need to include numerical calculations.
- Disclose plan maturity measures and historical information that are significant to understanding the plan's risks.

ASOP 51 states that if in the actuary's professional judgment, a more detailed assessment would be significantly beneficial in helping the individuals responsible for the plan to understand the risks identified by the actuary, then the actuary should recommend that such an assessment be performed.

This Section uses the framework of ASOP 51 to communicate important information about significant risks to the FDPR, the Plan's maturity, and relevant historical data.

Identification of Risks

There are a number of factors that affect future valuation results. To the extent actual experience for these factors varies from the assumptions, this will likely cause either increases or decreases in the Plan's future projected benefit payments. Examples of factors that can have a significant impact on valuation results are:

- Individual member salary variation, as this will impact the size of benefits members receive
- Cost of living adjustments that differ from the level assumed in the valuation, as this affects the size of retiree benefits.
- Any changes in benefit amounts or other plan provisions resulting from Charter changes, negotiations, and judicial or arbitration decisions.
- Mortality, as this will impact how long retirees receive benefits
- Individual member retirement decisions, as this will impact how long retirees receive benefits, and the size of retiree benefits
- Termination (members leaving active employment for reasons other than death, disability or service retirement), as this will impact the size of benefits for those members
- While not directly affecting results shown in this valuation, changes to Portland property tax structure and variations in Real Market Value (RMV) amounts can affect the pay-as-you-go funding for these benefits.

Demographic Experience

There are many assumptions made in an actuarial valuation. For these assumptions, differences between actual and assumed experience will result in actuarial gains and losses. The body of this report provides a look at the impact in the past two years of actual experience deviating from assumed.

Historical Information

The remainder of this section contains historical information relevant to FPDR.

Plan Headcount

The table below shows changes in member headcount since the June 30, 2012 valuation. During this time, the percentage of the active population that are FPDR Three members increased from 22% (361 ÷ 1,615) to 45% (695 ÷ 1,544).

	Active Members			Inactive Deferred Members	Current Retired, Disabled & Beneficiary Members
Valuation Date	FPDR Two	FPDR Three	Total		
June 30, 2012	1,254	361	1,615	65	1,848
June 30, 2014	1,173	388	1,561	76	1,830
June 30, 2016	1,055	462	1,517	87	1,851
June 30, 2018	932	600	1,532	79	1,893
June 30, 2020	849	695	1,544	67	1,905

Benefit Payments and Real Market Value

The table below lists total annual FPDR benefit payments since the 2013-2014 fiscal year, along with Real Market Value (RMV) for each fiscal year, as provided to us by the City and FPDR. We understand the actual levy rate per $1,000 of RMV calculated by the City reflects more than FPDR benefit payments shown below, including contributions for OPSRP benefits provided to FPDR Three members, as well as adjustments for discounts and delinquencies and the effects of tax compression. The table below is only meant to illustrate the relative change in the specific FPDR benefit payments compared to the RMV.

From the 2013-2014 fiscal year to the 2019-2020 fiscal year, FPDR benefit payments increased approximately 25%. During that same time, RMV increased approximately 87%.

Fiscal year	FPDR Benefit Payments*	Real Market Value *(rounded to nearest $1M)*
2013 - 2014	$108,003,419	$81,494,000,000
2014 - 2015	110,900,284	92,618,000,000
2015 - 2016	114,001,126	102,628,000,000
2016 - 2017	120,351,973	120,786,000,000
2017 - 2018	125,666,995	137,483,000,000
2018 - 2019	130,733,191	149,692,000,000
2019 - 2020	135,411,347	152,774,000,000
2020 - 2021	TBD	159,018,000,000

**As shown in GASB financial reporting*

Appendix F

Glossary

Glossary

Actuarial Accrued Liability. The portion of the present value of prospective benefits allocated to service before the valuation date in accordance with the actuarial cost method.

Actuarial Asset Value. The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method.

Actuarial Assumptions. Assumptions as to the occurrence of future events affecting pension costs, such as: mortality, withdrawal, disablement and retirement; rates of investment earnings and other relevant items.

Actuarial Cost Method. Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual actuarial cost of the plan comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Actuarial Gain or (Loss). A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions, during the period between two actuarial valuation dates, as determined in accordance with a particular actuarial cost method.

Funded Ratio. The actuarial value of assets expressed as a percentage of the actuarial accrued liability.

Measurement Date. The date as of which the Actuarial Accrued Liability (called the Total Pension Liability) is determined under GASB 67 and 68. Under GASB 67, the Measurement Date is required to be the plan's fiscal year-end, but the liability can be recalculated based on a Valuation Date up to 24 months earlier.

Normal Cost. The annual cost assigned to the current year, under the actuarial cost method in use.

Present Value. Sometimes called "actuarial present value," the current worth (on the valuation date) of an amount or series of amounts payable or receivable in the future. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Statement No. 67 of the Governmental Accounting Standards Board (GASB 67). The accounting standard that sets financial reporting standards for defined benefit pension plans.

Statement No. 68 of the Governmental Accounting Standards Board (GASB 68). The accounting standard that governs a state or local governmental employer's pension accounting.

Unfunded Actuarial Accrued Liability. The excess of the Actuarial Accrued Liability over the Actuarial Value of Assets.

Valuation Date. The date as of which the actuarial valuation is performed.

FPDR Recommended Budget

FY 2021-22

January 26, 2021

Forecast Summary

Five-Year Forecast Summary ($ Millions)									
	FYE20 Actuals	FYE21 Adopted Budget	FYE21 Projection	FYE22 Recomm. Budget	FYE23 Forecast	FYE24 Forecast	FYE25 Forecast	FYE26 Forecast	FYE21 Project-FYE26 Change
Resources									
Property Taxes	$154.92	$166.06	$165.24	$190.69	$191.21	$209.02	$226.27	$243.72	47.49%
Tax Anticipation Notes	26.73	42.00	31.66	60.47	56.64	64.51	69.92	75.28	137.77%
Miscellaneous	2.85	2.95	1.08	0.64	0.60	0.66	0.70	0.76	-29.68%
Cash Transfers	-	0.75	-	0.75	0.75	0.75	0.75	0.75	N/A
Beginning Fund Balance	19.57	16.94	17.09	8.04	16.10	13.60	14.60	15.80	-7.55%
Total Resources	**$204.07**	**$228.70**	**$215.07**	**$260.59**	**$265.30**	**$288.54**	**$312.24**	**$336.30**	**56.37%**
Requirements									
Retirement Benefits	$149.88	$161.88	$163.22	$171.34	$182.17	$195.80	$212.18	$229.04	40.33%
Disability & Death Benefits	5.99	7.23	7.86	7.12	7.40	7.89	8.33	8.75	11.37%
Administration	3.85	4.04	4.01	4.24	4.39	4.62	4.86	5.07	26.37%
Fund-Level Requirements	27.25	55.56	31.93	77.88	71.34	80.24	86.86	93.43	192.59%
Ending Fund Balance	17.09	-	8.04	-	-	-	-	-	N/A
Total Requirements	**$204.07**	**$228.70**	**$215.07**	**$260.59**	**$265.30**	**$288.54**	**$312.24**	**$336.30**	**56.37%**
Total Net of TANs	$177.34	$186.70	$183.41	$200.12	$208.67	$224.03	$242.32	$261.03	42.32%
Change as a %				**9.1%**	**4.3%**	**7.4%**	**8.2%**	**7.7%**	**7.3%**

FY 2021-22 Budget Compared to Last Two Years

$ Millions	FYE20 Actuals	FYE21 Adopted Budget	FYE 21 Current Projection	FYE22 Recommended Budget	Change: FYE21 Projection to FYE22 Budget
Resources					
Property Taxes	$154.92	$166.06	$165.24	$190.69	15.40%
Tax Anticipation Notes	26.73	42.00	31.66	60.47	91.01%
Miscellaneous	2.85	2.95	1.08	0.64	-40.74%
Cash Transfers	-	0.75	-	0.75	0.00%
Beginning Fund Balance	19.57	16.94	17.09	8.04	-52.93%
Total Resources	**$204.07**	**$228.70**	**$215.07**	**$260.59**	**21.17%**
Requirements					
FPDR 1 & 2 Pensions	$129.18	$137.48	$137.77	$142.23	3.24%
FPDR 3 PERS Contributions	20.70	24.40	25.45	29.11	14.38%
Disability & Death Benefits	5.99	7.23	7.86	7.12	-9.38%
Administration & Delivery	3.85	4.04	4.01	4.24	5.59%
Fund-Level Requirements	27.25	55.56	31.93	77.88	143.90%
Ending Fund Balance	17.09	-	8.04	-	-100.00%
Total Requirements	**$204.07**	**$228.70**	**$215.07**	**$260.59**	**21.17%**
Total Net of TANs	**$177.34**	**$186.70**	**$183.41**	**$200.12**	**7.19%**

Resolved from Last Year

PERS REFORMS UPHELD

Oregon Supreme Court upheld 2019 PERS reforms intended to slow growth in PERS contribution rates

LABOR CONTRACTS NOW IN PLACE FOR ALL SWORN UNIONS

PFFA and PPCOA contracts now expire in June 2023

However, PPA contract only extended through June 2021

2014 - 2019 EXPERIENCE STUDY COMPLETE

Updated assumptions to:

- ✓ Reduce wage inflation
- ✓ Reflect longevity pay
- ✓ Use age-based retirement rates only for those with less than 25 service years
- ✓ Extend Fire retirement rates through age 65
- ✓ Reduce life expectancy
- ✓ Reduce marriage rate
- ✓ Reduce Oregon residency rate
- ✓ Reduce probability of long-term disability

Different This Year

LOSS OF TRIMET POLICE OVERHEAD CHARGES

Police contract with TriMet included overhead rate for pension/disability, passed to FPDR

PPB withdrew from TriMet contract 12/31/20

Loss of $1.0 M - $1.5 M per year for FPDR

POLICE RETIREMENT UNCERTAINTY

Police retirements unusually hard to predict right now

With high FYE21 retirements and no upcoming 27 PD months, only budgeted 10 Police retirements for FYE22

But continued organizational and financial uncertainty may drive retirements up

COVID-RELATED UNCERTAINTY

Economic downturn may lead to higher property tax delinquency rate

- ✓ Increased delinquency rate from 4.5% to 6%

Additional short-term disability costs for COVID cases and quarantines may continue

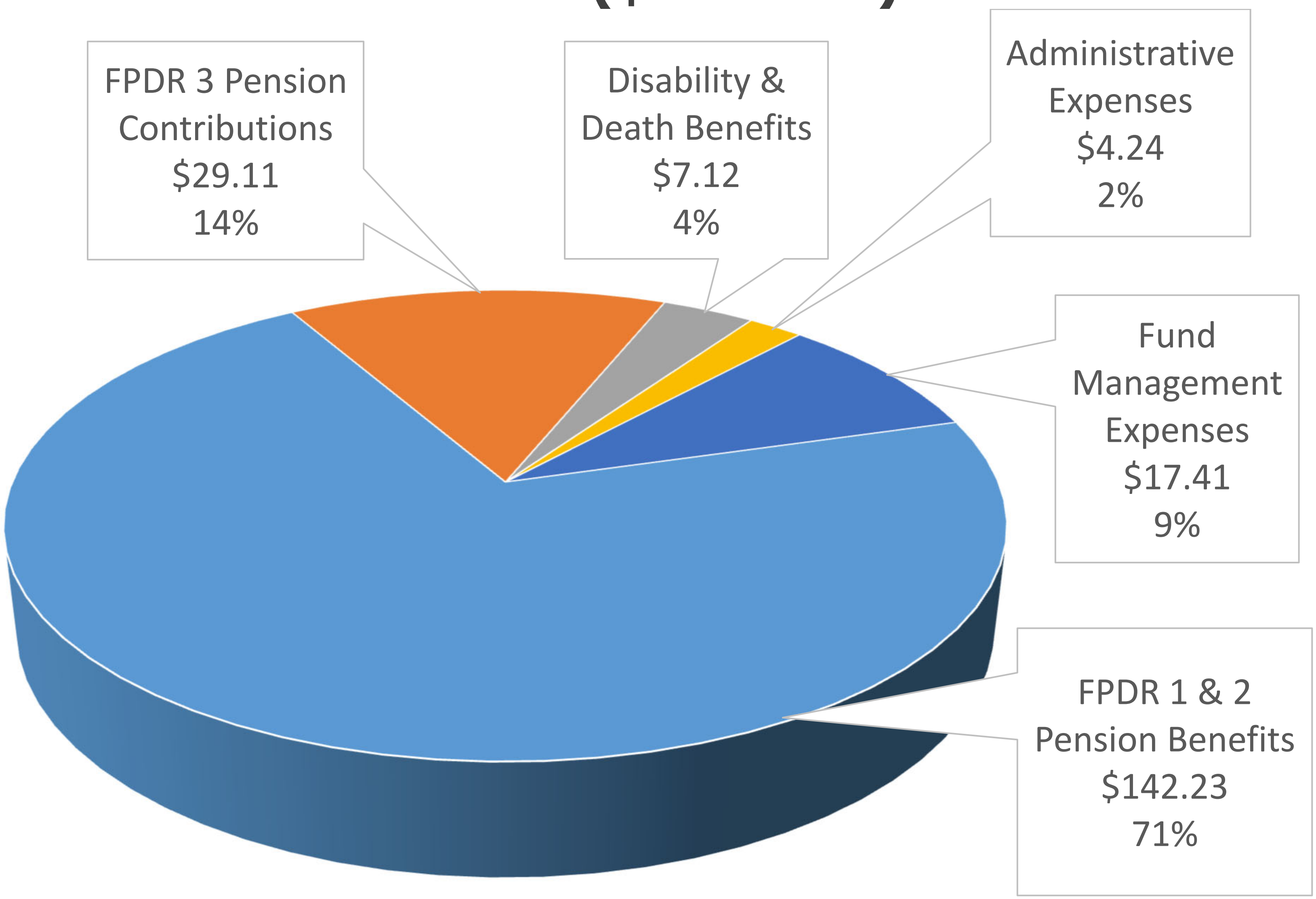
- ✓ Budget assumes these costs are confined to FYE21

