Notes to Schedule of Changes in Net Pension Liabilities and Related Ratios

**General Employees Fund**

*2021 Changes*

*Changes in Actuarial Assumptions*

* The investment return and single discount rates were changed from 7.50 percent to 6.50 percent, for financial reporting purposes.
* The mortality improvement scale was changed from Scale MP-2019 to Scale MP-2020.

*Changes in Plan Provisions*

* There were no changes in plan provisions since the previous valuation.

*2020 Changes*

*Changes in Actuarial Assumptions*

* The price inflation assumption was decreased from 2.50% to 2.25%.
* The payroll growth assumption was decreased from 3.25% to 3.00%.
* Assumed salary increase rates were changed as recommended in the June 30, 2019 experience study. The net effect is assumed rates that average 0.25% less than previous rates.
* Assumed rates of retirement were changed as recommended in the June 30, 2019 experience study. The changes result in more unreduced (normal) retirements and slightly fewer Rule of 90 and early retirements.
* Assumed rates of termination were changed as recommended in the June 30, 2019 experience study. The new rates are based on service and are generally lower than the previous rates for years 2-5 and slightly higher thereafter.
* Assumed rates of disability were changed as recommended in the June 30, 2019 experience study. The change results in fewer predicted disability retirements for males and females.
* The base mortality table for healthy annuitants and employees was changed from the RP-2014 table to the Pub-2010 General Mortality table, with adjustments. The base mortality table for disabled annuitants was changed from the RP-2014 disabled annuitant mortality table to the PUB-2010 General/Teacher disabled annuitant mortality table, with adjustments.
* The mortality improvement scale was changed from Scale MP-2018 to Scale MP-2019.
* The assumed spouse age difference was changed from two years older for females to one year older.
* The assumed number of married male new retirees electing the 100% Joint & Survivor option changed from 35% to 45%. The assumed number of married female new retirees electing the 100% Joint & Survivor option changed from 15% to 30%. The corresponding number of married new retirees electing the Life annuity option was adjusted accordingly.

*Changes in Plan Provisions*

* Augmentation for current privatized members was reduced to 2.0% for the period July 1, 2020 through December 31, 2023 and 0.0% after. Augmentation was eliminated for privatizations occurring after June 30, 2020.

*2019 Changes*

*Changes in Actuarial Assumptions*

* The morality projection scale was changed from MP-2017 to MP-2018.

*Changes in Plan Provisions*

* The employer supplemental contribution was changed prospectively, decreasing from $31.0 million to $21.0 million per year. The State’s special funding contribution was changed prospectively, requiring $16.0 million due per year through 2031.

*2018 Changes*

*Changes in Actuarial Assumptions*

* The morality projection scale was changed from MP-2015 to MP-2017.
* The assumed benefit increase was changed from 1.00 percent per year through 2044 and 2.50 percent per year thereafter to 1.25 percent per year.

*Changes in Plan Provisions*

* The augmentation adjustment in early retirement factors is eliminated over a five-year period starting July 1, 2019, resulting in actuarial equivalence after June 30, 2024.
* Interest credited on member contributions decreased from 4.00 percent to 3.00 percent, beginning July 1, 2018.
* Deferred augmentation was changed to 0.00 percent, effective January 1, 2019. Augmentation that has already accrued for deferred members will still apply.
* Contribution stabilizer provisions were repealed.
* Postretirement benefit increases were changed from 1.00 percent per year with a provision to increase to 2.50 percent upon attainment of 90.00 percent funding ratio to 50.00 percent of the Social Security Cost of Living Adjustment, not less than 1.00 percent and not more than 1.50 percent, beginning January 1, 2019.
* For retirements on or after January 1, 2024, the first benefit increase is delayed until the retiree reaches normal retirement age; does not apply to Rule of 90 retirees, disability benefit recipients, or survivors.
* Actuarial equivalent factors were updated to reflect revised mortality and interest assumptions.