LOWER ENDING FUND BALANCE

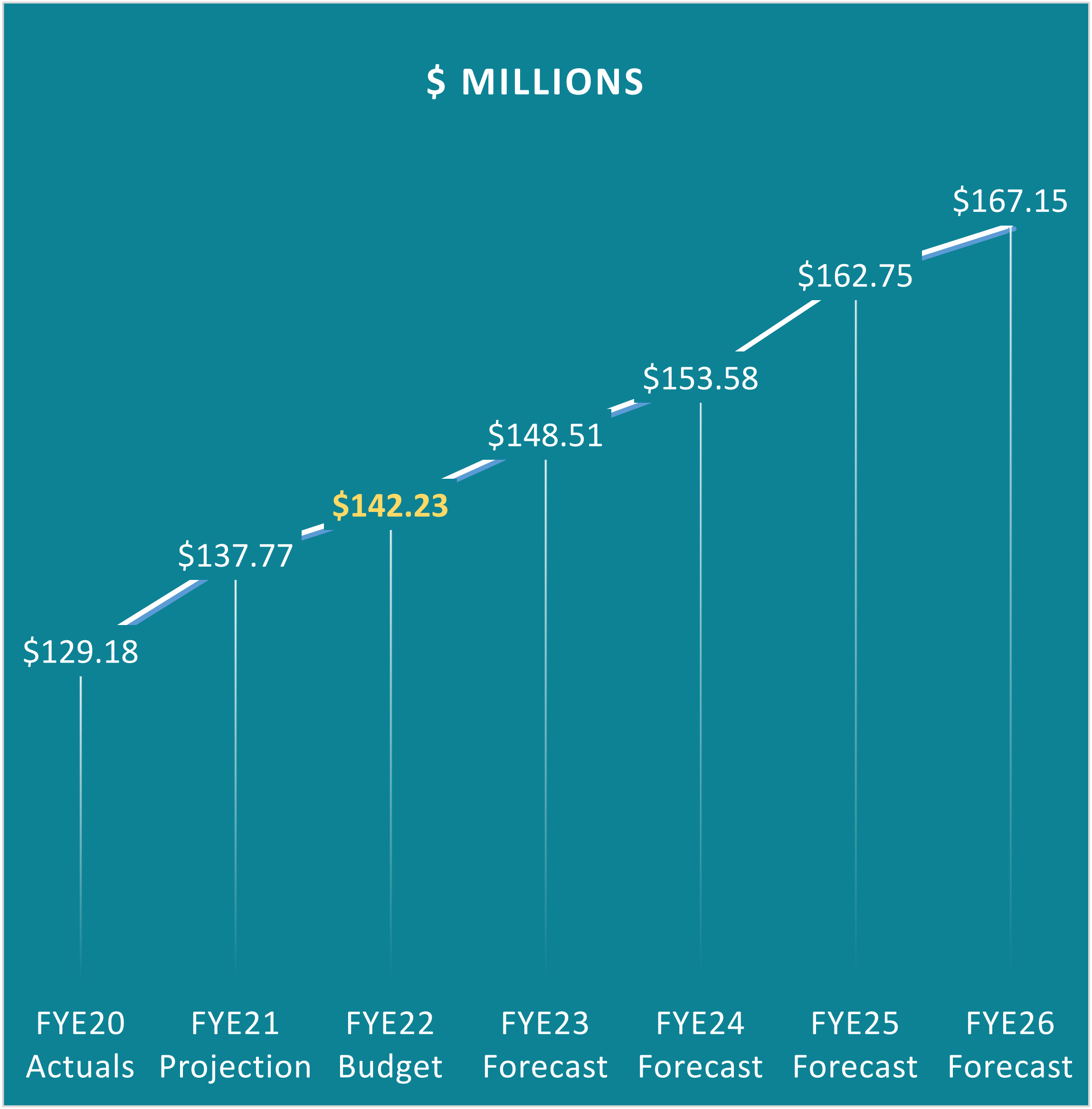
Unusual events took a toll on current year fund balance:

- ✓ Even more retirements than expected
- ✓ COVID-related disability expenses
- ✓ Higher PERS contributions, driven by more Police and Fire overtime
- ✓ Reductions in TriMet revenue and interest income

FYE22 Expense Overview ($ Millions)



Benefits: FPDR One And Two Pension Payments



In current FY:

- Likely to be over 100 service retirements
- Expense ⬆ 6.7%, despite flat Police pay

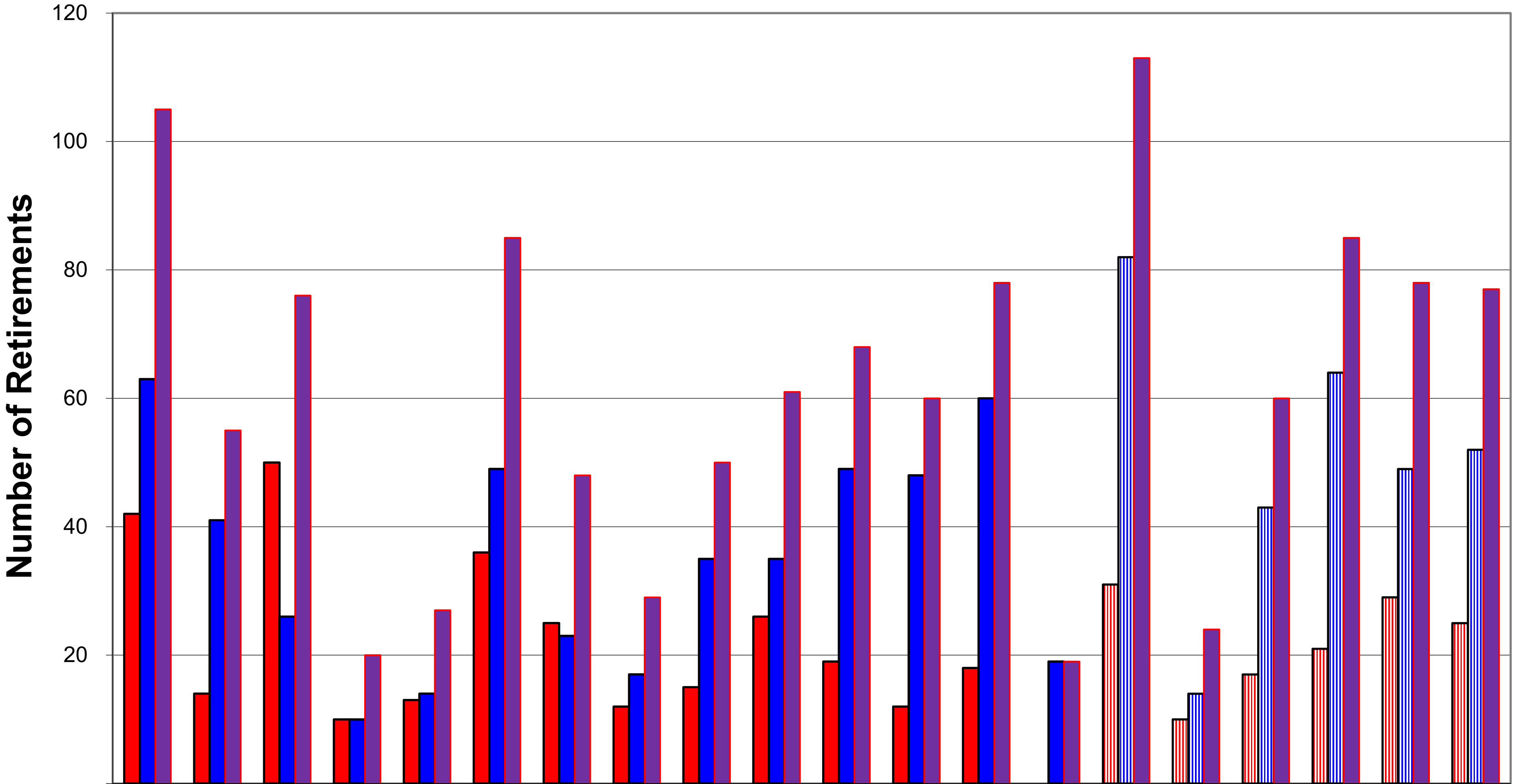
Slower future growth:

Expense ⬆ 3.2% for FYE22 and ⬆ 21.3% over five years

More FPDR 2 retirees and higher pension COLAs BUT forecast also assumes:

- Later retirements and earlier deaths for male retirees
- Lower wage inflation
- Fewer surviving spouse benefits and Oregon tax offset benefits

FPDR Two Retirements



	FYE 07	FYE 08	FYE 09	FYE 10	FYE 11	FYE 12	FYE 13	FYE 14	FYE 15	FYE 16	FYE 17	FYE 18	FYE 19	FYE 20	FYE 21	FYE 22	FYE 23	FYE 24	FYE 25	FYE 26
Fire	42	14	50	10	13	36	25	12	15	26	19	12	18	-	31	10	17	21	29	25
Police	63	41	26	10	14	49	23	17	35	35	49	48	60	19	82	14	43	64	49	52
Total	105	55	76	20	27	85	48	29	50	61	68	60	78	19	113	24	60	85	78	77

Includes Service, Disability and Vested Retirements

Benefits:
PERS Contributions

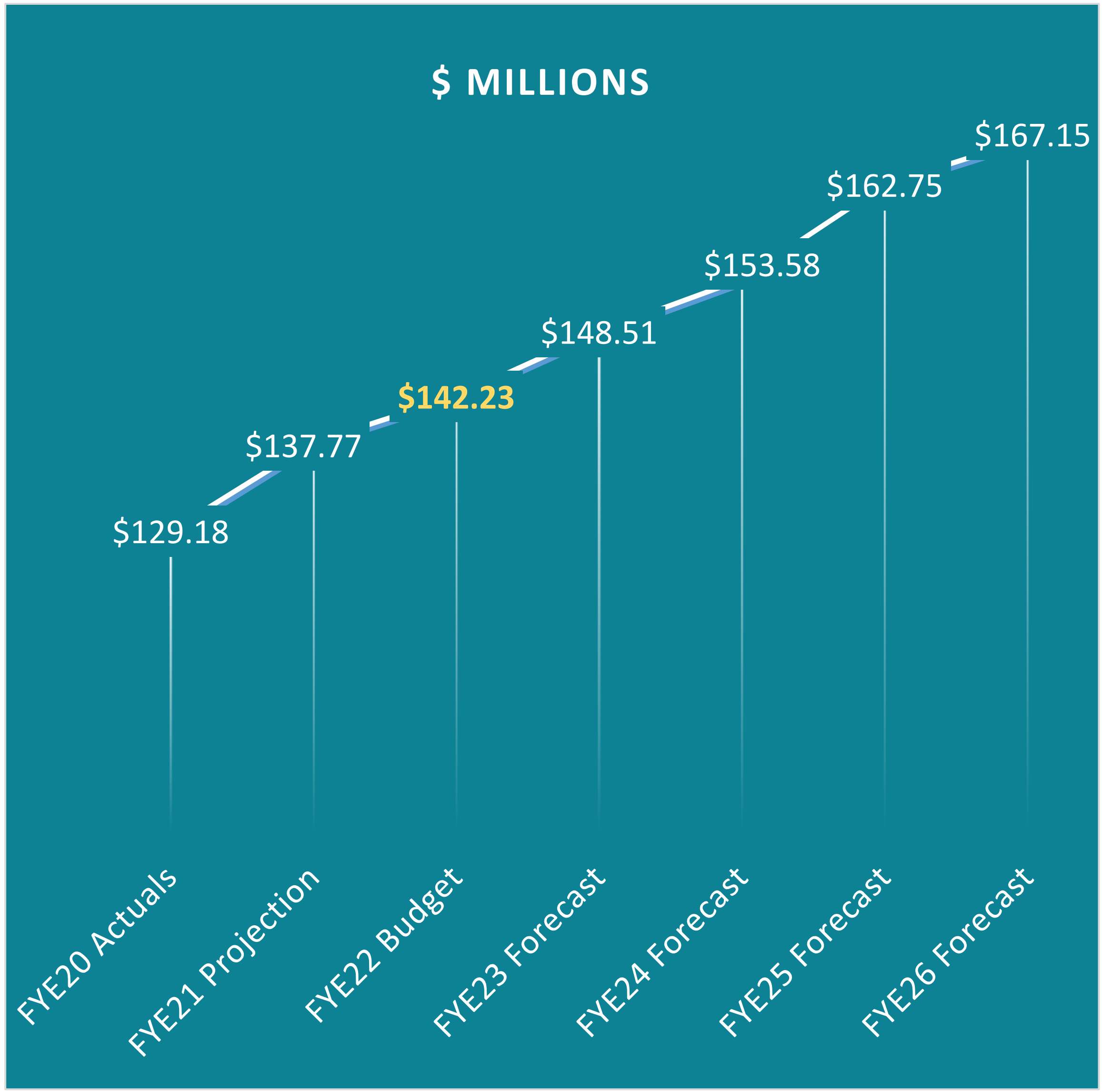
⬆ 14.4% for next year

Fastest growing part of the budget:

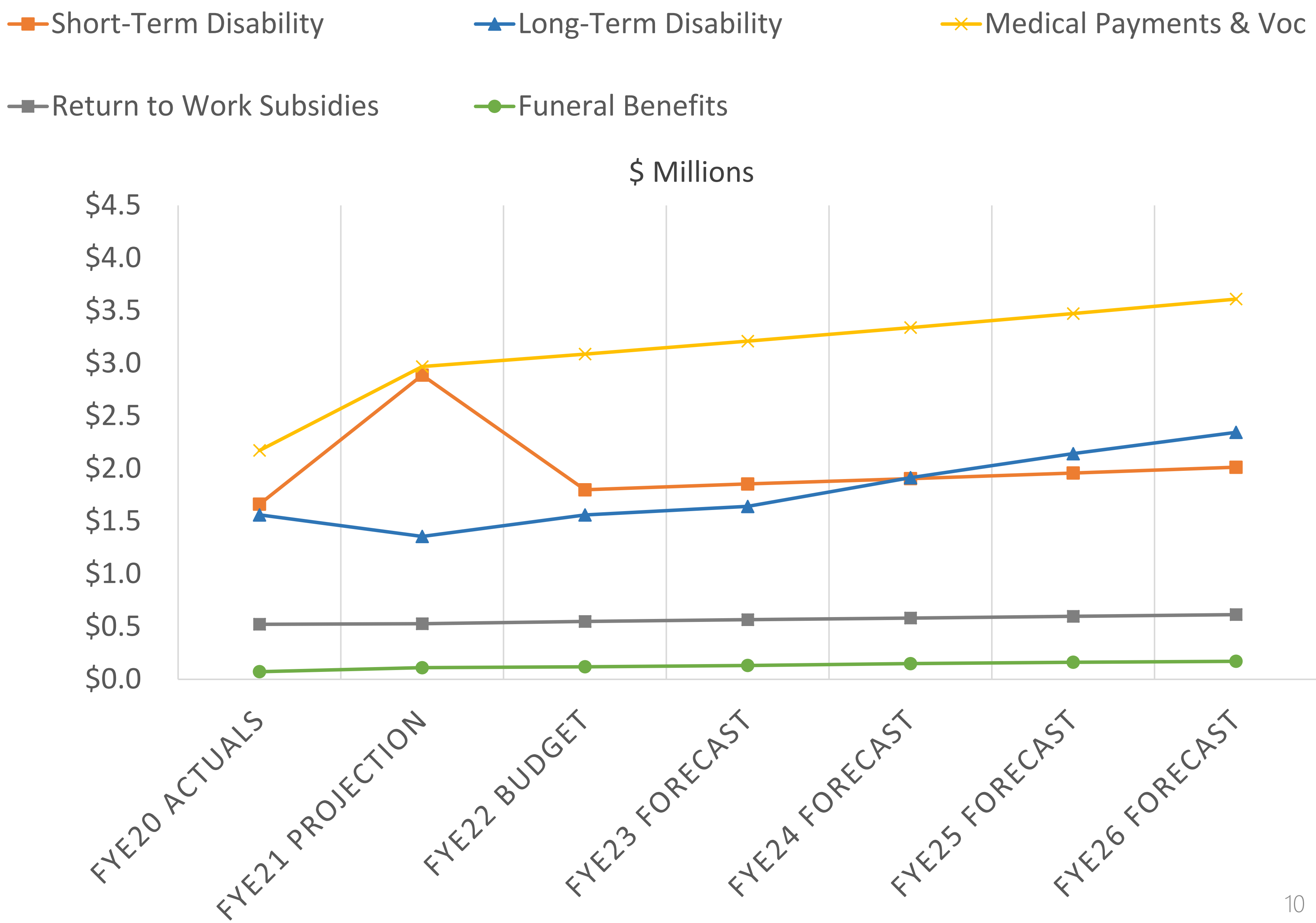
- More PERS-covered employees every year
- Wages still scaling up (steps, promotions, prems)
- Increasing PERS rates
  - ➢ From 29.16% currently to 31.72% for FYE22 and FYE23

But slower growth than forecast this time last year:

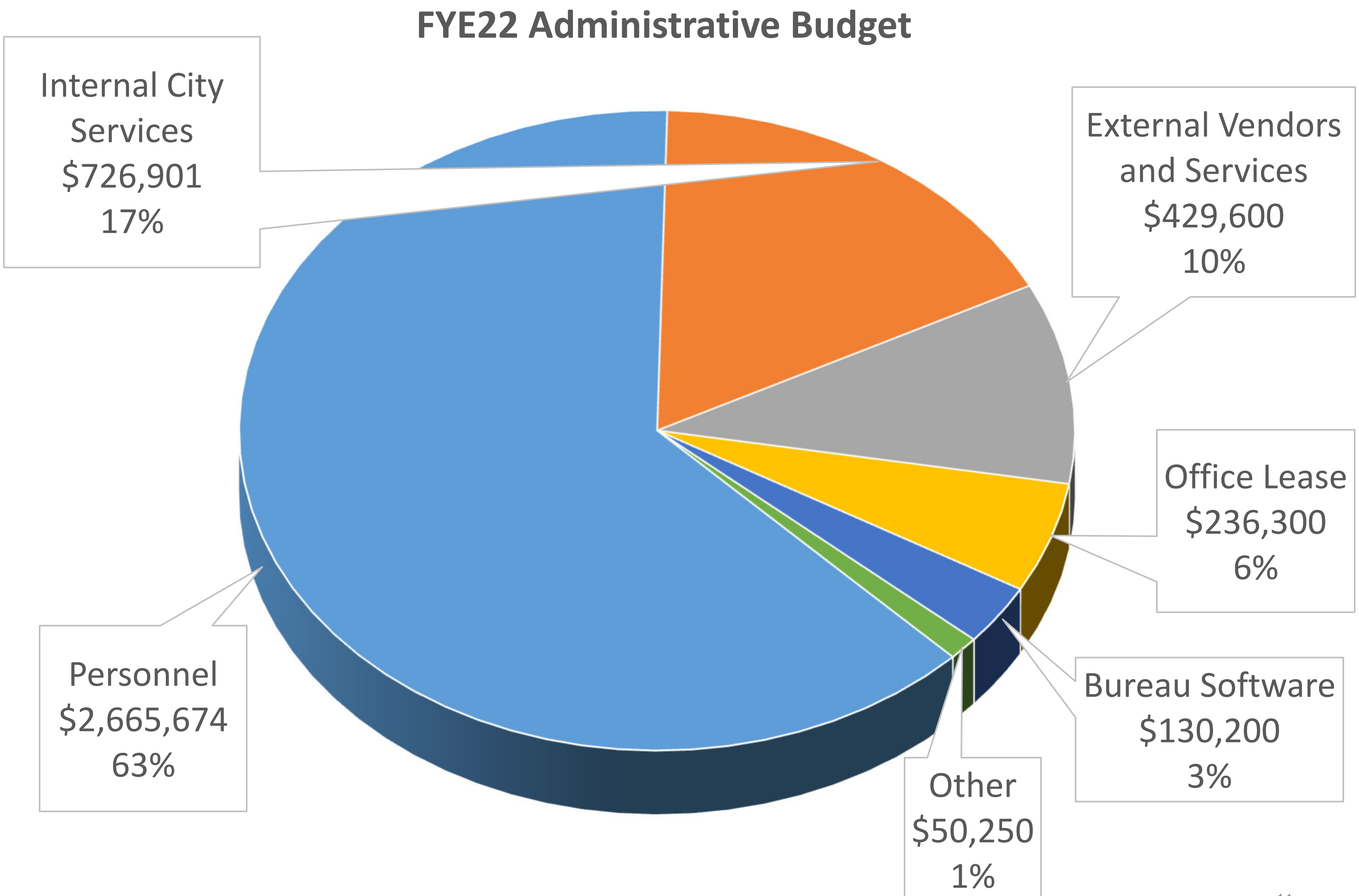
- Slower PERS rate growth
- Slower Police hiring



Benefits: Disability



Administration: Operating the Plan



Managing the Fund

FUND BALANCE

- Must maintain positive cash balance at all times
- Ending fund balance = $9.8 M to $19.6 M last 5 years
- $8.0 M expected on June 30/July 1 2021, lowest in years:
  - $2.7 M less in current year revenue than planned:
    - ✓ TriMet, interest income, prior year property taxes
  - $2.4 M more in current year expenses than planned:
    - ✓ OT-related PERS contributions
    - ✓ COVID-related wage replacement
    - ✓ Additional retirements

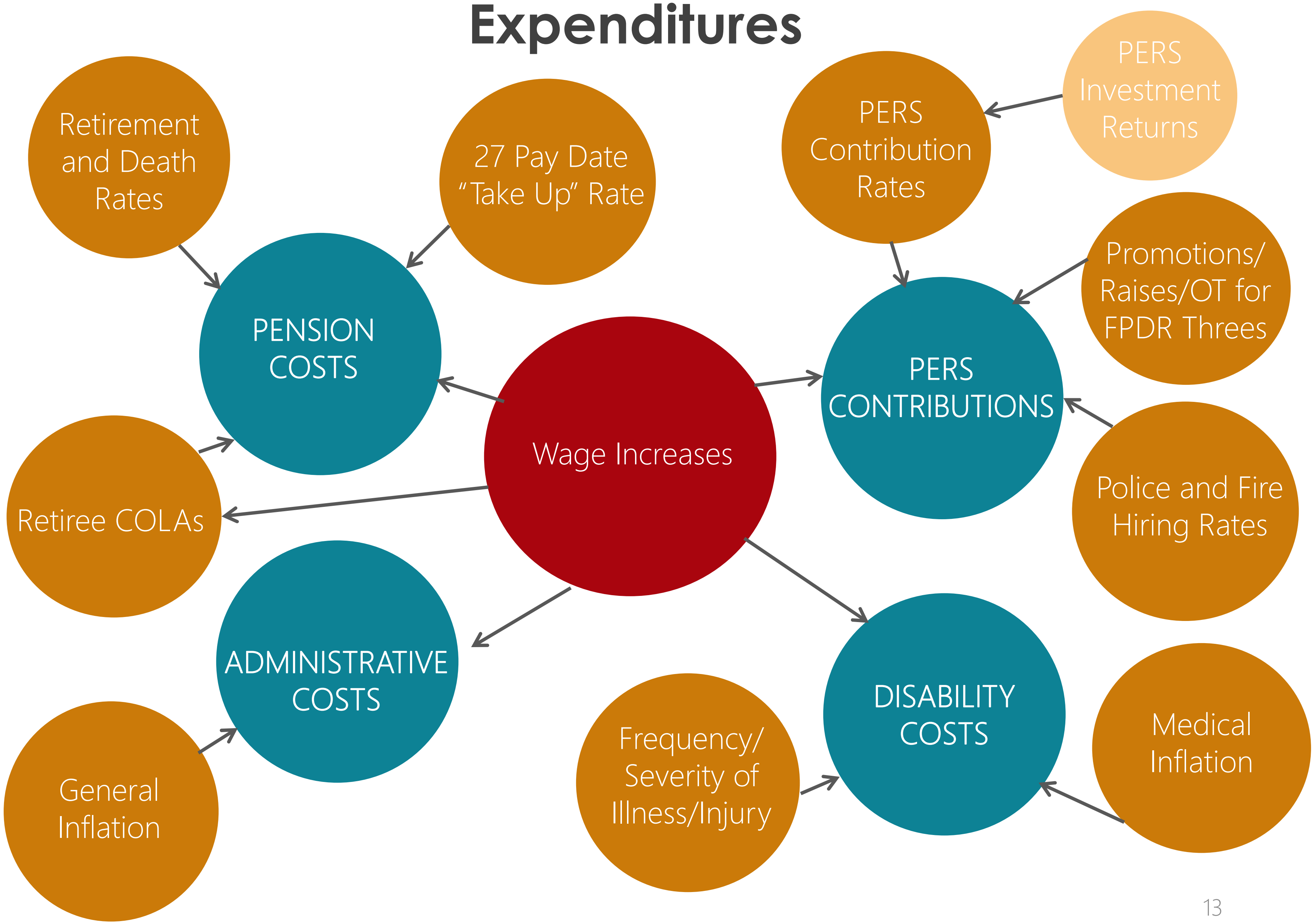
CONTINGENCY

- Primary tool to manage financial risk
- Historically, have budgeted contingency = 7% to 10% of annual expenses
- For FYE22, recommend contingency = 9% of budgeted expenses= 9.2% of budgeted tax collections = $16.1 M
- Larger risks than usual to manage in FYE22:
  - ✓ COVID and related economic recession
  - ✓ Police Bureau changes