*2017 Changes*

*Changes in Actuarial Assumptions*

* The combined service annuity (CSA) loads were changed from 0.80 percent for active members and 60.00 percent for vested and non-vested deferred members. The revised CSA load are now 0.00 percent for active member liability, 15.00 percent for vested deferred member liability, and 3.00 percent for non-vested deferred member liability.
* The assumed postretirement benefit increase rate was changed for 1.00 percent per year for all years to 1.00 percent per year through 2044 and 2.50 percent per year thereafter.

*Changes in Plan Provisions*

* The State’s contribution for the Minneapolis Employees Retirement Fund equals $16,000,000 in 2017 and 2018, and $6,000,000 thereafter.
* The Employer Supplemental Contribution for the Minneapolis Employees Retirement Fund changed from $21,000,000 to $31,000,000 in calendar years 2019 to 2031. The state’s contribution changed from $16,000,000 to $6,000,000 in calendar years 2019 to 2031.

*2016 Changes:*

*Changes in Actuarial Assumptions*

* The assumed postretirement benefit increase rate was changed from 1.00 percent per year through 2035 and 2.50 percent per year thereafter to 1.00 percent per year for all years.
* The assumed investment return was changed from 7.90 percent to 7.50 percent. The single discount rate changed from 7.90 percent to 7.50 percent.
* Other assumptions were changed pursuant to the experience study June 30, 2015. The assumed future salary increases, payroll growth, and inflation were decreased by 0.25 percent to 3.25 percent for payroll growth and 2.50 percent for inflation.

*Changes in Plan Provisions*

* There have been no changes since the prior valuation.

*2015 Changes:*

*Changes in Actuarial Assumptions*

* The assumed postretirement benefit increase rate was changed from 1.00 percent per year through 2030 and 2.50 percent per year thereafter to 1.00 percent per year through 2035 and 2.50 percent per year thereafter.

*Changes in Plan Provisions:*

* On January 1, 2015, the Minneapolis Employees Retirement Fund was merged into the General Employees Fund, which increased the total pension liability by $1.1 billion and increase the fiduciary plan net position by $892 million. Upon consolidation, state and employer contributions were revised; the State’s contribution of $6.0 million, which meets the special funding situation definition, was due September 2015.

**Police and Fire Fund**

*2021 Changes*

*Changes in Actuarial Assumptions*

* The investment return and single discount rates were changed from 7.50 percent to 6.50 percent, for financial reporting purposes.
* The inflation assumption was changed from 2.50 percent to 2.25 percent.
* The payroll growth assumption was changed from 3.25 percent to 3.00 percent.
* The base mortality table for healthy annuitants and employees was changed from the RP-2014 table to the Pub-2010 Public Safety Mortality table. The mortality improvement scale was changed from MP-2019 to MN-2020.
* The base mortality table for disabled annuitants was changed from the RP-2014 healthy annuitant mortality table (with future mortality improvement according to Scale MP-2019) to the Pub-2010 Public Safety disabled annuitant mortality table (with future mortality improvement according to Scale MP-2020).
* Assumed rates of salary increase were modified as recommended in the July 14, 2020 experience study. The overall impact is a decrease in gross salary increase rates.
* Assumed rates of retirement were changed as recommended in the July 14, 2020 experience study. The changes result in slightly more unreduced retirements and fewer assumed early retirements.
* Assumed rates of withdrawal were changed from select and ultimate rates to service-based rates. The changes result in more assumed terminations.
* Assumed rates of disability were increased for ages 25-44 and decreased for ages over 49. Overall, proposed rates result in more projected disabilities.
* Assumed percent married for active female members was changed from 60 percent to 70 percent. Minor changes to form of payment assumptions were applied.

*Changes in Plan Provisions*

* There were no changes in plan provisions since the previous valuation.

*2020 Changes*

*Changes in Actuarial Assumptions*

* The morality projection scale was changed from MP-2018 to MP-2019.

*Changes in Plan Provisions*

* There have been no changes since the prior valuation.

*2019 Changes*

*Changes in Actuarial Assumptions*

* The morality projection scale was changed from MP-2017 to MP-2018.

*Changes in Plan Provisions*

* There have been no changes since the prior valuation.

*2018 Changes*

Changes in Actuarial Assumptions

* The morality projection scale was changed from MP-2016 to MP-2017.