OTHER "FUND" EXPENSES

- Must pay our share of Citywide costs:
  - Estimated $214K in FYE22
  - General Fund overhead
  - PERS pension obligation bonds
- Tax anticipation note expenses (interest and debt issuance)
  - $350K in FYE22
  - Historically, has always been more than offset with arbitrage earnings

Major Assumptions: Expenditures

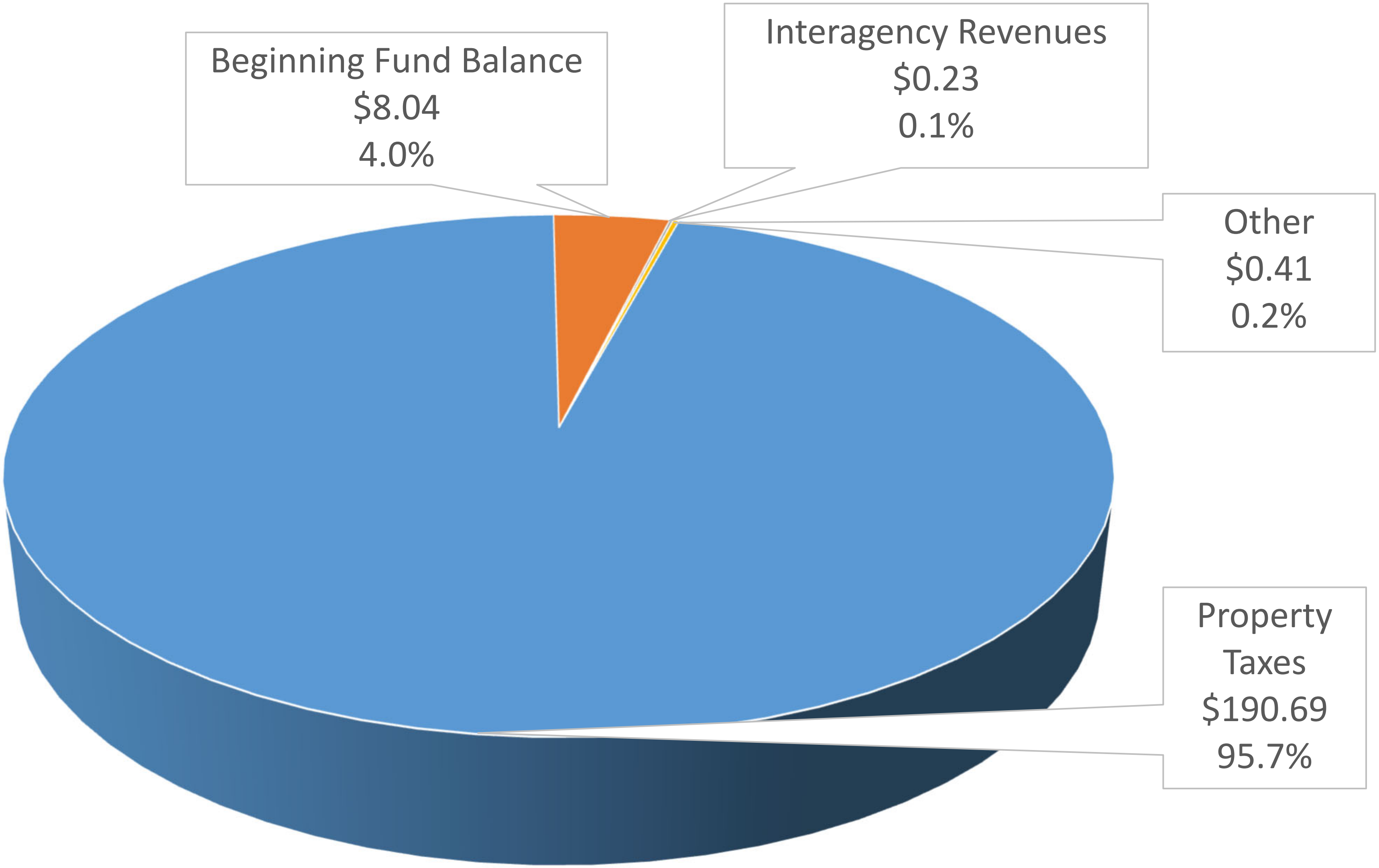


Major Assumptions: Expenditures

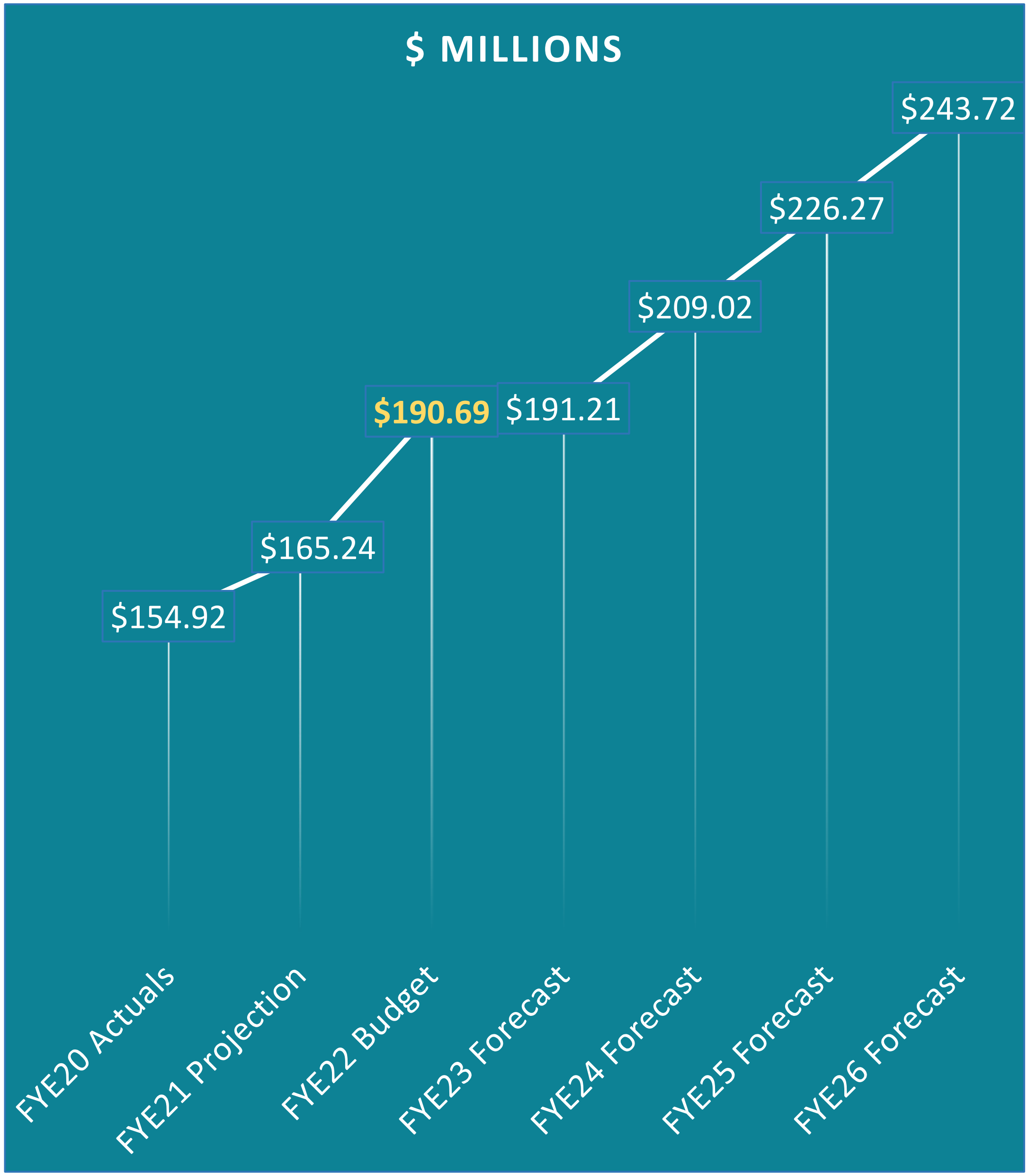
Inflation Assumptions						
	FYE21	FYE22	FYE23	FYE24	FYE25	FYE26
Wages	2.90%	2.00%	3.10%	2.70%	2.80%	2.80%
Medical	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
PERS Contribution Rates						
Tier 1 & Tier 2*	27.86%	28.35%	28.35%	33.00%	33.00%	38.00%
OPSRP General*	21.53%	24.36%	24.36%	29.00%	29.00%	33.00%
OPSRP Public Safety*	29.16%	31.72%	31.72%	36.00%	36.00%	41.00%
External Materials & Services	2.60%	2.60%	2.60%	2.60%	2.60%	2.60%
Internal Materials & Services	3.10%	2.60%	2.70%	2.60%	2.60%	2.60%
*Includes 9% Individual Account Program "pick up" for OPSRP Public Safety and 6% for Tier I/II/OPSRP General						

Other Assumptions						
	FYE21	FYE22	FYE23	FYE24	FYE25	FYE26
FPDR 2 Service Retirements	107	20	56	69	70	69
Deaths, Members & Beneficiaries	59	60	61	61	62	62
Pension COLAs						
FPDR 1, Fire	2.90%	2.00%	3.10%	2.70%	2.80%	2.80%
FPDR 1, Police	0.00%	4.96%	3.10%	2.70%	2.80%	2.80%
FPDR 2, Average Among Members	1.99%	1.99%	1.98%	1.98%	1.98%	1.97%
Percent of Sworn Workforce, FPDR 3	50.1%	51.6%	55.8%	60.8%	65.7%	70.5%
Hiring Projections						
Fire Bureau	24	24	24	24	24	24
Police Bureau	-	40	49	58	53	56

FYE22 Revenue Overview ($ Millions)



Property Taxes

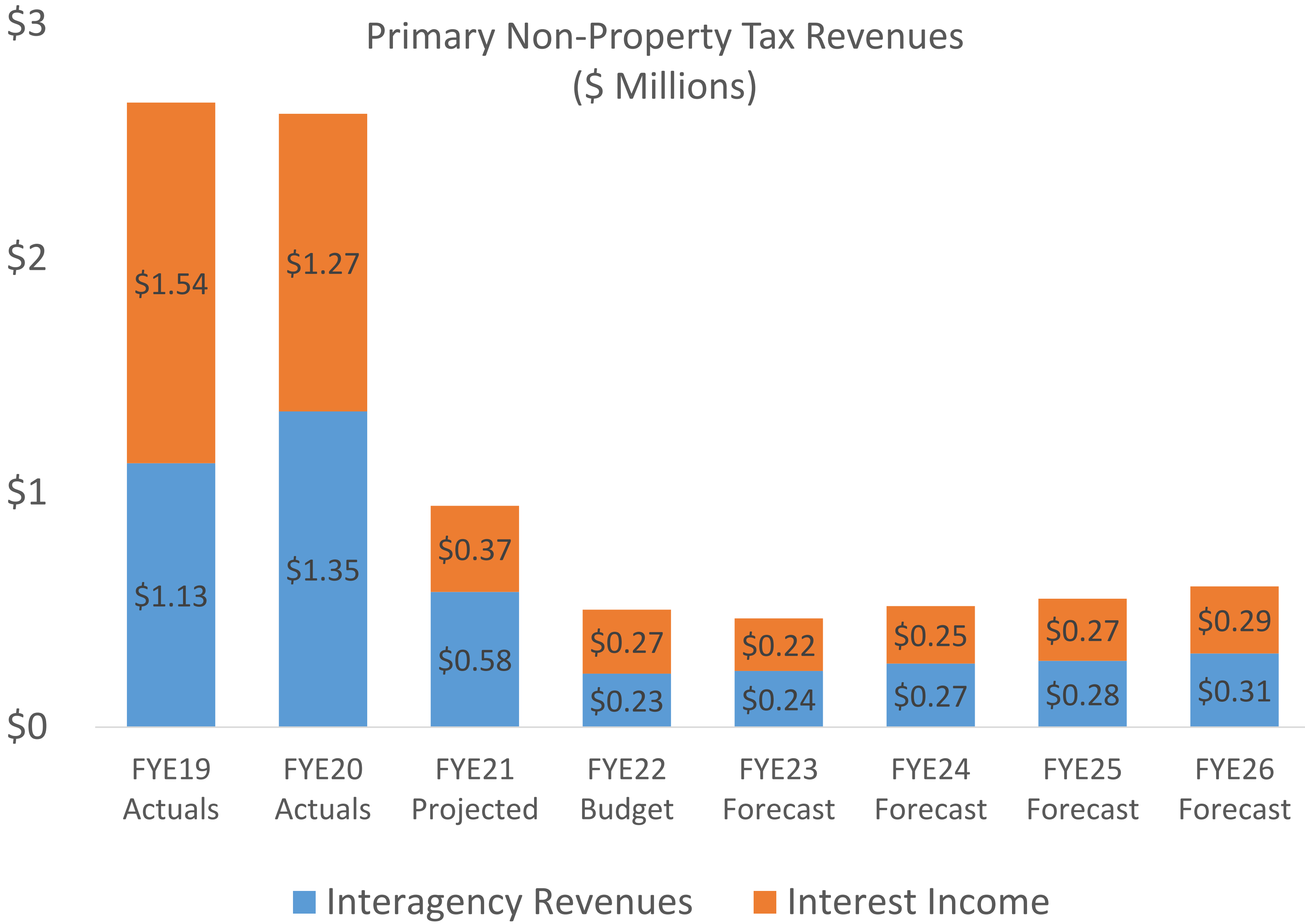


Property taxes each year = Expense requirements - Beginning fund balance - Other revenues