*Changes in Plan Provisions*

* Postretirement benefit increases were changed to 1.00 percent for all years, with no trigger.
* An end date of July 1, 2048 was added to the existing $9.0 million state contribution.
* New annual state aid will equal $4.5 million in fiscal years 2019 and 2020, and $9.0 million thereafter until the plan reaches 100 percent funding, or July 1, 2048, if earlier.
* Member contributions were changed from 10.80 percent to 11.30 percent of pay, effective January 1, 2019 and 11.80 percent of pay, effective January 1, 2020.
* Employer contributions were changed from 16.20 percent to 16.95 percent of pay, effective January 1, 2019 and 17.70 percent of pay, effective January 1, 2020.
* Interest credited on member contributions decreased from 4.00 percent to 3.00 percent, beginning July 1, 2018.
* Deferred augmentation was changed to 0.00 percent, effective January 1, 2019. Augmentation that has already accrued for deferred members will still apply.
* Actuarial equivalent factors were updated to reflect revised mortality and interest assumptions.

*2017 Changes*

*Changes in Actuarial Assumptions*

* Assumed salary increases were changed as recommended in the June 30, 2016 experience study. The net effect is proposed rates that average 0.34 percent lower than the previous rates.
* Assumed rates of retirement were changed, resulting in fewer retirements.
* The combined service annuity (CSA) load was 30.00 percent for vested and non-vested, deferred members. The CSA has been changed to 33.00 percent for vested members and 2.00 percent for non-vested members.
* The base mortality table for healthy annuitants was changed from the RP-2000 fully generational table to the RP-2014 fully generational table (with a base year of 2006), with male rates adjusted by a factor of 0.96. The mortality improvement scale was changed from Scale AA to Scale MP-2016. The base mortality table for disabled annuitants was changed from the RP-2000 disabled mortality table to the mortality tables assumed for healthy retirees.
* Assumed termination rates were decreased to 3.00 percent for the first three years of service. Rates beyond the select period of three years were adjusted, resulting in more expected terminations overall.
* Assumed percentage of married female members was decreased from 65.00 percent to 60.00 percent.
* Assumed age difference was changed from separate assumptions for male members (wives assumed to be three years younger) and female members (husbands assumed to be four years older) to the assumption that males are two years older than females.
* The assumed percentage of female members electing joint and survivor annuities was increased.
* The assumed postretirement benefit increase rate was changed from 1.00 percent for all years to 1.00 percent per year through 2064 and 2.50 percent thereafter.
* The single discount rate was changed from 5.60 percent per annum to 7.50 percent per annum.

*Changes in Plan Provisions*

* There have been no changes since the prior valuation.

*2016 Changes:*

*Changes in Actuarial Assumptions*

* The assumed postretirement benefit increase rate was changed from 1.00 percent per year through 2037 and 2.50 percent per year thereafter to 1.00 percent per year for all future years.
* The assumed investment return was changed from 7.90 percent to 7.50 percent.
* The single discount rate changed from 7.90 percent to 5.60 percent.
* The assumed future salary increases, payroll growth, and inflation were decreased by 0.25 percent to 3.25 percent for payroll growth and 2.50 percent for inflation.

*Changes in Plan Provisions*

* There have been no changes since the prior valuation.

*2015 Changes:*

*Changes in Actuarial Assumptions*

* The assumed postretirement benefit increase rate was changed from 1.00 percent per year through 2030 and 2.50 percent per year thereafter to 1.00 percent per year through 2037 and 2.50 percent per year thereafter.

*Changes in Plan Provisions:*

* The postretirement benefit increase to be paid after the attainment of the 90.00 percent funding threshold was changed from inflation up to 2.50 percent, to a fixed rate of 2.50 percent