Significant increase required for next year: $25.4 M or 15.4%

- $20.1 M of increase known last year
  - ✓ Many retirements, plus PERS rate increases, were expected
- However, remaining $5.4 M was caused by 2020:
  - ✓ Pandemic and protests = higher disability costs + more PERS contributions on overtime
  - ✓ Police Bureau changes = record retirements and loss of TriMet Police revenue
  - ✓ Recession = less interest income and concerns about delinquent property taxes

Other Revenue



Major Assumptions: Revenues

PROPERTY TAX ASSUMPTIONS						
	FYE21	FYE22	FYE23	FYE24	FYE25	FYE26
RMV Growth	4.0%	0.0%	4.0%	4.0%	4.0%	4.0%
AV Growth	3.5%	3.0%	3.2%	3.2%	3.0%	3.0%
Compression	-4.5%	-4.9%	-4.8%	-4.6%	-4.4%	-4.4%
Discounts/Delinquencies	-6.0%	-6.0%	-4.9%	-4.9%	-4.7%	-4.5%

INTEREST INCOME ASSUMPTIONS							
$ Millions	FYE20 Actuals	FYE21	FYE22	FYE23	FYE24	FYE25	FYE26
Average Cash Balance	$62.8	$49.0	$54.5	$55.9	$61.3	$66.3	$71.4
Forecast Interest Rate	2.02%	0.75%	0.50%	0.40%	0.40%	0.40%	0.40%
Interest Income	$1.27	$0.37	$0.27	$0.22	$0.25	$0.27	$0.29

POLICE INTERAGENCY REVENUE ASSUMPTIONS							
$ Millions	FYE20 Actuals	FYE21	FYE22	FYE23	FYE24	FYE25	**FYE26**
Police Secondary Wages	$3.97	$1.65	$0.53	$0.55	$0.56	$0.58	$0.59
Pension & Disability Overhead Charge	32.62%	32.29%	34.85%	34.85%	39.13%	39.13%	44.13%
Revenue to FPDR	$1.29	$0.53	$0.18	$0.19	$0.22	$0.23	$0.26

Risks to Forecast

REVENUE RISKS

PROPERY TAX DELINQUENCIES

- If more property owners than expected can't pay, FPDR will not collect enough property taxes
- Assumed delinquency rate for FYE21 and FYE22 = 6%
  - More typical assumption = 4.0% to 4.5%

PROPERTY TAX COMPRESSION LOSSES

- Property tax compression is notoriously difficult to predict and has many moving parts
- Compression likely to increase in short term as taxing authorities increase levies to account for higher delinquencies
- Assumed compression loss rate for FYE22 and FYE23 = 4.9% and 4.8%
  - More typical assumption = 4.0% to 4.5%

EXPENDITURE RISKS

POLICE BUREAU RETIREMENTS

- Only budgeted 10 for FYE22
- Organizational/financial changes at Police Bureau may motivate more retirements than budgeted

POLICE BUREAU HIRING

- Forecast = 0 in FYE21 and 40 in FYE22
- With 71 retirements (at least) in FYE21, could be more hiring, despite political and financial obstacles, which will cause higher PERS contributions

NEW PPA CONTRACT

- Current contract expires June 30, 2021
- Salary increases beyond COLA would result in more benefit expenses than budgeted

PERS CONTRIBUTION RATES

- PERS rates for FYE24 and beyond could be higher or lower than forecast, particularly if PERS investment returns are different from assumed

Key Budget Take-Aways

FYE21 RETIREMENTS ACCELERATE PROGRESS TOWARDS PEAK EXPENSE

Always knew costs would increase in FYE22, but record-shattering retirements made jump even larger

The phase-in of simultaneous pension funding for two generations of workers just accelerated

MORE CHANGE AND RISK ON REVENUE SIDE THAN USUAL

Non-tax revenue: permanent loss of 1/3 and temporary loss of 1/3

- TriMet Police
- Event security
- Interest income

Combined with potential for higher tax delinquency and compression = Pressure on Property Tax Levy

CONTINUED FALL OUT FROM PANDEMIC, ECONOMY, AND POLICE REFORM

Possibly still to come:

- Continued high disability costs
- More property tax delinquencies, which increase tax burden for those who can pay
- Even more retirements
- Even greater loss of Police overhead revenue

FPDR IS MANAGING FINANCIAL RISK CONSERVATIVELY

$16.1 M fund contingency = 9% of operating expenses and 9.2% of property tax collections

Increased tax delinquency assumption to 6%

Assumed high PERS contributions and disability costs continue for remainder of FYE21

Questions?

Changes?

Future Technical Adjustments

Motion to Adopt

Five-Year Forecast

FYE 2022–26

Five-Year Forecast Summary ($ Millions)									
	FYE20 Actuals	FYE21 Adopted Budget	FYE21 Projection	FYE22 Recomm. Budget	FYE23 Forecast	FYE24 Forecast	FYE25 Forecast	FYE26 Forecast	FYE21 Project-FYE26 Change
Resources									
Property Taxes	$154.92	$166.06	$165.24	$190.69	$191.21	$209.02	$226.27	$243.72	47.49%
Tax Anticipation Notes	26.73	42.00	31.66	60.47	56.64	64.51	69.92	75.28	137.77%
Miscellaneous	2.85	2.95	1.08	0.64	0.60	0.66	0.70	0.76	-29.68%
Cash Transfers	-	0.75	-	0.75	0.75	0.75	0.75	0.75	N/A
Beginning Fund Balance	19.57	16.94	17.09	8.04	16.10	13.60	14.60	15.80	-7.55%
Total Resources	**$204.07**	**$228.70**	**$215.07**	**$260.59**	**$265.30**	**$288.54**	**$312.24**	**$336.30**	**56.37%**
Requirements									
Pension Benefits	$149.88	$161.88	$163.22	$171.34	$182.17	$195.80	$212.18	$229.04	40.33%
Disability & Death Benefits	5.99	7.23	7.86	7.12	7.40	7.89	8.33	8.75	11.37%
Administration	3.85	4.04	4.01	4.24	4.39	4.62	4.86	5.07	26.37%
Fund-Level Requirements	27.25	55.56	31.93	77.88	71.34	80.24	86.86	93.43	192.59%
Ending Fund Balance	17.09	-	8.04	-	-	-	-	-	N/A
Total Requirements	**$204.07**	**$228.70**	**$215.07**	**$260.59**	**$265.30**	**$288.54**	**$312.24**	**$336.30**	**56.37%**
Total Net of TANs	$177.34	$186.70	$183.41	$200.12	$208.67	$224.03	$242.32	$261.03	42.32%
Change as a %				**9.1%**	**4.3%**	**7.4%**	**8.2%**	**7.7%**	**7.3%**

The Bureau of Fire & Police Disability & Retirement (FPDR) administers a defined benefit retirement plan for sworn members of the Portland Police Bureau (Police) and Portland Fire & Rescue (Fire) hired before 2007 (FPDR One and Two members), as well as a disability plan for all sworn members with at least six months of service. The FPDR disability plan is both the workers' compensation substitute plan for the City's sworn workforce, and a nonservice disability plan for sworn employees with at least ten years of service. These benefits are defined in Chapter 5 of the City of Portland Charter, which serves as FPDR's legal plan document. Fire and Police employees sworn after December 31, 2006 (FPDR Three members) are enrolled in the Oregon Public Employee Retirement System (PERS) pension plan but still covered by FPDR's disability plan. In addition to paying for its own plan benefits, the FPDR Fund pays the PERS contributions on behalf of FPDR Three members by reimbursing the Fire and Police Bureaus for PERS expenses. This means the FPDR Fund is financing two generations of pensions simultaneously, with pay-as-you-go pension payments to FPDR One and FPDR Two members during their retirement years and prefunded pension contributions for FPDR Three members during their working careers. As this transition is phased in, FPDR costs will grow far in excess of inflation. Expenses (on an inflation-adjusted basis) are projected to peak in the early to mid 2030s when the entire sworn workforce is comprised of FPDR Three members and most FPDR Two retirees are still living. After this point, mortality in the FPDR Two population will begin to reduce costs.

Total FPDR FYE22 requirements are budgeted at $260.6 million. Net of tax anticipation notes (TANs), which are issued and repaid within the same fiscal year and whose inclusion therefore inflates the size of the budget, FYE22 requirements are $200.1 million. For the FYE22 budget, 71% of bureau requirements are for FPDR plan pension benefits, 14% for PERS contributions made on behalf of FPDR Three members, 4% for FPDR plan disability benefits, 2% for program administration, and 9% for fund-level requirements. Total budgeted bureau expenditures (which excludes fund-level requirements such as contingency, TANs, and General Fund overhead) for FYE22 are $182.7 million. Over the five-year forecast extending through FYE26, total bureau expenses are estimated at $1.053 billion and total requirements net of the annual TAN issues are projected to be $1.137 billion.

Plan Overview

FPDR is funded almost exclusively from a dedicated property tax levy. Smaller sources of income include interest earnings on fund balance, a pension and disability overhead charge on contracted Police and Fire work (passed through the Police and Fire Bureaus), subrogation revenue on disability claims, and – if needed – a transfer from the FPDR Reserve Fund. The FPDR Reserve Fund is not included in this five-year forecast, but is required by City Charter to be funded at exactly $0.75 million on July 1 and June 30 of each year. In between, the FPDR Fund may borrow from it interest-free. Interest earnings on the FPDR Reserve Fund balance are credited directly to the FPDR Fund. Non-property tax revenues comprise just 0.7% of total revenues (net of TANS) in the FYE22 budget, or $1.4 million, and just $7.1 million over the entire FYE22-26 forecast. The remainder of resources needed to fund the expenditures discussed below derive from property taxes, of which $1.061 billion will be required over the same five-year period.

FPDR's dedicated property tax levy is capped by the City Charter at $2.80 per $1,000 of real market value (RMV). The current RMV rate is $1.15, and is expected to rise to $1.33 for FYE22 and to $1.42 by the end of the five-year forecast period. In concert with the legally required biannual plan valuation, FPDR contracts with an independent actuarial firm to model the RMV tax rate over a 20-year period. The most recent analysis, using data as of June 30, 2020, predicts there is less than a 1% probability that the $2.80 cap will be insufficient to fund FPDR spending in any year between now and FYE40.

Revenue Assumptions

More than 99% of bureau resources derive from the dedicated FPDR property tax levy. Interest income, subrogation revenue, overpayment collections, and revenue from an FPDR overhead charge assessed when third parties contract with the Police and Fire Bureaus make up most of the remainder. Property tax revenues will need to grow very significantly this year: 15.4%, from an expected $165.2 million in the current year (FYE21) to $190.7 million in FYE22. Most of this increase has been foreseen for several years. The presence of two 27 pay date months in FYE21 – months when retiring members receive 27 pay checks in their pensionable pay calculations instead of the usual 26 – was always expected to result in an exceptionally high number of FYE21 retirements and a subsequent jump in FPDR direct pension costs. In addition, rapid growth in the PERS-covered population, their salaries, and PERS contribution rates were all expected to accelerate PERS contribution costs. However, of the $25.4 million increase in property taxes now needed for FYE22, only about $20.1 million was planned in June 2020, before the current year budget was adopted. The remaining $5.4 million is the result of unforeseen circumstances related to the pandemic, economic downturn, and organizational and financial restructuring at the Police Bureau. Costs associated with these events have reduced projected ending fund balance for FYE21 (and thus beginning fund balance for FYE22) and also, in some cases, increased ongoing expenses or reduced ongoing revenues. By FYE26, annual tax collections are expected to rise to $243.7 million – an increase of 47.5% over the life of the forecast – to meet rapidly growing benefit expenses, mostly caused by the ongoing transition from a pay-as-you-go pension plan (FPDR) to a pre-funded pension plan (PERS). That transition requires exponential annual cost increases while pensions for two generations of retirees are funded simultaneously.

In addition, FPDR must levy more taxes than are actually required, since not all taxes will be collected due to discounts, delinquencies, and compression under Measure 5/50 tax limits. FPDR relies on the City Economist to calculate the amount that will offset these losses. Unfortunately, it is possible that FYE22 property tax delinquencies will be more than usual because of the recession. It is also probable that compression losses will increase next year, as many taxing authorities increase their levies in the face of potentially higher delinquency rates. In FYE22 the tax levy will be "grossed up" by 11.9% to attempt to ensure that the levy produces the $189.1 million in current year tax revenues required by FPDR. That "gross up" percentage is very similar to FYE21, when FPDR and the City Economist decided to increase taxes in response to the same concerns, but is certainly higher than the usual 9% to 10%. Property taxes for FYE21 have been coming in at or slightly above projections thus far, which indicates the FYE21 gross up level was reasonably accurate, perhaps with a bit of cushion.

RMV grew 4.1% in the current fiscal year (FYE21), slower than the average growth rate over the last 20 years (6.5%) but faster than FYE20 when growth was only 2.1%. However, the City Economist has forecast no growth at all in RMV for FYE22. While market values for many residential properties continue to increase, downtown commercial property values may be declining. He does currently expect annual RMV growth to return to 4% or so for FYE23 – FYE26. Assessed value (AV) growth, on the other hand, has remained high for two years in a row, at 4.6% for FYE20 and 4.5% for FYE21. (Since the assessed values of most properties are far below their real market values, changes in actual property value changes don't impact AV as much as RMV.) The City Economist expects AV growth to return to a more usual 3.0% to 3.2% for FYE22 and beyond. The AV rate is currently $2.76, and is projected to rise to $3.11 for FYE22 and to $3.44 by the end of the forecast period. The City Economist's property tax assumptions are detailed below.

PROPERTY TAX ASSUMPTIONS						
	FYE21	FYE22	FYE23	FYE24	FYE25	FYE26
RMV Growth	4.0%	0.0%	4.0%	4.0%	4.0%	4.0%
AV Growth	3.5%	3.0%	3.2%	3.2%	3.0%	3.0%
Compression	-4.5%	-4.9%	-4.8%	-4.6%	-4.4%	-4.4%
Discounts/Delinquencies	-6.0%	-6.0%	-4.9%	-4.9%	-4.7%	-4.5%
AV Tax Rate	$2.7580	$3.1069	$2.9794	$3.1361	$3.2864	$3.4381
Effective RMV Tax Rate	$1.1467	$1.3305	$1.2661	$1.3225	$1.3725	$1.4220

The only two non-property tax revenues of significance are interest income and overhead charges on contracted Police services. Other minor revenues are subrogation, received when third parties with the ability to pay are at fault in disability claims; recovery of benefit overpayments; vendor refunds; and various other very small miscellaneous revenues. Both interest income and overhead charges are forecast to decline quite substantially in the current fiscal year (FYE21) – to roughly one-third of their previous levels – and to decline slightly again in FYE22. Both revenue sources are then expected to remain at these new lower amounts throughout the forecast period.

Interest income is forecast based on the City Investment Officer's projected annual returns on the City Treasury investment pool and FPDR's estimated average daily cash balance. While FPDR's cash balance will rise from roughly $49.0 million in the current year to an estimated $71.4 million by the end of the forecast period (as tax revenue grows to match increasing benefit expenses) interest earnings on that balance are expected to drop to 0.75% this year, then to 0.5% in FYE22, and finally to 0.4% for FYE23 – FYE26. Therefore, interest earnings on fund balance are assumed to be just $0.4 million in the current year, down from $1.3 million in FYE20 and $1.5 million in FYE19, and to fall even further over the next five years, to $0.2 million to $0.3 million annually.

Revenue Risks to Forecast

When police officer or fire fighter services are contracted out to third parties – most notably TriMet – the third party reimburses the City for wages, benefits, and overhead, including an FPDR-specific overhead rate intended to compensate the City for pension and disability benefits. Nearly all of this revenue comes from the Police Bureau, and over the last five years 59% to 76% of the Police amount has come from their contract with TriMet for Transit Police. Since the Police Bureau pulled out of that contract on December 31, 2020, a majority of this revenue source will disappear permanently. In addition, much of the remaining Police overhead revenue is earned when police officers provide security at large gatherings like sporting competitions and community festivals; this portion has also been reduced, at least temporarily, because of the pandemic and continued staffing challenges at PPB. The overhead charges are calculated as a pension rate plus a disability rate, charged on all wages earned by the sworn employees while they are performing third-party work. The pension rate is the current sworn contribution rate for the Oregon Public System Retirement Program (OPSRP) tier of PERS, including the City's 9% contribution to the Individual Account Program (IAP) at PERS. The disability rate is a rolling three-year average of FPDR service-connected disability expenses divided by sworn payroll. Overhead charges therefore move in relation to these rates and wage growth, as well as the amount of third-party work performed by the Police and Fire bureaus. The pension overhead rate will increase with the PERS rate, from 29.16% in FYE21 to 31.72% in FYE22, and an estimated 41.00% by FYE26. The disability overhead rate is currently 3.13% and is expected to remain fairly stable. Wages are forecast to grow only with COLAs, which are assumed to equal growth in the Consumer Price Index for the West Region (CPI-West), as required by the City's sworn labor contracts and forecast by the City Economist. However, increases in wages and the FPDR overhead rate will have a very small impact within the larger context of the precipitous decline in third-party work being undertaken by the Police Bureau.

Together, the reductions in interest income and Police overhead charges will result in a $2 million to $3 million annual revenue loss for FPDR, beginning in the current fiscal year and continuing for the forecast period. This loss will have to be offset with an unplanned increase in the property tax levy.

The primary revenue risk to the forecast is that property tax compression, discount, or delinquency assumptions are too low, which would lead to under-collection of property tax revenues. Since FPDR is almost entirely dependent on property tax revenues to cover its expenses, a significant shortfall in this area would necessitate unplanned short-term borrowing, either from capital markets or another City fund. Such a shortfall would also negatively impact interest income. As discussed above, these risks are greater than usual for the budget year (FYE22), as the pandemic and associated economic downturn may increase both property tax nonpayment and compression. Accordingly, FPDR and the City Economist have assumed higher than usual delinquency and compression loss rates for FYE22, as detailed in the Property Tax Assumptions table above under Revenue Assumptions. In addition, FPDR has increased fund contingency from the typical 7% of bureau operating expenses to 9%. This level of contingency ($16.1 million) would cover an additional 9.2% shortfall in property tax collections. Risks in revenue categories other than property taxes are not significant for the forecast as a whole, as they comprise less than 1% of FPDR's resources.

Expenditure Assumptions

Of the $1.053 billion in bureau expenditures during the five-year forecast period, 98% or $1.030 billion are nondiscretionary plan benefits mandated by City Charter. Plan benefits fall into three categories: FPDR pension benefits, PERS contributions, and FPDR disability/death benefits. Of the three, FPDR pension benefits are by far the largest, making up 74% of planned bureau expenditures over the next five years. PERS contributions, while still only 21% of budgeted bureau expenditures in FYE22, are the fastest-growing component. Each year a larger percentage of the sworn workforce is comprised of FPDR Three members enrolled in PERS. Disability and death benefits are trending significantly higher than usual in the current fiscal year (FYE21), primarily because of COVID cases and exposures in the sworn workforce, but are expected to return to normal and grow only with wage inflation beginning in FYE22.

The most significant assumptions underlying the expenditure forecast are listed in the tables below.

Inflation Assumptions						
	FYE21	FYE22	FYE23	FYE24	FYE25	FYE26
Wages	2.90%	1.60%/2.00%	3.10%	2.70%	2.80%	2.80%
Medical	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%
PERS Contribution Rates						
Tier 1 & Tier 2*	27.86%	28.35%	28.35%	33.00%	33.00%	38.00%
OPSRP General*	21.53%	24.36%	24.36%	29.00%	29.00%	33.00%
OPSRP Public Safety*	29.16%	31.72%	31.72%	36.00%	36.00%	41.00%
External Materials & Services	2.60%	2.60%	2.60%	2.60%	2.60%	2.60%
Internal Materials & Services	3.10%	2.60%	2.70%	2.60%	2.60%	2.60%
*Includes 9% Individual Account Program "pick up" for OPSRP Public Safety and 6% for Tier I/II/OPSRP General						

Other Assumptions						
	FYE21	FYE22	FYE23	FYE24	FYE25	FYE26
FPDR 2 Service Retirements	107	20	56	69	70	69
Deaths, Members & Beneficiaries	59	60	61	61	62	62
Pension COLAs						
FPDR 1, Fire	2.90%	2.00%	3.10%	2.70%	2.80%	2.80%
FPDR 1, Police	0.00%	4.96%	3.10%	2.70%	2.80%	2.80%
FPDR 2, Average Among Members	1.99%	1.99%	1.98%	1.98%	1.98%	1.97%
Percent of Sworn Workforce, FPDR 3	50.1%	51.6%	55.8%	60.8%	65.7%	70.5%
Bureau Hiring Projections						
Fire Bureau	24	24	24	24	24	24
Police Bureau	-	40	49	58	53	56

Direct Pension Benefits

The most significant assumptions underlying the forecast for FPDR One and Two pension payments relate to retirement rates, death rates, pension amounts for new retirees, and annual cost-of-living adjustments (COLAs) for existing retirees. FPDR projects there will be at least 100 service retirements in the current fiscal year (FYE21), blowing past the previous record of 94 in FY 2006-07 when consequential amendments to the FPDR Plan were enacted by Portland voters. The unprecedented level of retirements is driven largely by the timing of 27 pay-date months: there are two in the current fiscal year, in August 2020 and January 2021, and none in the prior or upcoming fiscal years. However, the pandemic, protests, and organizational change at the Police Bureau have no doubt had an impact on retirements as well. The number of retirements is a major factor in the growth in FPDR One and Two pension expenses in the current fiscal year, which increased 7% despite the absence of wage increases in FYE21 for most Police employees, which meant no increase in final pensionable pay for most new Police retirees and no COLA for existing Police FPDR One retirees and surviving spouses. Going forward, retirements are forecast to return to much lower levels. FPDR projects only 20 service retirements for FYE22, partly because of the high number of retirements in FYE21 and partly because of the absence of a 27 pay date month in FYE22. In forecast years beyond FYE22, each retirement-eligible member is assigned an actuarial probability of retirement in each year of the forecast. These probabilities have been updated this year, to incorporate the results of a new FYE14 – 19 experience study of the FPDR Plan conducted by an independent actuarial firm. Previously, retirement rates were predicted based solely on age. Now retirement rates are predicted based on age only until a member reaches their 25-year anniversary; after that the probability of retirement is level each year (at 45% for Police and 25% for Fire) regardless of age. In addition, FPDR used to assume that all Fire members retired by age 60; that has now been extended to age 65 to match Police. These changes reflect the emerging reality that more members are now working past age 60, and that after reaching 25 years of service (when most members become retirement-eligible) the probability of retirement is not strongly associated with age.

Death rate and timing assumptions are likewise based on actuarial probabilities, but derived from mortality data through June 30, 2020 for the similar but larger (and therefore more statistically useful) pool of sworn PERS retirees; a death probability is assigned to each beneficiary in each year of the forecast based on these probabilities. Unfortunately, the updated assumptions reflect a higher likelihood of death each year for the largest group receiving FPDR pensions: male retirees 70 or older. In addition, average life expectancy fell for male retirees of all ages by an average of about one year. The FYE14 – 19 FPDR Plan experience study also found that a smaller percentage of retirees are married at death than in the past, so this assumption has been reduced from 80% to 70%. These two assumption changes reduced pension costs over the life of the forecast, as more retirees are now projected to pass away during the next five years, and fewer are expected to leave a surviving spouse with a survivor's pension benefit.

Pension amounts for new retirees are based on averages of the actual pay and years of service in the pool of retirement-eligible members, as well as a historical average for the accrual rate. (The accrual rate is the third component of the pension formula, and determines survivor benefits at the member's death.) Pay for Portland Fire Fighter Association and Portland Police Commanding Officers Association employees grew by a 2.9% COLA awarded on July 1, 2020, as well as step increases and longevity pay for additional years of service. Pay for Portland Police Association (PPA) members grew by less because their COLA was deferred to June 30, 2021. However, this means PPA members will most likely receive a "double" COLA in summer 2021: 2.9% on June 30, 2021 and 1.6% on July 1, 2021. With the exception of the July 1, 2020 deferral for PPA, all three sworn labor contracts require annual COLAs equal to the increase in the CPI-West, although the current PPA contract expires on June 30, 2021. This forecast relies on the City Economist's projection for the CPI-West for FYE22-FYE26.

Per City Charter, COLAs for FPDR One retirees and widow/ers are equal to increases in active duty pay, discussed above. COLAs for FPDR Two retirees and widow/ers are at the discretion of the FPDR Board, up to a maximum of 2.0%. The forecast assumes the Board continues to use the COLA methodology used for FPDR Two COLA awards on July 1, 2020: 2.0%

for service credit earned before October 8, 2013 and 1.75% for service credit earned after that date. This results in an average COLA of 1.99% on July 1, 2021 for FPDR Two retirees and widow/ers, declining to 1.97% by July 1, 2025. This method is similar to the manner in which PERS COLAs are calculated, although PERS uses 1.25% instead of 1.75%, and an even lower rate for annual benefits amounts above $60,000.