**Correctional Fund**

*2021 Changes*

*Changes in Actuarial Assumptions*

* The investment return and single discount rates were changed from 7.50 percent to 6.50 percent, for financial reporting purposes.
* The inflation assumption was changed from 2.50 percent to 2.25 percent.
* The payroll growth assumption was changed from 3.25 percent to 3.00 percent.
* The base mortality table for healthy annuitants and employees was changed from the RP-2014 table to the Pub-2010 Public Safety Mortality table. The mortality improvement scale was changed from MP-2019 to MN-2020.
* The base mortality table for disabled annuitants was changed from the RP-2014 healthy annuitant mortality table (with future mortality improvement according to Scale MP-2019) to the Pub-2010 Public Safety disabled annuitant mortality table (with future mortality improvement according to Scale MP-2020).
* Assumed rates of salary increase were modified as recommended in the July 10, 2020 experience study. The overall impact is a decrease in gross salary increase rates.
* Assumed rates of retirement were changed as recommended in the July 10, 2020 experience study. The changes result in slightly more unreduced retirements and fewer assumed early retirements.
* Assumed rates of withdrawal were changed as recommended in the July 10, 2020 experience study. The new rates predict more terminations, both in the three-year select period (based on service) and the ultimate rates (based on age).
* Assumed rates of disability lowered.
* Assumed percent married for active members was lowered from 85 percent to 75 percent.
* Minor changes to form of payment assumptions were applied.

*Changes in Plan Provisions*

* There have been no changes since the prior valuation.

*2020 Changes*

*Changes in Actuarial Assumptions*

* The morality projection scale was changed from MP-2018 to MP-2019.

*Changes in Plan Provisions*

* There have been no changes since the prior valuation.

*2019 Changes*

*Changes in Actuarial Assumptions*

* The morality projection scale was changed from MP-2017 to MP-2018.

*Changes in Plan Provisions*

* There have been no changes since the prior valuation.

*2018 Changes*

Changes in Actuarial Assumptions

* The single discount rate was changed from 5.96 percent per annum to 7.50 percent per annum.
* The morality projection scale was changed from MP-2016 to MP-2017.
* The assumed post-retirement benefit increase was changed from 2.50 percent per year to 2.00 percent per year.

*Changes in Plan Provisions*

* The augmentation adjustment in early retirement factors is eliminated over a five-year period starting July 1, 2019, resulting in actuarial equivalence after June 30, 2024.
* Interest credited on member contributions decreased from 4.00 percent to 3.00 percent, beginning July 1, 2018.
* Deferred augmentation was changed to 0.00 percent, effective January 1, 2019. Augmentation that has already accrued for deferred members will still apply.
* Postretirement benefit increases were changed from 2.50 percent per year with a provision to reduce to 1.00 percent if the funding status declines to a certain level, to 100 percent of the Social Security Cost of Living Adjustment, not less than 1.00 percent and not more than 2.50 percent, beginning January 1, 2019. If the funding status declines to 85.00 percent for two consecutive years or 80.00 percent for one year, the maximum increase will be lowered to 1.50 percent.
* Actuarial equivalent factors were updated to reflect revised mortality and interest assumptions.

*2017 Changes*

*Changes in Actuarial Assumptions*

* The base mortality table for healthy annuitants was changed from the RP-2000 fully generational table to the RP-2014 fully generational table (with a base year of 2006), with male rates adjusted by a factor of 0.96. The mortality improvement scale was changed from Scale AA to Scale MP-2016, and is applied to healthy and disabled members. The base mortality table for disabled annuitants was changed from the RP-2000 disabled mortality table to the RP-2014 disabled annuitant mortality table (with future mortality improvement according to MP-2016).
* The combined service annuity (CSA) load was 30.00 percent for vested and non-vested, deferred members. The CSA has been changed to 35.00 percent for vested members and 1.00 percent for non-vested members.
* The single discount rate was changed from 5.31 percent per annum to 5.96 percent per annum.

*Changes in Plan Provisions*

* There have been no changes since the prior valuation.

*2016 Changes:*

*Changes in Actuarial Assumptions*

* The assumed investment return was changed from 7.90 percent to 7.50 percent. The single discount rate changed from 7.90 percent to 5.31 percent.
* The assumed future salary increases, payroll growth, and inflation were decreased by 0.25 percent to 3.25 percent for payroll growth and 2.5 percent for inflation.

*Changes in Plan Provisions*

There have been no changes since the prior valuation.

*2015 Changes*

*Changes in Actuarial Assumptions*

* There have been no changes since the prior valuation.

*Changes in Plan Provisions*

* There have been no changes since the prior valuation.