PERS Contributions

The second largest item in the FPDR budget is PERS contributions made by the FPDR Fund on behalf of sworn employees hired in 2007 or later. The PERS contribution budget depends on the number of working FPDR 3 members, their pay levels, and PERS contribution rates. Growth in this budget category is exponential: in addition to increases resulting from wage inflation, the number of PERS-covered employees grows each year as FPDR-covered employees retire and are replaced by new hires. Secondly, this population is still maturing; as compared with the total sworn population, a larger proportion of PERS-covered employees are still at the fire fighter rank (and at lower pay levels on the fire fighter pay scale), ineligible for longevity pay, and less likely to have attained premium and specialty pay assignments. As they move through pay steps, promote into higher paying classifications, receive specialty pay assignments, and begin to earn longevity pay, their pay grows above and beyond simple wage COLAs. Finally, the PERS Board continues to raise contribution rates every two years to reduce PERS' unfunded liability, although PERS reforms enacted by the Oregon Legislature enacted in 2019 have slowed the growth in these rates somewhat.

The number of current FPDR 3 members is known, but the total projected number over the forecast period is reliant on hiring projections. FPDR usually bases hiring projections partly on actuarially predicted retirement rates (derived from the most recent plan experience study) and partly on the Police and Fire Bureaus' staffing plans. However, for this forecast, projected Police hiring is based entirely on the Police Bureau's internal hiring plans, as the bureau has indicated they do intend to replace all retiring employees. Indeed, the Police Bureau has not hired any new officers since June 1, 2020 and does not intend to have any new officers in place until July 2021, despite 71 retirements since August 2020. This forecast assumes the Police Bureau hires only 40 new officers in FYE22, and then 50 – 60 annually after that. For the Fire Bureau, the forecast includes new hires at the historical rate of 24 per year. This is likely to be enough hiring to replace retiring Fire employees. In addition, a maximum of 12 new hires can be accommodated by each Fire training academy and the Fire Bureau typically runs two academies each year.

Sworn pay is budgeted to increase with annual growth in the CPI-West, although it should again be noted that PPA members did not receive a COLA on July 1, 2020 and will instead receive two COLAs in the summer of 2021 (as discussed above under Direct Pension Benefits). The deferred PPA COLA lowered PERS contributions in the current year (FYE21), but will ultimately result in two years' worth of wage growth for most Police employees in FYE22. In addition to COLAs, the PERS Contribution budget assumes a promotional "drift" factor of 5% of total wages at Police and 4% at Fire to account for salary maturation as discussed previously. Overtime rates are assumed to return their usual levels for FYE22 and beyond after spiking in the current year as a result of protests, wildfires, and the pandemic.

PERS contribution rates are set biannually by the PERS Board. The rate for the public safety OPSRP tier – the tier FPDR 3 members participate in – will increase from 29.16% in the current year (FYE21) to 31.72% for FYE22 and FYE23: 22.72% for the defined benefit portion of the PERS benefit and 9% for the defined contribution portion (known as the IAP). After that the rate is projected to increase again to 36.00% for FYE24 and FYE25, and then to 41.00% for FYE26. Projected PERS rates for FYE24–FYE26 are provided by the City Economist. Although this growth in PERS rates is substantial, it is less than forecast at this time last year. The slower growth in contribution rates is partly because 2019 PERS investment returns were better than expected and partly because rate projections now reflect PERS reforms enacted by the 2019 Oregon Legislature that withstood legal challenge and were upheld by the Oregon Supreme Court in 2020.

Disability Benefits

Disability benefits are comprised of medical costs; wage replacement while members are unable to work; wage subsidies to incentivize the Police and Fire Bureaus to keep members working in modified duty positions when possible; funeral benefits; and vocational rehabilitation expenses. Medical benefits and wage replacement costs for short-term disability are the most volatile items in the FPDR budget; thankfully they are also a small piece of that budget. In the past, medical costs have made up about half of total disability benefit expenses, with most of the remainder in wage replacement. However, this ratio is shifting. In the current year (FYE21) there have been a large number of COVID case and exposure disability claims, which have wage replacement costs while members recover and/or quarantine, but very low medical expenses. (Fortunately, it seems more likely than not that COVID-related claims will decline before FYE22 as the City's sworn employees are expected to be largely vaccinated by March 2021.) But FPDR also expects as many as five members to move on to long-term disability over the next few months, unrelated to COVID, adding to the current population of 25. Members on long-term disability don't usually have high medical costs since their conditions have stabilized, but do require full-time wage replacement. The increase in long-term disability recipients is the primary reason it appears likely that wage replacement will outstrip medical expenses as the largest disability benefit cost over the coming years.

The two most important assumptions in the disability benefit budget are wage growth and medical inflation. As discussed above the forecast assumes wage growth is limited to annual growth in the CPI-West. Again, the absence of a 2020 COLA and double 2021 COLA for most Police employees has both depressed wage growth in the current fiscal year (FYE21) and will lead to higher wage growth for FYE22. However, much of this increase in wage replacement cost will, hopefully, be offset by lower short-term disability claim volume as COVID ebbs. The mix of pay rates for members receiving temporary wage replacement is projected to be similar to the past, before the rise in COVID claims. Medical inflation is estimated at 4% for the life of the forecast, based on guidance from the City Economist. Medical costs for large claims (those with more than $50,000 in lifetime medical expenses) is based on a three-year average. FPDR spent more than usual on return-to-work wage subsidies in FYE20 (about $0.5 million) as the Police Bureau made extensive use of the program. This is expected to continue, with wage subsidies steady at this higher level and growth equal to wage COLAs. Funeral benefits are projected using the same mortality models built into the pension budget. Although a very small portion of the budget, they are growing rapidly as more FPDR Two members (who are entitled to a more generous funeral budget than FPDR One members) pass away.

Administrative Expenses

Administrative expenses include all general operating expenses for the bureau: staff, office space, information technology and legal services, and various other goods and services. The largest component of administrative expenses is personnel costs. Staff salaries and benefits are set by the City compensation plan and policies, but the FPDR Director and Board have authority over the number and type of positions. FPDR currently has 17 employees: 13 nonrepresented and 4 represented (by the District Council of Trade Unions). In the current fiscal year (FYE21) none of FPDR's represented employees received pay raises; the four DCTU staff received a delayed 2.9% wage COLA on January 1, 2021. In accordance with the Mayor's direction, the personnel budget for FYE22 includes a 1.6% wage COLA on July 1, 2021 for all staff, but again no merit pay increases for nonrepresented employees. (All four DCTU employees are already at the top of their pay scales.) In FYE23 through FYE26, the personnel budget reflects estimated annual COLAs of 2.7% to 3.1% each year based on the City Economist's forecast of the CPI-West, as well as the return of annual merit increases of up to 4.1% for nonrepresented employees, until they reach the maximum salary for their job classification.

The personnel budget also assumes annual 4.0% increases in employee health benefit costs for the forecast period, likewise based on the City Economist's forecast for health benefit cost increases. New this year, the forecast incorporates a statewide payroll tax scheduled for implementation on January 1, 2022 to fund Oregon's new paid family leave program. The employer portion of the tax is 1% on wages up to $132,000 per year. (Employees will also pay 1% of their earnings up to $132,000 into the program.) FPDR's cost for this new program will be a little over $20,000 annually and will grow with wage increases. PERS contribution rates for general service employees will increase for FYE22, just as for public safety employees. The forecast uses the City's economist projection for City PERS rates in all years. A slight majority of FPDR employees (10) are in the OPSRP tier, where the contribution rate will grow from 21.53% currently to 24.36% for FYE22 and FYE23, including the 6% individual account program (IAP) contribution. FPDR's seven other employees belong to PERS Tier I or II, where the contribution rate, including the 6% IAP portion, will climb from 27.86% now to 28.35% for FYE22 and 23. Beyond FYE23, PERS rates are forecast to grow to 33% for OPSRP and 38% for Tier I/II by FYE26.

Spending on administrative materials and services (both external and internal) is actually expected to decline slightly (-1.6%) for FYE22. Most costs for internal materials and services – those services and goods procured from other City bureaus – are based on rates set by the bureaus providing the service and/or materials. Next year's budget assumes no changes in these service levels or inventory. FPDR's largest internally procured goods and services are legal services provided by the City Attorney's office, liaison services provided by two sworn employees at the Fire and Police Bureaus, and computer/telecommunications equipment and services purchased from the Bureau of Technology Services. Costs for externally procured goods and services are estimated based on past experience, known upcoming purchases, contract provisions where they exist, and a general external materials/services inflation factor provided by the City Economist. The largest of these items is the office lease, which will expire in the spring of 2022. The space rent forecast is based on the projected costs of leasing the same or similar space for the next five years, but FPDR will evaluate its space needs after the pandemic. Capital spending is limited to programming and other improvements to FPDR's database, which is used to process all benefit payments and to track member and beneficiary information.

The table below lists FYE20 actual costs, FYE21 projected costs, and the FYE22 recommended budget for each of FPDR's administrative expenses.

Administration & Delivery: Budget Detail				
	FYE20 Actuals	FYE21 Projection	FYE22 Recomm. Budget	Change: FYE21 to FYE22
Personnel Services	$ 2,422,650	$ 2,437,528	$ 2,665,674	9.4%
External Materials & Services				
Computer Consulting	$ 44,506	$ 49,000	$ 55,200	12.7%
Legal Services	47,882	62,100	63,700	2.6%
Audit Services	29,969	30,700	31,500	2.6%
Actuarial Services	8,200	113,400	25,000	-78.0%
Professional Services - Disability Program	194,602	248,300	256,000	3.1%
Other Professional Services	75,533	52,000	53,400	2.7%
Repair and Maintenance Services	8,901	3,400	3,500	2.9%
Miscellaneous Services	11,772	8,900	9,100	2.2%
Computer and Office Supplies	13,774	17,600	18,000	2.3%
Minor Equipment and Tools	1,521	1,100	1,100	0.0%
Education, Subscriptions and Dues	12,135	14,000	14,400	2.9%
Travel - Local	615	600	600	0.0%
Travel - Out of Town	798	-	2,950	N/A
Office Rent	216,665	230,300	236,300	2.6%
Miscellaneous	1,602	600	600	0.0%
Total External M&S	$ 668,476	$ 832,000	$ 771,350	-7.3%
Internal Materials & Services				
Fleet	$ 127	$ 259	$ 189	-27.0%
Printing & Distribution	37,741	38,010	43,868	15.4%
Facilities Services	11,891	1,672	1,762	5.4%
Technology Services	167,852	147,958	168,195	13.7%
Risk Management	33,988	30,280	30,659	1%
City Attorney	272,670	276,158	289,676	4.9%
Government Relations		10,000	10,000	100.0%
Bureau of Revenue & Financial Services	35,664	48,620	42,562	-12.5%
Fire & Police Bureaus	134,674	136,890	139,990	2.3%
Total Internal M&S	$ 694,606	$ 689,847	$ 726,901	5.4%
Capital	$ 68,900	$ 55,000	$ 75,000	36.4%
Total Admin & Delivery	$ 3,854,631	$ 4,014,375	$ 4,238,925	5.6%
Staff: Full-Time Equivalents (FTE)	17	17	17	0.0%

Police Bureau Hiring and Retirement Rates

The Police Bureau has not hired any new sworn employees since June 2020. They expect to begin hiring again soon, but only anticipate bringing on 40 new officers between now and June 30, 2022. Meanwhile, at least 71 Police members will have retired during that same time period, with many more resignations. It seems possible that the Police Bureau could revise its FYE22 hiring forecasts upward if budgetary and financial considerations permit. It this comes to pass, OPSRP contribution expenses could be more than budgeted for FYE22 and outyears.

FPDR has forecast only 20 sworn retirements (10 Police and 10 Fire) in FYE22 because of the large number of retirements in the current fiscal year and the absence of a 27 pay date month in FYE22. FPDR believes that most sworn employees contemplating near-term retirement chose to retire in August 2020 or January 2021, or have decided to wait for the next 27 pay date month in July 2022. But 20 retirements are considerably less than the 55 retirements a purely actuarial projection would predict (based on age and years of service among retirement-eligible employees). If FPDR's prediction of just 20 retirements is wrong and many more members choose to retire in FYE22, pension expenses will be higher than budgeted in all years of the forecast. This risk seems greater at the Police Bureau, where ongoing political, organizational, and financial change may motivate earlier retirements than planned for some members.

Portland Police Association Contract

The PPA contract, which governs the wages and working conditions of nearly all Police FPDR members, will expire on June 30, 2021. (A one-year letter of agreement extended the contract from its previous end date of June 30, 2020.) Negotiations are underway but new contract terms are still unknown. FPDR's budget assumes a retroactive wage COLA of 2.9% on June 30, 2021 for PPA employees, as required by the letter of agreement, plus future wage COLAs equal to the annual growth in the CPI-West each July 1. No other salary increases and no new sworn Police positions are anticipated in FPDR's forecast. Should the final contract include provisions different from these, FPDR costs could be more or less than budgeted. Sworn pay increases result in FPDR benefit increases in nearly all categories: FPDR One retirees and beneficiaries receives annual pension COLAs equal to active duty wage increases; higher wages result in higher final pay and thus higher pensions for new FPDR Two retirees; and PERS contributions for FPDR Three members, disability payments to cover lost time from work and subsidize modified duty assignments, and FPDR Two and Three funeral benefits are all a percentage of current pay. In addition, any change to the contracts that results in a larger sworn workforce represents a risk to the forecast, as additional sworn employees will increase PERS contribution expenses and disability costs.

PERS Contribution Rates in Outyears

PERS contribution rates are known for FYE22 and FYE23 and cannot be changed, but rates in future years are based on the City Economist's projection as of fall 2020. (See the "Other Assumptions" table on page 7 of this document for details.) Contribution rates are influenced by a wide variety of factors, but annual PERS investment returns are a notable source of contribution rate risk because of their volatility and importance to the PERS unfunded liability calculation. Investment returns are always unsure, of course, but the uncertainty about the timing and size of a national and global economic recovery from the pandemic make predicting investment returns an even more opaque exercise than usual.

Wage and Pension COLAs

As mentioned several times above, this forecast assumes annual increases in sworn pay equal to annual growth in the CPI-West. FPDR uses the City Economist's projection for this index. Wage COLAs are the single largest source of variability risk in the entire FPDR forecast because they impact nearly all expenses. If the projection is too low the cost of nearly all FPDR benefits, and most likely salaries for FPDR staff as well, will be higher than forecast. Fortunately it is unusual for actual wage COLAs to be meaningfully different from the City Economist's forecast, particularly in the short run.

As discussed in the Expenditure Assumptions section of this document, the forecast assumes the Board awards a blended rate COLA to FPDR Two beneficiaries going forward: 2% for the percent of service credit earned before October 8, 2013 and 1.75% for the percent of service credit earned after. This is the methodology employed by the Board for the July 1, 2020 COLA award, and yields an average annual COLA of 1.97% to 1.99% during the forecast period. This means there is limited upward financial exposure should the Board instead choose the maximum possible COLA (2%) in any or all years of the forecast.

Other

Other factors that would increase expenses, but to a smaller degree, are:

- Fewer deaths than projected using the mortality tables and assumptions recommended by the FPDR actuaries
- More sworn overtime than assumed
- Faster promotion rates or premium pay assignment rates in the FPDR Three population than predicted
- More new retirees selecting the lowest survivor benefit, or establishing eligibility for the additional state offset benefit, than forecast
- More newly deceased retirees with surviving spouses than expected, or more newly deceased retirees with higher survivor benefits than expected

- Higher than projected medical cost inflation
- More disability claims than forecast
- More catastrophic and/or expensive disability claims than forecast
- A disproportionate share of disability claims from higher paid employees
- Higher than projected inflation in the cost of administrative services and supplies purchased for bureau operations
- Unforeseen information technology (IT) expenses, or higher costs for already planned IT expenses

RESOLUTION NO. 533

WHEREAS, by Contract No. 30003232 the Bureau of Fire and Police Disability and Retirement (FPDR) contracted with Milliman, Inc. to provide biannual plan valuations and tax levy adequacy analyses, annual accounting schedules, plan experience studies, domestic relations order calculations, and other general actuarial consultation and advisory services; and

WHEREAS, Milliman, Inc. is familiar with FPDR and has specific knowledge of the FPDR Plan, City property tax system, and Oregon Public Employment Retirement System; and

WHEREAS, Milliman, Inc.'s contract with FPDR will expire on March 31, 2021; and

WHEREAS, FPDR wishes to continue the services of Milliman, Inc. by extending the contract for a two-year period through March 31, 2023 and for additional compensation in the amount of $40,000; and

WHEREAS, the not-to-exceed value of the contract is increased by $40,000 from $575,000 to $615,000; and

WHEREAS, a bid process will be conducted by FPDR for actuarial services when the new contract term expires in 2023; and

WHEREAS, a draft copy of a contract amendment between FPDR and Milliman, Inc. is attached as Exhibit "A" and by this reference made a part hereof.

NOW, THEREFORE, BE IT RESOLVED by the Board of Trustees of the FPDR, that the FPDR Director hereby is authorized to execute and administer an agreement, as approved by the City's Chief Procurement Officer, that is substantially in conformance with the agreement attached hereto as Exhibit "A" on behalf of FPDR for Milliman, Inc. to provide biannual plan valuations and tax levy adequacy analyses, annual accounting schedules, plan experience studies, domestic relations order calculations, and other general actuarial consultation and advisory services for an additional two-year period and a contract total not to exceed $615,000.

ADOPTED by the Board of Trustees on this 26th day of January 2021.

Samuel Hutchison
FPDR Director

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AMENDMENT NUMBER 2 TO

CONTRACT NUMBER 30003232
FOR
ACTUARIAL CONSULTANT

This Amendment No. 2 amends Contract No. 30003232 for Actuarial Consultant dated July 1, 2013, by and between Milliman, Inc. ("Consultant"), a corporation of the State of Washington, and the City of Portland ("City"), a municipal corporation of the State of Oregon, by and through their duly authorized representatives. This Amendment may refer to Consultant and City individually as a "Party" or collectively as the "Parties."

This Amendment is authorized by City Ordinance No. XXXXXX.

The Effective Date of this Amendment is April 1, 2021. The purpose of this Amendment is to extend the contract and add funds for the additional term.

The contract was previously amended as follows:

> Amendment 1, dated April 1, 2017, which increased the original not-to-exceed amount of the contract by $325,000 to a new total not-to-exceed amount of $575,000, and which extended the term from March 31, 2017 to March 31, 2021.

The Parties agree to amend the contract as follows:

1. The contract not-to-exceed amount of $575,000 is increased by $40,000 to a new total not-to-exceed amount of $615,000. Payment is contingent upon authority being granted to the Director of the Bureau of Fire and Police Disability and Retirement (FPDR), by the FPDR Fund's Board of Trustees, to execute and administer this Amendment.
2. The Billing Rates are amended for the following services, as follows:
    a. Pension plan valuation: $39,000 per valuation
    b. Levy adequacy analysis: $15,500 per valuation
    c. GASB 67 & GASB 68 actuarial schedules: $5,200 per year
    d. Domestic relations order calculations: $850 per calculation
    e. Non-routine services will be billed at hourly rates or pre-negotiated fixed fee amounts. Hourly rates will be adjusted annually as specified in Amendment 1, with the exception that the CPI index for the Western Region will be used in place of the Portland-Salem CPI-W index for years after the Portland-Salem CPI-W ceased to be published.

3. The contract term is extended from March 31, 2021 to March 31, 2023, unless terminated sooner under the provisions of the contract.

All other terms and conditions of the contract remain unchanged by this Amendment and in full force and effect.

This Amendment may be signed in two (2) or more counterparts, each of which shall be deemed an original, and which, when taken together, shall constitute one and the same instrument. The Parties agree that they may execute this Amendment by electronic means, including the use of electronic signatures.

IN WITNESS WHEREOF, the Parties hereby cause this Amendment to be executed.

Contract Number: 30003232 **Amendment Number: 2**
Contract Title: ACTUARIAL CONSULTANT

CONSULTANT

____
Authorized Signature Date

____
Printed Name and Title

Address: Milliman, Inc.
1455 SW Broadway, Suite 1600
Portland, OR 97201

Phone: 503-227-0634

CITY OF PORTLAND SIGNATURES

By: ____ Date:____________________
Chief Procurement Officer

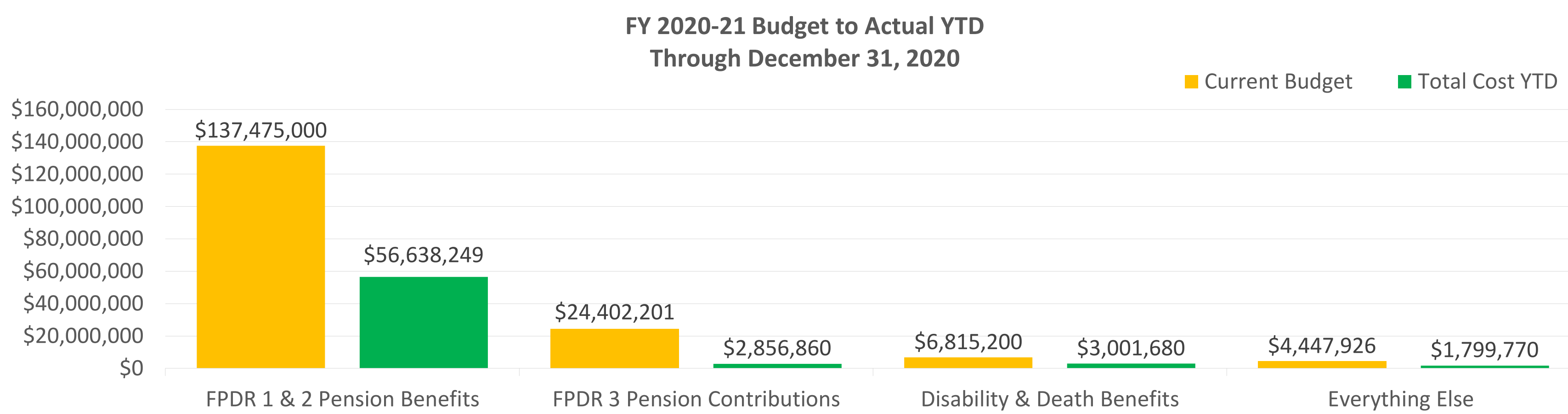
By: ____ Date:____________________
FPDR Director

Approved:

By: ____ Date:____________________
Office of the City Auditor

Approved as to Form:

By: ____ Date:____________________
Office of the City Attorney



FY 2020-21 Budget to Actual YTD by Month

Mid Level Classification	Detail Classification	Original Budget	July	August	September	October	November	December	YTD Total
Revenues	Beginning fund balance	$16,935,965	$0	$0	$0	$0	$0	$0	$0
	Taxes	$166,062,018	-$573,181	$469,659	$367,635	$215,541	$111,969,411	$40,218,750	$152,667,816
	Bond and note proceeds	$42,000,000	$0	$31,658,596	$0	$0	$0	$0	$31,658,596
	Miscellaneous Sources	$1,382,800	-$54,972	$33,992	$37,209	$15,027	$21,430	$136,267	$188,953
	Interfund Cash Transfer Revenues	$750,000	$0	$0	$0	$0	$0	$0	$0
	Interagency Revenues	$1,571,818	$1,225	$0	$619	$1,237	$0	$619	$3,699
Revenues Total		**$228,702,601**	**-$626,928**	**$32,162,247**	**$405,463**	**$231,806**	**$111,990,841**	**$40,355,636**	**$184,519,065**
Personnel	Personnel	$2,464,800	$164,292	$206,642	$206,249	$207,343	$197,903	$212,819	$1,195,247
Personnel Total		**$2,464,800**	**$164,292**	**$206,642**	**$206,249**	**$207,343**	**$197,903**	**$212,819**	**$1,195,247**
Ext. Mat. & Svcs.	Other External Materials & Services	$834,000	$2,676	$48,363	$58,830	$78,489	$81,048	$17,660	$287,066
	FPDR 1 & 2 Pension Benefits	$137,475,000	$10,942,002	$262,030	$11,193,868	$22,821,738	$16,590	$11,402,022	$56,638,249
	Disability & Death Benefits	$6,815,200	-$46,682	$545,286	$560,872	$560,610	$492,483	$889,111	$3,001,680
Ext. Mat. & Svcs. Total		**$145,124,200**	**$10,897,996**	**$855,679**	**$11,813,569**	**$23,460,837**	**$590,121**	**$12,308,793**	**$59,926,996**
Int. Mat. & Svcs.	Other Internal Materials & Services	$689,226	$43,572	$42,163	$54,380	$41,035	$56,107	$52,170	$289,426
	FPDR 3 Pension Contributions	$24,402,201	$0	$0	$0	$0	$2,856,860	$0	$2,856,860
	Return to Work/Light Duty	$409,900	$0	$0	$0	$0	$28,030	$0	$28,030
Int. Mat. & Svcs. Total		**$25,501,327**	**$43,572**	**$42,163**	**$54,380**	**$41,035**	**$2,940,997**	**$52,170**	**$3,174,316**
Capital Outlay	Capital Outlay	$50,000	$0	$0	$0	$0	$0	$0	$0
Capital Outlay Total		**$50,000**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Fund Expenses	Contingency	$11,518,151	$0	$0	$0	$0	$0	$0	$0
	Debt Retirement	$43,152,972	$0	$18,634	$26,024	$0	$4,503	$1,250	$50,411
	Interfund Cash Transfer Expenses	$891,151	$11,035	$11,035	$11,035	$11,035	$15,397	$11,035	$70,572
Fund Expenses Total		**$55,562,274**	**$11,035**	**$29,669**	**$37,059**	**$11,035**	**$19,900**	**$12,285**	**$120,983**
Expenses Total		**$228,702,601**	**$11,116,896**	**$1,134,152**	**$12,111,258**	**$23,720,249**	**$3,748,921**	**$12,586,067**	**$64,417,543**